

## POLYFUSE® PTC SELECTION GUIDE



**Littelfuse®**



**Surface Mount**

**Battery Strap**

**Radial Leaded**

**High Voltage  
Radial Leaded**

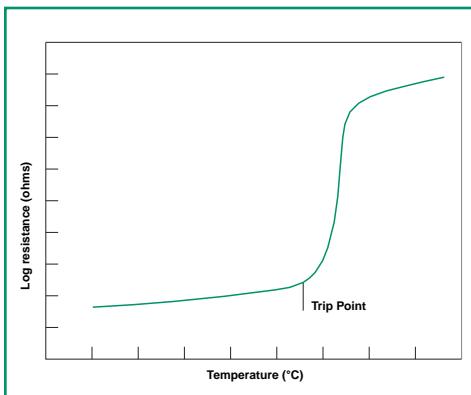


## PTC Characteristics and Terminology

A polymeric PTC (positive temperature coefficient) overcurrent protector is an element placed in series with the circuit or assembly to be protected. The PTC element protects the circuit by changing from a low-resistance state to a high resistance state in response to an overcurrent.

This function is called "tripping" of the overcurrent protection device.

Overcurrent circuit protection can be accomplished with the use of either a traditional fuse or the more recently developed resettable PTC. Both devices function by reacting to the heat generated by the excessive current flow in the circuit. The fuse element melts open, interrupting the current flow, while the PTC changes from low resistance to high resistance to limit current flow. The graph below shows the response of the PTC device to temperature.



Understanding the differences in performance between the two types of devices will make the best circuit protection choice easier. The most obvious difference is that the PTC is resettable. This is an inherent characteristic in which the PTC resets (returns to low resistance state) after power is removed and the device cools down. There are a number of other operating characteristics that differentiate the two types of products.

The terminology used for PTCs is often similar but not the same as for fuses. Two parameters that fall into this category are leakage current and fault current rating.

**LEAKAGE CURRENT:** A PTC is said to have "tripped" when it has transitioned from its low resistance state to a high resistance state due to overload current.

Protection is accomplished by limiting the current flow to a low leakage level. Leakage current can range from less than a hundred millamps at rated voltage up to a few hundred millamps at lower voltages. The fuse on the other hand completely interrupts the current flow and this open circuit results in no leakage current after it has been subjected to an overload current.

**FAULT CURRENT:** The PTC is rated for a maximum short circuit current at rated voltage. This fault current level is the maximum current that the device can safely limit keeping in mind that the PTC will not actually interrupt the current flow (see LEAKAGE CURRENT above). The typical short circuit rating of a board-mounted PTC is 40A; for battery strap PTCs, this value can reach 100A. Fuses do in fact interrupt the current flow in response to the overload and the range of interrupting ratings vary from tens of amperes up to 10,000 amperes at rated voltage.

**OPERATING VOLTAGE RATING:** General use PTCs are not rated above 60V while fuses are rated up to 600V.

**HOLD CURRENT RATING:** The hold (operating) current rating for PTCs can be up to 14A while the maximum level for fuses can exceed 30A.

**TEMPERATURE DERATING:** The useful upper limit for a PTC is generally 85°C while the maximum operating temperature for fuses is 125°C. The following temperature derating curves (see chart at bottom of page) that compare PTCs to fuses illustrate that more derating is required for a PTC at a given temperature.

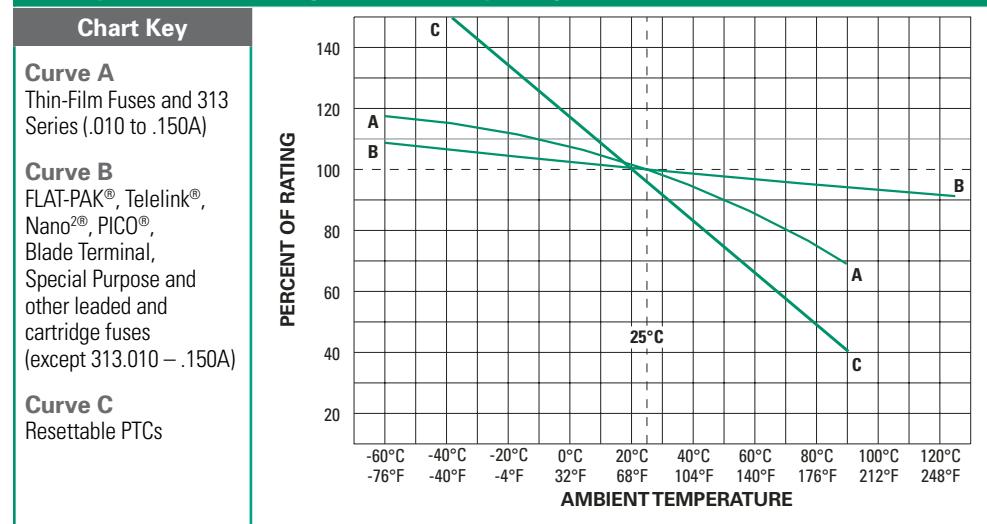
Additional operating characteristics can be reviewed by the circuit designer in making the decision to choose a PTC or a fuse for overcurrent protection.

**AGENCY APPROVALS:** PTCs are Recognized under the Component Program of Underwriters Laboratories to UL Standard 1434 for Thermistors. The devices have also been approved for use in Canada by Underwriters Laboratories. Approvals for fuses include Recognition under the Component Program of Underwriters Laboratories and the CSA Component Acceptance Program. In addition, many fuses are listed in accordance with UL/CSA/ANCE (Mexico) 248-14, Supplemental Fuses.

**RESISTANCE:** Reviewing product specifications indicates that similarly-rated PTCs have about twice (sometimes more) the resistance of fuses.

**TIME-CURRENT CHARACTERISTIC:** Comparing the time-current curves of PTCs to time-current curves of fuses show that the speed of response for a PTC is similar to the time delay of a Slo-Blo® fuse.

Temperature Derating Curves Comparing PTCs to Fuses



## Selection Process

- Determine the following circuit operating parameters:

- Normal operating current –  $I_{HOLD}$
- Maximum circuit voltage –  $V_{MAX}$
- Maximum interrupt current –  $I_{MAX}$
- Ambient operating temperature

- Select the suitable form factor.

- Compare the PTC data sheet ratings on littelfuse.com for  $V_{MAX}$  and  $I_{MAX}$  to ensure

that the circuit parameters do not exceed these ratings.

- Verify that the ambient operating temperature within close proximity to the device is within its normal operating range. Thermally derate  $I_{HOLD}$  and  $I_{MAX}$  as necessary. See equation below.

$$I_{HOLD} = \frac{I_{MAX}}{\text{Thermal derating factor}}$$

- Check that the trip time protects the circuit.
- Verify that the post trip resistance ( $R1_{MAX}$ ) of the device is taken into account in the circuit design.
- Independently test and evaluate the suitability and performance of the PTC in the actual application.

## PTC Selection Table

| Series Name                     | SURFACE MOUNT |               |               |               |               |               | RADIAL LEADED |               |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                                 | 0805L         | 1206L         | 1210L         | 1812L         | 2016L         | 2920L         | USB           | 30R           |
| Photos                          |               |               |               |               |               |               |               |               |
| Chip Size                       | 0805 (2012)   | 1206 (3216)   | 1210 (3225)   | 1812 (4532)   | 2016 (5041)   | 2920 (7351)   |               |               |
| Hold Current ( $I_{HOLD}$ )     | 0.10-1.00A    | 0.125-2.00A   | 0.05-1.75A    | 0.10-2.60A    | 0.3-2.00A     | 0.30-3.00A    | 0.75-2.5A     | 0.9-9.00A     |
| Max voltage ( $V_{MAX}$ )       | 15V           | 30V           | 30V           | 60V           | 60V           | 60V           | 16V           | 30V           |
| Max fault current ( $I_{MAX}$ ) | 40A           | 100A          | 100A          | 100A          | 40A           | 40A           | 40A           | 40A           |
| Operating Temperature Range     | -40°C to 85°C |
| Agency approval                 | cULus, TUV    |
| RoHS Compliant                  | Yes           |
| Lead-Free                       | Yes           |
| COMPETITOR CROSS                |               |               |               |               |               |               |               |               |
| Tyco/Raychem Series             |               | nano SMD      | micro SMD     | mini SMD      | mid SMD       | SMD           | RUSB          | RUE           |
| Amp Rating                      | NA            | 0.500-1.50A   | 0.050-1.50A   | 0.140-2.60A   | 0.300-2.00A   | 0.300-3.00A   | 0.750-2.50A   | 0.900-9.00A   |
| Max voltage                     | NA            | 6V            | 6-30V         | 6-60V         | 6-60V         | 6-60V         | 16V           | 30V           |
| Bourns Series                   |               | MF-NSMF       | MF-USMD       | MF-MSMD       | MF-SMDF       | MF-SM         |               | MF-R          |
| Amp Rating                      | NA            | 0.12-2.00     | 0.05-1.50A    | 0.05-1.50A    | 0.55-2.00A    | 0.300-2.5A    | NA            | 0.90-9.0A     |
| Max voltage                     | NA            | 6-30V         | 6-30V         | 6-30V         | 10-60V        | 6-60V         | NA            | 30V           |

NA = Not offered

## PTC Selection Table (cont.)

| Series Name                     | BATTERY STRAP (AXIAL LEADED) |               |               |               |               |               |               |               |
|---------------------------------|------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                                 | 60R                          | 250R          | 600R          | ST            | LT            | LR            | VT            | VL            |
| Photos                          |                              |               |               |               |               |               |               |               |
| Chip Size                       |                              |               |               |               |               |               |               |               |
| Hold Current ( $I_{HOLD}$ )     | 0.1-3.75A                    | 0.08-0.18A    | 0.15-0.16A    | 1.2-4.2A      | 0.7-3.4A      | 1.9-10.00A    | 1.7-2.4A      | 1.7-2.3A      |
| Max voltage ( $V_{MAX}$ )       | 60V                          | 60/250V       | 60/600V       | 15/24V        | 15/24V        | 15/20V        | 16V           | 12V           |
| Max fault current ( $I_{MAX}$ ) | 40A                          | 3/10A         | 3/2.2A        | 100A          | 100A          | 100A          | 100A          | 100A          |
| Operating Temperature Range     | -40°C to 85°C                | -40°C to 85°C | -40°C to 85°C | -40°C to 85°C | -40°C to 85°C | -40°C to 85°C | -40°C to 85°C | -40°C to 85°C |
| Agency approval                 | cULus, TUV                   | cULus, TUV    | cULus, TUV    | cULus, TUV    | cULus, TUV    | cULus, TUV    | cULus, TUV    | cULus, TUV    |
| RoHS Compliant                  | Yes                          | Yes           | Yes           | Yes           | Yes           | Yes           | Yes           | Yes           |
| Lead-Free                       | Yes                          | Yes           | Yes           | Yes           | Yes           | Yes           | Yes           | Yes           |
| COMPETITOR CROSS                |                              |               |               |               |               |               |               |               |
| Tyco/Raychem Series             | RXE                          | TR250         | TR600         | SRP           | LTP           | LR4           | VTP           | VLR           |
| Amp Rating                      | 0.100-3.75A                  | 0.080-0.180A  | 0.150-0.160A  | 1.20-4.20A    | 0.700-3.40A   | 1.7-13A       | 1.10-2.40A    | 2.10-2.30A    |
| Max voltage                     | 60-72V                       | 60/250V       | 60/600V       | 15/30V        | 24V           | 15/20V        | 16V           | 16V           |
| Bourns Series                   | MF-R/MF-RX                   | MF-R/250      | MF-R/600      | MF-S          | MF-LS         | MF-LR         | MF-VS         |               |
| Amp Rating                      | 0.10-3.75A                   | 0.08-0.18A    | 0.15-0.16A    | 1.2-4.2A      | 0.70-3.4A     | 1.9-9.0A      | 1.7-2.4A      | NA            |
| Max voltage                     | 60V                          | 60/250V       | 60/600V       | 15-30V        | 15-24V        | 15-20V        | 16V           | NA            |

NA = Not Available

## PTC Applications

PTCs are used as circuit protection in applications where sensitive components are at risk of damage from overcurrent conditions. The ability of PTCs to reset themselves after exposure to a fault current makes them ideal for use in circuits that are not easily accessible to a user or technician. Typical applications include port protection on personal computers (USB, Firewire, keyboard/mouse, and serial ports), peripherals (hard drives, video cards, and hubs), cell phone, battery packs, industrial controls, lighting ballast and motor controls.

When to apply a resettable PTC vs. a traditional fuse is always the choice of the designer or technician but in some cases, PTC's offer a convenient form of circuit protection to improve the reliability of an application. There is an important area of applications where the use of resettable fuses (PTCs) has become a requirement. Much of the design work for personal computers and peripheral devices is strongly influenced by the Microsoft and Intel System Design Guide which states that "Using a fuse that must be replaced each time an overcurrent condition occurs is unacceptable." And the SCSI (Small Computer

Systems Interface) Standard for this large market includes a statement that "...a Positive Temperature Coefficient device must be used instead of a fuse, to limit the maximum amount of current sourced".

The application selection guide below should be used as an aid in selecting the proper device for your end application. Please consult the datasheets on [www.littelfuse.com](http://www.littelfuse.com) for detailed technical specifications.

|                      |  | SURFACE MOUNT |       |       |       |       |       | RADIAL LEADED |     |     |      | BATTERY STRAP (AXIAL LEADED) |    |    |    |    |    |
|----------------------|--|---------------|-------|-------|-------|-------|-------|---------------|-----|-----|------|------------------------------|----|----|----|----|----|
|                      | Series Name                              | 0805L         | 1206L | 1210L | 1812L | 2016L | 2920L | USBR          | 30R | 60R | 250R | 600R                         | ST | LT | LR | VT | VL |
| Telecom              | <b>Application</b>                       |               |       |       |       |       |       |               |     |     |      | X                            | X  |    |    |    |    |
|                      | UI60950 ,TIA-968-A, GR-1089 Requirements |               |       |       |       |       |       |               |     |     |      | X                            | X  |    |    |    |    |
|                      | ITU-T Recommendations                    |               |       |       |       |       |       |               |     |     |      | X                            | X  |    |    |    |    |
|                      | CPE (Customer Premises Equipment)        |               |       |       |       |       |       |               |     |     |      | X                            | X  |    |    |    |    |
|                      | Analog Line Card                         |               |       |       |       |       |       |               |     |     |      | X                            | X  |    |    |    |    |
|                      | T1/E1/J1 And HDSL                        |               |       |       |       |       |       |               |     |     |      | X                            | X  |    |    |    |    |
|                      | ISDN                                     |               |       |       |       |       |       |               |     |     |      | X                            | X  |    |    |    |    |
|                      | ADSL                                     |               |       |       |       |       |       |               |     |     |      | X                            | X  |    |    |    |    |
|                      | Cable Telephony                          |               |       |       |       |       |       |               |     |     |      | X                            | X  |    |    |    |    |
| Computer             | PBX/KTS And Key Telephone System         |               |       |       |       |       |       |               |     |     |      | X                            | X  |    |    |    |    |
|                      | CPU                                      |               |       |       |       |       |       |               | X   | X   |      |                              |    |    |    |    |    |
|                      | USB                                      | X             | X     | X     | X     |       |       |               |     | X   |      |                              |    |    |    |    |    |
|                      | IEEE1284 Parallel Data Bus               |               | X     | X     | X     |       |       |               |     | X   |      |                              |    |    |    |    |    |
|                      | IEEE 802.3                               |               |       |       |       | X     | X     |               |     |     |      |                              | X  |    |    |    |    |
|                      | IEEE 1394                                |               |       |       |       | X     |       | X             |     |     |      |                              | X  |    |    |    |    |
|                      | I/O Ports                                |               | X     | X     | X     |       |       | X             |     | X   | X    |                              |    |    |    |    |    |
|                      | PC Card                                  | X             | X     | X     | X     |       |       | X             |     | X   | X    |                              |    |    |    |    |    |
|                      | SCSI                                     |               | X     | X     | X     |       |       | X             |     | X   | X    |                              |    |    |    |    |    |
| Consumer Electronics | Video Port                               |               | X     | X     | X     |       |       | X             |     | X   | X    |                              |    |    |    |    |    |
|                      | LCD Monitor                              | X             | X     | X     | X     |       |       | X             |     |     |      | X                            |    |    |    |    |    |
|                      | Set Top Box                              |               | X     | X     | X     |       |       | X             |     |     |      |                              |    |    |    |    |    |
|                      | Loudspeaker                              |               |       |       |       |       |       |               |     |     |      | X                            |    |    |    |    |    |
|                      | Smart Card Reader                        |               | X     |       |       |       |       |               |     |     |      |                              |    |    |    |    |    |
|                      | Mobile Phone                             | X             | X     | X     |       |       |       |               |     |     |      |                              |    |    |    |    |    |
|                      | Linear AC/DC Adapter                     | X             | X     | X     | X     |       |       | X             |     | X   | X    |                              |    |    |    |    |    |
|                      | Portable Electronic Input Port           | X             | X     | X     | X     | X     |       |               |     |     |      |                              |    |    |    |    |    |
|                      | Electromagnetic Loads, Motor             |               |       |       |       |       | X     | X             |     | X   | X    |                              |    |    |    |    |    |
| Battery              | Solenoid Protection                      |               |       |       |       | X     |       | X             |     | X   | X    |                              |    |    |    |    |    |
|                      | Lithium Cell                             |               |       |       |       |       |       |               |     |     |      |                              | X  | X  | X  | X  | X  |
| Medical electronic   | Battery Pack                             |               |       |       |       |       |       |               |     |     |      |                              | X  | X  | X  | X  | X  |
|                      | Voltage / Current Input Terminal         |               | X     |       | X     |       |       |               |     |     |      |                              |    |    |    |    |    |

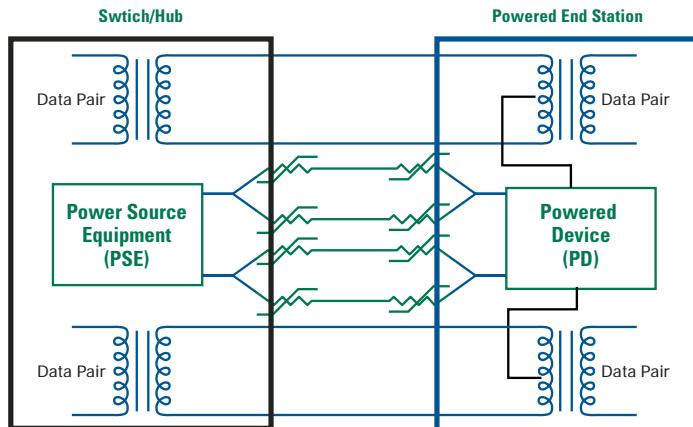
NOTE: The application summary is for reference only. Determination of suitability for a specific application is the responsibility of the customer.

Littelfuse offers a full range of battery strap, surface mount and radial leaded resettable PTC devices designed to protect applications where overcurrent protection is

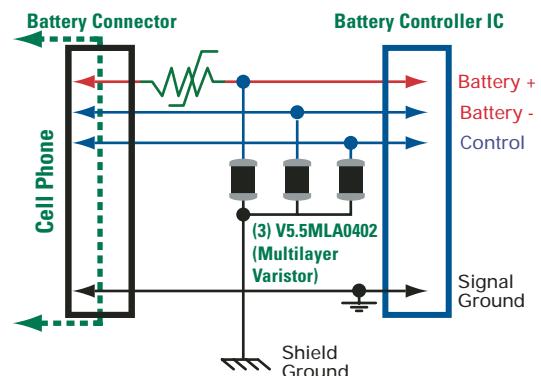
required. The following are typical examples of circuits using POLYFUSE® resettable PTCs in combination with other Littelfuse circuit protection devices to provide

complete protection for the circuit. Contact your location Littelfuse application expert for additional design assistance or visit [www.littelfuse.com/PTCs](http://www.littelfuse.com/PTCs).

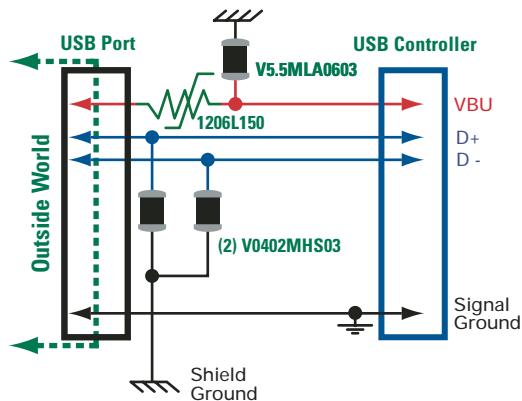
## Power Over Ethernet



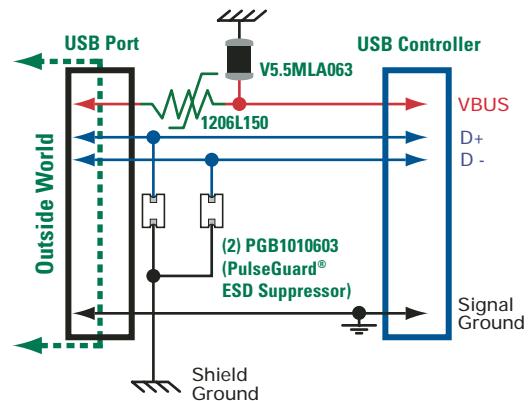
## Li-ion Battery Pack



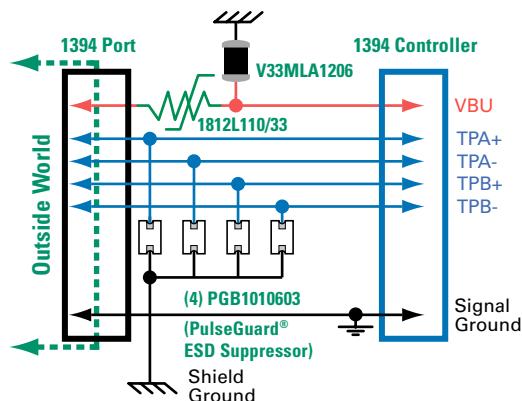
## USB 1.1



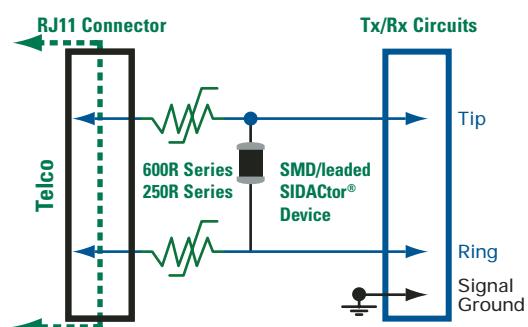
## USB 2.0



## IEEE 1394 – FireWire



## Tip/Ring circuit – Metallic





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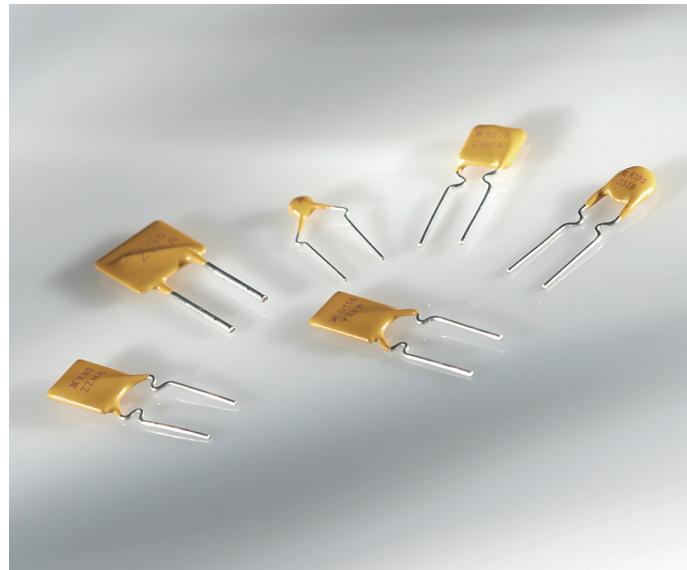
- Arcola, Illinois USA
- Des Plaines, Illinois USA
- Dongguan, China
- Dundalk, Ireland
- Dünsen, Germany
- Irving, Texas USA
- Lipa City, Philippines
- Matamoros, Mexico
- Piedras Negras, Mexico
- Suzhou, China
- Swindon, England
- Witten, Germany
- Wuxi, China
- Yangmei, Taiwan

# POLYSWITCH RESETTABLE DEVICES

## Radial-Leaded Devices

Littelfuse's PolySwitch radial-leaded products represent the most comprehensive and complete set of PPTC products available in the industry today.

- RGEF series for hold currents up to 14A
- RHEF series for flatter thermal derating and operating temperatures up to 125°C
- RUEF series for balance of voltage rating (30V) and hold current (up to 9A)
- RUSBF series for fast time-to-trip and low-resistance computer applications
- RXEF series for low hold currents (down to 50mA) and high voltage rating (up to 72V)
- RKEF series for balance of voltage rating (60V) and hold current (up to 5A)
- Now offering halogen free versions of all products



### BENEFITS

- Many product choices help provide engineers more design flexibility
- Compatible with high-volume electronics assembly
- Assists in meeting regulatory requirements
- Higher voltage ratings allow use in new applications

### FEATURES

- RoHS compliant
- Halogen free  
(refers to: Br $\geq$ 900ppm, Cl $\geq$ 900ppm, Br+Cl $\geq$ 1500ppm)
- Broadest range of radial-leaded resettable devices available in the industry
- Current ratings from 50mA to 15A
- Voltage ratings from 6V (computer and electronic applications) to 72V
- Agency recognition : UL, CSA, TÜV, CQC\*\*
- Fast time-to-trip
- Low resistance

\*\*CQC only applies to RXEF, RUEF family parts

### APPLICATIONS

- Satellite video receivers
- Industrial controls
- Transformers
- Modems
- CD-ROMs
- Game machines
- Phones
- Fax machines
- Analog and digital line cards
- Printers
- Intelligent appliance
- Robotic machine
- Power supply
- Security
- Lighting
- Medical application

# PolySwitch Resettable Devices

## Radial-Leaded Devices

### Application Selection Guide

The guide below lists PolySwitch radial-leaded devices that are typically used in each of the applications described.

Specifications for the suggested device part numbers can be found in this section.

Once a part number has been selected, the user should evaluate and test each product for its intended application.

| Protection Application                      | PolySwitch Resettable Devices — Key Selection Criteria |                  |                              |
|---|--|------------------|------------------------------|
|   | Small Size   | Flatter Derating | Lower Current Higher Voltage |
| Electromagnetic Loads                       | RGEF (<16V), RUEF (<30V)                               | RHEF (<16V)      | RXEFL (<72V), RKEF (<60V)    |
| Halogen Lighting                            | RGEF (<16V), RUEF (<30V)                               | RHEF (<16V)      | RXEFL (<72V), RKEF (<60V)    |
| Lighting Ballast                            | RXEFL (<72V)   |                  |                              |
| Loudspeakers                                | RXEFL (<72V)   |                  | RXEFL (<72V), RKEF (<60V)    |
| Medical Equipment                           | RGEF (<16V), RUEF (<30V)                               | RHEF (<16V)      | RXEFL (<72V), RKEF (<60V)    |
| MOSFET Devices                              | RGEF (<16V), RUEF (<30V)                               | RHEF (<16V)      | RXEFL (<72V), RKEF (<60V)    |
| Motors, Fans and Blowers                    | RXEFL (<72V), RGEF (<16V)                              | RHEF (<16V)      |                              |
| POS Equipment                               | RXEFL (<72V), RUEF (<30V)                              |                  |                              |
| Process and Industrial Controls             | RXEFL (<72V), RUEF (<30V)                              |                  |                              |
| Satellite Video Receivers                   | RGEF (<16V), RUEF (<30V)                               | RHEF (<16V)      | RXEFL (<72V), RKEF (<60V)    |
| Security and Fire Alarm Systems             | RGEF (<16V), RUEF (<30V)                               | RHEF (<16V)      | RXEFL (<72V), RKEF (<60V)    |
| Test and Measurement Equipment              | RGEF (<16V), RUEF (<30V)                               | RHEF (<16V)      | RXEFL (<72V), RKEF (<60V)    |
| Transformers                                | RGEF (<16V), RUEF (<30V)                               | RHEF (<16V)      | RXEFL (<72V), RKEF (<60V)    |
| DDC Computer and Consumer Electronics       | RUEF (<30V)  |                  |                              |
| Mouse and Keyboard                          | RUEF (<30V)  |                  |                              |
| SCSI  | RUEF (<30V)  |                  |                              |
| USB   | RUSBF (<16V)   |                  |                              |
| Traces and Printed Circuit Board Protection | RGEF (<16V), RUEF (<30V)                               | RHEF (<16V)      | RXEFL (<72V), RKEF (<60V)    |

**Note :** This list is not exhaustive. Littelfuse welcomes customer input for additional application ideas for PolySwitch resettable devices.

**Table R1 — Product Series - Current Rating, Voltage Rating/Typical Resistance**

| Voltage Rating          | RXEFL<br>72V | RKEF<br>60V | RXEFL<br>60V | RUEF<br>30V | RGEF<br>16V | RHEF<br>16V | RHEF<br>30V | RUSBF<br>16V | RUSBF<br>6V |
|-------------------------|--------------|-------------|--------------|-------------|-------------|-------------|-------------|--------------|-------------|
| <b>Hold Current (A)</b> |              |             |              |             |             |             |             |              |             |
| 0.050                   | —            | —           | 9.20Ω        | —           | —           | —           | —           | —            | —           |
| 0.100                   | —            | —           | 3.50Ω        | —           | —           | —           | —           | —            | —           |
| 0.170                   | —            | —           | 4.30Ω        | —           | —           | —           | —           | —            | —           |
| 0.200                   | 2.290Ω       | —           | —            | —           | —           | —           | —           | —            | —           |
| 0.250                   | 1.600Ω       | —           | —            | —           | —           | —           | —           | —            | —           |
| 0.300                   | 1.110Ω       | —           | —            | —           | —           | —           | —           | —            | —           |
| 0.400                   | 0.710Ω       | —           | —            | —           | —           | —           | —           | —            | —           |
| 0.500                   | 0.640Ω       | 0.425Ω      | —            | —           | —           | —           | 0.68Ω       | —            | —           |
| 0.550                   | —            | —           | —            | —           | —           | —           | —           | —            | —           |
| 0.650                   | 0.400Ω       | 0.350Ω      | —            | —           | —           | —           | —           | —            | —           |
| 0.700                   | —            | —           | —            | —           | —           | —           | 0.42Ω       | —            | —           |
| 0.750                   | 0.325Ω       | 0.295Ω      | —            | —           | —           | —           | —           | —            | 0.140Ω      |
| 0.900                   | 0.255Ω       | 0.255Ω      | —            | 0.095Ω      | —           | —           | —           | 0.100Ω       | —           |
| 1.000                   | —            | —           | —            | —           | —           | —           | 0.24Ω       | —            | —           |
| 1.100                   | 0.200Ω       | 0.225Ω      | —            | 0.075Ω      | —           | —           | —           | 0.075Ω       | —           |
| 1.200                   | —            | —           | —            | —           | —           | —           | —           | —            | 0.080Ω      |
| 1.350                   | 0.155Ω       | 0.165Ω      | —            | 0.060Ω      | —           | —           | —           | 0.060Ω       | —           |
| 1.550                   | —            | —           | —            | —           | —           | —           | —           | —            | 0.058Ω      |
| 1.600                   | 0.115Ω       | 0.150Ω      | —            | 0.050Ω      | —           | —           | —           | 0.050Ω       | —           |
| 1.850                   | 0.100Ω       | 0.106Ω      | —            | 0.045Ω      | —           | —           | —           | 0.045Ω       | —           |
| 1.900                   | —            | —           | —            | —           | —           | —           | —           | —            | —           |

# PolySwitch Resettable Devices

## Radial-Leaded Devices

Table R1 — Product Series - Current Rating, Voltage Rating/Typical Resistance (Cont'd)

| Voltage Rating          | RXEF<br>72V | RKEF<br>60V | RXEF<br>60V | RUEF<br>30V | RGEF<br>16V | RHEF<br>16V | RHEF<br>30V | RUSBF<br>16V | RUSBF<br>6V |
|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|
| <b>Hold Current (A)</b> |             |             |             |             |             |             |             |              |             |
| 2.000                   | —           | —           | —           | —           | —           | 0.0610Ω     | —           | —            | —           |
| 2.500                   | 0.065Ω      | 0.063Ω      | —           | 0.030Ω      | 0.0380Ω     | —           | —           | 0.030Ω       | —           |
| 3.000                   | 0.050Ω      | 0.040Ω      | —           | 0.035Ω      | 0.0514Ω     | 0.0430Ω     | —           | —            | —           |
| 3.750                   | 0.040Ω      | 0.029Ω      | —           | —           | —           | —           | —           | —            | —           |
| 4.000                   | —           | 0.026Ω      | —           | 0.020Ω      | 0.0300Ω     | 0.0320Ω     | —           | —            | —           |
| 4.500                   | —           | —           | —           | —           | —           | 0.0290Ω     | —           | —            | —           |
| 5.000                   | —           | 0.021Ω      | —           | 0.020Ω      | 0.0192Ω     | —           | —           | —            | —           |
| 5.500                   | —           | —           | —           | —           | —           | 0.0200Ω     | —           | —            | —           |
| 6.000                   | —           | —           | —           | 0.013Ω      | 0.0145Ω     | 0.0175Ω     | —           | —            | —           |
| 6.500                   | —           | —           | —           | —           | —           | 0.0144Ω     | —           | —            | —           |
| 7.000                   | —           | —           | —           | 0.013Ω      | 0.0105Ω     | 0.0132Ω     | —           | —            | —           |
| 7.500                   | —           | —           | —           | —           | —           | 0.0120Ω     | —           | —            | —           |
| 8.000                   | —           | —           | —           | 0.013Ω      | 0.0086Ω     | 0.0110Ω     | —           | —            | —           |
| 9.000                   | —           | —           | —           | 0.008Ω      | 0.0070Ω     | 0.0100Ω     | —           | —            | —           |
| 10.00                   | —           | —           | —           | —           | 0.0056Ω     | 0.0083Ω     | —           | —            | —           |
| 11.00                   | —           | —           | —           | —           | 0.0050Ω     | 0.0073Ω     | —           | —            | —           |
| 12.00                   | —           | —           | —           | —           | 0.0046Ω     | —           | —           | —            | —           |
| 13.00                   | —           | —           | —           | —           | —           | 0.0055Ω     | —           | —            | —           |
| 14.00                   | —           | —           | —           | —           | 0.0040Ω     | 0.0050Ω     | —           | —            | —           |
| 15.00                   | —           | —           | —           | —           | —           | 0.0050Ω     | —           | —            | —           |

Table R2 — Thermal Derating [Hold Current (A) at Ambient Temperature (°C)]

| Part Number         | Maximum Ambient Temperature |       |      |      |       |      |       |       |       |      |       |
|---------------------|-----------------------------|-------|------|------|-------|------|-------|-------|-------|------|-------|
|                     | -40°C                       | -20°C | 0°C  | 20°C | 25°C  | 40°C | 50°C  | 60°C  | 70°C  | 85°C | 125°C |
| <b>RXEF<br/>60V</b> |                             |       |      |      |       |      |       |       |       |      |       |
| RXEF005             | 0.078                       | 0.068 | 0.06 | 0.05 | 0.048 | 0.04 | 0.035 | 0.032 | 0.027 | 0.02 | —     |
| RXEF010             | 0.160                       | 0.140 | 0.11 | 0.10 | 0.096 | 0.08 | 0.072 | 0.067 | 0.050 | 0.04 | —     |
| RXEF017             | 0.260                       | 0.230 | 0.21 | 0.17 | 0.160 | 0.14 | 0.120 | 0.110 | 0.090 | 0.07 | —     |
| <b>RXEF<br/>72V</b> |                             |       |      |      |       |      |       |       |       |      |       |
| RXEF020             | 0.31                        | 0.27  | 0.24 | 0.20 | 0.19  | 0.16 | 0.14  | 0.13  | 0.11  | 0.08 | —     |
| RXEF025             | 0.39                        | 0.34  | 0.30 | 0.25 | 0.24  | 0.20 | 0.18  | 0.16  | 0.14  | 0.10 | —     |
| RXEF030             | 0.47                        | 0.41  | 0.36 | 0.30 | 0.29  | 0.24 | 0.22  | 0.20  | 0.16  | 0.12 | —     |
| RXEF040             | 0.62                        | 0.54  | 0.48 | 0.40 | 0.38  | 0.32 | 0.29  | 0.25  | 0.22  | 0.16 | —     |
| RXEF050             | 0.78                        | 0.68  | 0.60 | 0.50 | 0.48  | 0.41 | 0.36  | 0.32  | 0.27  | 0.20 | —     |
| RXEF065             | 1.01                        | 0.88  | 0.77 | 0.65 | 0.62  | 0.53 | 0.47  | 0.41  | 0.35  | 0.26 | —     |
| RXEF075             | 1.16                        | 1.02  | 0.89 | 0.75 | 0.72  | 0.61 | 0.54  | 0.47  | 0.41  | 0.30 | —     |
| RXEF090             | 1.40                        | 1.22  | 1.07 | 0.90 | 0.86  | 0.73 | 0.65  | 0.57  | 0.49  | 0.36 | —     |
| RXEF110             | 1.71                        | 1.50  | 1.31 | 1.10 | 1.06  | 0.89 | 0.79  | 0.69  | 0.59  | 0.44 | —     |
| RXEF135             | 2.09                        | 1.84  | 1.61 | 1.35 | 1.30  | 1.09 | 0.97  | 0.85  | 0.73  | 0.54 | —     |
| RXEF160             | 2.48                        | 2.18  | 1.90 | 1.60 | 1.54  | 1.30 | 1.15  | 1.01  | 0.86  | 0.64 | —     |
| RXEF185             | 2.87                        | 2.52  | 2.20 | 1.85 | 1.78  | 1.50 | 1.33  | 1.17  | 1.00  | 0.74 | —     |
| RXEF250             | 3.88                        | 3.40  | 2.98 | 2.50 | 2.40  | 2.03 | 1.80  | 1.58  | 1.35  | 1.00 | —     |
| RXEF300             | 4.65                        | 4.08  | 3.57 | 3.00 | 2.88  | 2.43 | 2.16  | 1.89  | 1.62  | 1.20 | —     |
| RXEF375             | 5.81                        | 5.10  | 4.46 | 3.75 | 3.60  | 3.04 | 2.70  | 2.36  | 2.03  | 1.50 | —     |

# PolySwitch Resettable Devices

## Radial-Leaded Devices

Table R2 – Thermal Derating [Hold Current (A) at Ambient Temperature (°C)] (Cont'd)

| Part Number                        | Maximum Ambient Temperature |       |       |      |      |      |      |      |      |      |       |
|------------------------------------|-----------------------------|-------|-------|------|------|------|------|------|------|------|-------|
|                                    | -40°C                       | -20°C | 0°C   | 20°C | 25°C | 40°C | 50°C | 60°C | 70°C | 85°C | 125°C |
| <b>RKEF 60V</b>                    |                             |       |       |      |      |      |      |      |      |      |       |
| RKEF050                            | 0.73                        | 0.65  | 0.58  | 0.50 | 0.48 | 0.42 | 0.38 | 0.34 | 0.31 | 0.26 | —     |
| RKEF065                            | 0.94                        | 0.85  | 0.75  | 0.65 | 0.63 | 0.54 | 0.50 | 0.44 | 0.40 | 0.34 | —     |
| RKEF075                            | 1.09                        | 0.98  | 0.86  | 0.75 | 0.73 | 0.62 | 0.58 | 0.51 | 0.46 | 0.39 | —     |
| RKEF090                            | 1.30                        | 1.17  | 1.04  | 0.90 | 0.87 | 0.75 | 0.69 | 0.61 | 0.55 | 0.47 | —     |
| RKEF110                            | 1.60                        | 1.43  | 1.27  | 1.10 | 1.06 | 0.92 | 0.85 | 0.75 | 0.67 | 0.57 | —     |
| RKEF135                            | 1.96                        | 1.76  | 1.55  | 1.35 | 1.31 | 1.12 | 1.04 | 0.92 | 0.83 | 0.71 | —     |
| RKEF160                            | 2.32                        | 2.08  | 1.84  | 1.60 | 1.55 | 1.33 | 1.23 | 1.08 | 0.98 | 0.83 | —     |
| RKEF185                            | 2.68                        | 2.41  | 2.13  | 1.85 | 1.79 | 1.54 | 1.43 | 1.26 | 1.13 | 0.96 | —     |
| RKEF250                            | 3.63                        | 3.25  | 2.88  | 2.50 | 2.43 | 2.08 | 1.93 | 1.70 | 1.52 | 1.31 | —     |
| RKEF300                            | 4.35                        | 3.90  | 3.45  | 3.00 | 2.91 | 2.50 | 2.30 | 2.04 | 1.84 | 1.55 | —     |
| RKEF375                            | 5.44                        | 4.88  | 4.31  | 3.75 | 3.64 | 3.11 | 2.90 | 2.54 | 2.29 | 1.94 | —     |
| RKEF400                            | 5.80                        | 5.20  | 4.60  | 4.00 | 3.88 | 3.32 | 3.08 | 2.73 | 2.45 | 2.08 | —     |
| RKEF500                            | 7.25                        | 6.50  | 5.75  | 5.00 | 4.85 | 4.15 | 3.85 | 3.41 | 3.06 | 2.59 | —     |
| <b>RUEF 30V</b>                    |                             |       |       |      |      |      |      |      |      |      |       |
| RUEF090                            | 1.31                        | 1.17  | 1.04  | 0.90 | 0.87 | 0.75 | 0.69 | 0.61 | 0.55 | 0.47 | —     |
| RUEF110                            | 1.60                        | 1.43  | 1.27  | 1.10 | 1.07 | 0.91 | 0.85 | 0.75 | 0.67 | 0.57 | —     |
| RUEF135                            | 1.96                        | 1.76  | 1.55  | 1.35 | 1.31 | 1.12 | 1.04 | 0.92 | 0.82 | 0.70 | —     |
| RUEF160                            | 2.32                        | 2.08  | 1.84  | 1.60 | 1.55 | 1.33 | 1.23 | 1.09 | 0.98 | 0.83 | —     |
| RUEF185                            | 2.68                        | 2.41  | 2.13  | 1.85 | 1.79 | 1.54 | 1.42 | 1.26 | 1.13 | 0.96 | —     |
| RUEF250                            | 3.63                        | 3.25  | 2.88  | 2.50 | 2.43 | 2.08 | 1.93 | 1.70 | 1.53 | 1.30 | —     |
| RUEF300                            | 4.35                        | 3.90  | 3.45  | 3.00 | 2.91 | 2.49 | 2.31 | 2.04 | 1.83 | 1.56 | —     |
| RUEF400                            | 5.80                        | 5.20  | 4.60  | 4.00 | 3.88 | 3.32 | 3.08 | 2.72 | 2.44 | 2.08 | —     |
| RUEF500                            | 7.25                        | 6.50  | 5.75  | 5.00 | 4.85 | 4.15 | 3.85 | 3.40 | 3.05 | 2.60 | —     |
| RUEF600                            | 8.70                        | 7.80  | 6.90  | 6.00 | 5.82 | 4.98 | 4.62 | 4.08 | 3.66 | 3.12 | —     |
| RUEF700                            | 10.15                       | 9.10  | 8.05  | 7.00 | 6.79 | 5.81 | 5.39 | 4.76 | 4.27 | 3.64 | —     |
| RUEF800                            | 11.60                       | 10.40 | 9.20  | 8.00 | 7.76 | 6.64 | 6.16 | 5.44 | 4.88 | 4.16 | —     |
| RUEF900                            | 13.05                       | 11.70 | 10.35 | 9.00 | 8.73 | 7.47 | 6.93 | 6.12 | 5.49 | 4.68 | —     |
| <b>RHEF 30V - High Temperature</b> |                             |       |       |      |      |      |      |      |      |      |       |
| RHEF050                            | 0.68                        | 0.62  | 0.56  | 0.51 | 0.50 | 0.44 | 0.40 | 0.36 | 0.34 | 0.28 | 0.12  |
| RHEF070                            | 0.95                        | 0.87  | 0.79  | 0.72 | 0.70 | 0.62 | 0.56 | 0.51 | 0.47 | 0.39 | 0.17  |
| RHEF100                            | 1.36                        | 1.24  | 1.13  | 1.03 | 1.00 | 0.89 | 0.80 | 0.73 | 0.67 | 0.56 | 0.24  |
| <b>RUSBF 16V</b>                   |                             |       |       |      |      |      |      |      |      |      |       |
| RUSBF090                           | 1.31                        | 1.17  | 1.04  | 0.90 | 0.87 | 0.75 | 0.69 | 0.61 | 0.55 | 0.47 | —     |
| RUSBF110                           | 1.60                        | 1.43  | 1.27  | 1.10 | 1.07 | 1.00 | 0.92 | 0.75 | 0.67 | 0.57 | —     |
| RUSBF135                           | 1.96                        | 1.76  | 1.55  | 1.35 | 1.31 | 1.12 | 1.04 | 0.92 | 0.82 | 0.70 | —     |
| RUSBF160                           | 2.32                        | 2.08  | 1.84  | 1.60 | 1.55 | 1.33 | 1.23 | 1.09 | 0.98 | 0.83 | —     |
| RUSBF185                           | 2.68                        | 2.41  | 2.13  | 1.85 | 1.79 | 1.54 | 1.42 | 1.26 | 1.13 | 0.96 | —     |
| RUSBF250                           | 3.63                        | 3.25  | 2.88  | 2.50 | 2.43 | 2.08 | 1.93 | 1.70 | 1.53 | 1.30 | —     |
| <b>RGEF 16V</b>                    |                             |       |       |      |      |      |      |      |      |      |       |
| RGEF250                            | 3.7                         | 3.3   | 3.0   | 2.6  | 2.50 | 2.2  | 2.0  | 1.8  | 1.6  | 1.2  | —     |
| RGEF300                            | 4.4                         | 4.0   | 3.6   | 3.1  | 3.00 | 2.6  | 2.4  | 2.1  | 1.9  | 1.4  | —     |
| RGEF400                            | 5.9                         | 5.3   | 4.8   | 4.1  | 4.00 | 3.5  | 3.2  | 2.8  | 2.5  | 1.9  | —     |
| RGEF500                            | 7.3                         | 6.6   | 6.0   | 5.2  | 5.00 | 4.4  | 4.0  | 3.6  | 3.1  | 2.4  | —     |
| RGEF600                            | 8.8                         | 8.0   | 7.2   | 6.2  | 6.00 | 5.2  | 4.8  | 4.2  | 3.8  | 2.8  | —     |
| RGEF700                            | 10.3                        | 9.3   | 8.4   | 7.3  | 7.00 | 6.2  | 5.6  | 5.0  | 4.4  | 3.3  | —     |
| RGEF800                            | 11.7                        | 10.7  | 9.6   | 8.3  | 8.00 | 6.9  | 6.4  | 5.6  | 5.1  | 3.7  | —     |

# PolySwitch Resettable Devices

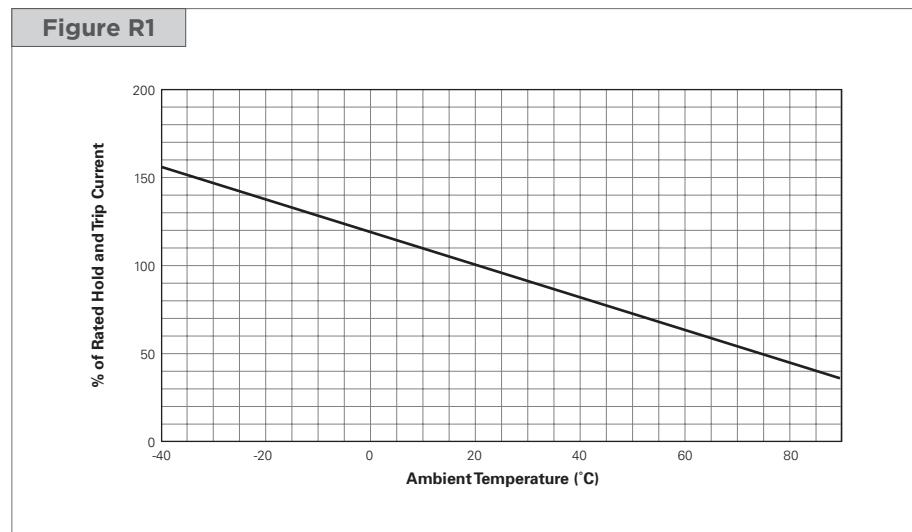
## Radial-Leaded Devices

Table R2 – Thermal Derating [Hold Current (A) at Ambient Temperature (°C)] (Cont'd)

| Part Number                        | Maximum Ambient Temperature |       |       |       |       |       |       |       |      |      |       |
|------------------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
|                                    | -40°C                       | -20°C | 0°C   | 20°C  | 25°C  | 40°C  | 50°C  | 60°C  | 70°C | 85°C | 125°C |
| <b>RGEF 16V</b>                    |                             |       |       |       |       |       |       |       |      |      |       |
| RGEF900                            | 13.2                        | 11.9  | 10.7  | 9.4   | 9.00  | 7.9   | 7.2   | 6.4   | 5.6  | 4.2  | —     |
| RGEF1000                           | 14.7                        | 13.3  | 12.0  | 10.3  | 10.00 | 8.7   | 8.0   | 7.0   | 6.3  | 4.7  | —     |
| RGEF1100                           | 16.1                        | 14.6  | 13.1  | 11.5  | 11.00 | 9.7   | 8.8   | 7.8   | 6.9  | 5.2  | —     |
| RGEF1200                           | 17.6                        | 16.0  | 14.4  | 12.4  | 12.00 | 10.4  | 9.6   | 8.4   | 7.6  | 5.6  | —     |
| RGEF1400                           | 20.5                        | 18.7  | 16.8  | 14.5  | 14.00 | 12.1  | 11.2  | 9.8   | 8.9  | 6.5  | —     |
| <b>RHEF 16V - High Temperature</b> |                             |       |       |       |       |       |       |       |      |      |       |
| RHEF200                            | 2.71                        | 2.49  | 2.26  | 2.06  | 2.00  | 1.77  | 1.60  | 1.46  | 1.34 | 1.11 | 0.49  |
| RHEF300                            | 4.07                        | 3.74  | 3.41  | 3.09  | 3.00  | 2.65  | 2.40  | 2.21  | 2.00 | 1.66 | 0.74  |
| RHEF400                            | 5.57                        | 5.11  | 4.65  | 4.22  | 4.00  | 3.62  | 3.29  | 3.01  | 2.73 | 2.27 | 1.01  |
| RHEF450                            | 6.10                        | 5.60  | 5.10  | 4.60  | 4.50  | 4.00  | 3.60  | 3.30  | 3.00 | 2.50 | 1.10  |
| RHEF550                            | 7.47                        | 6.86  | 6.24  | 5.66  | 5.50  | 4.85  | 4.41  | 4.04  | 3.66 | 3.05 | 1.36  |
| RHEF600                            | 8.20                        | 7.50  | 6.80  | 6.20  | 6.00  | 5.30  | 4.90  | 4.40  | 4.00 | 3.30 | 1.50  |
| RHEF650                            | 8.80                        | 8.10  | 7.40  | 6.70  | 6.50  | 5.70  | 5.30  | 4.80  | 4.30 | 3.60 | 1.60  |
| RHEF700                            | 9.51                        | 8.73  | 7.95  | 7.20  | 7.00  | 6.17  | 5.61  | 5.15  | 4.66 | 3.88 | 1.73  |
| RHEF750                            | 10.20                       | 9.40  | 8.60  | 7.70  | 7.50  | 6.60  | 6.10  | 5.60  | 5.00 | 4.10 | 1.90  |
| RHEF800                            | 10.87                       | 9.98  | 9.08  | 8.23  | 8.00  | 7.06  | 6.41  | 5.88  | 5.33 | 4.43 | 1.97  |
| RHEF900                            | 12.21                       | 11.19 | 10.16 | 9.26  | 9.00  | 7.97  | 7.20  | 6.56  | 6.04 | 5.01 | 2.19  |
| RHEF1000                           | 13.60                       | 12.50 | 11.40 | 10.30 | 10.00 | 8.80  | 8.10  | 7.40  | 6.60 | 5.50 | 2.50  |
| RHEF1100                           | 14.94                       | 13.72 | 12.49 | 11.31 | 11.00 | 9.70  | 8.82  | 8.09  | 7.32 | 6.09 | 2.71  |
| RHEF1300                           | 17.70                       | 16.30 | 14.80 | 13.40 | 13.00 | 11.40 | 10.50 | 9.60  | 8.60 | 7.20 | 3.30  |
| RHEF1400                           | 19.01                       | 17.46 | 15.89 | 14.40 | 14.00 | 12.35 | 11.22 | 10.29 | 9.32 | 7.76 | 3.45  |
| RHEF1500                           | 20.40                       | 18.80 | 17.10 | 15.50 | 15.00 | 13.20 | 12.10 | 11.10 | 9.90 | 8.30 | 3.80  |
| <b>RUSBF 6V</b>                    |                             |       |       |       |       |       |       |       |      |      |       |
| RUSBF075                           | 1.05                        | 0.95  | 0.85  | 0.75  | 0.73  | 0.65  | 0.60  | 0.55  | 0.50 | 0.43 | —     |
| RUSBF120                           | 1.69                        | 1.52  | 1.36  | 1.20  | 1.16  | 1.04  | 0.96  | 0.88  | 0.80 | 0.68 | —     |
| RUSBF155                           | 2.17                        | 1.96  | 1.75  | 1.55  | 1.50  | 1.34  | 1.24  | 1.14  | 1.03 | 0.88 | —     |

Figures R1-R5 – Thermal Derating Curve

RXEFT



# PolySwitch Resettable Devices

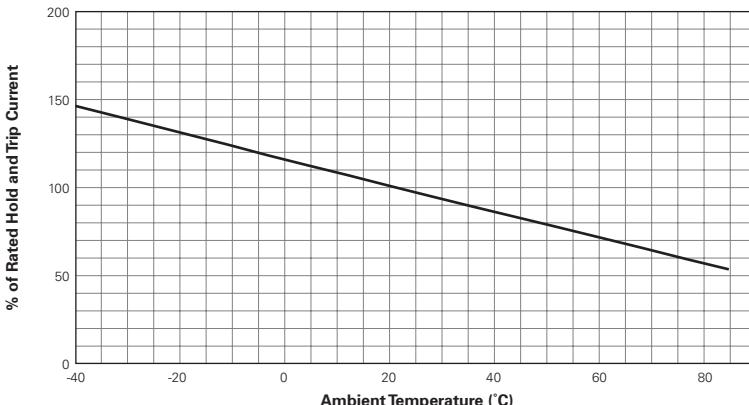
## Radial-Leaded Devices

### Figures R1-R5 – Thermal Derating Curve

(Cont'd)

RKEF

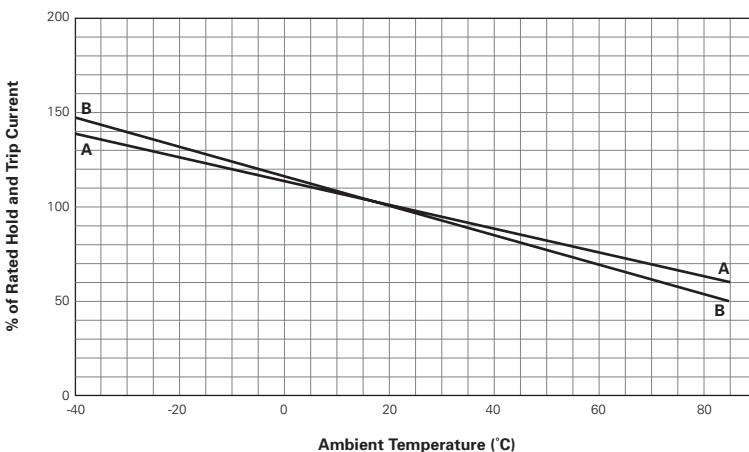
Figure R2



A = RUSBF075,  
RUSBF120,  
RUSBF155

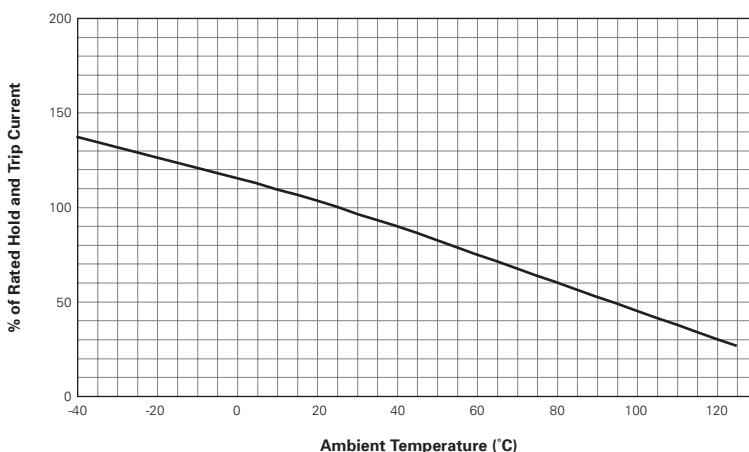
B = RUEF,  
and all other RUSBF

Figure R3



RHEF

Figure R4



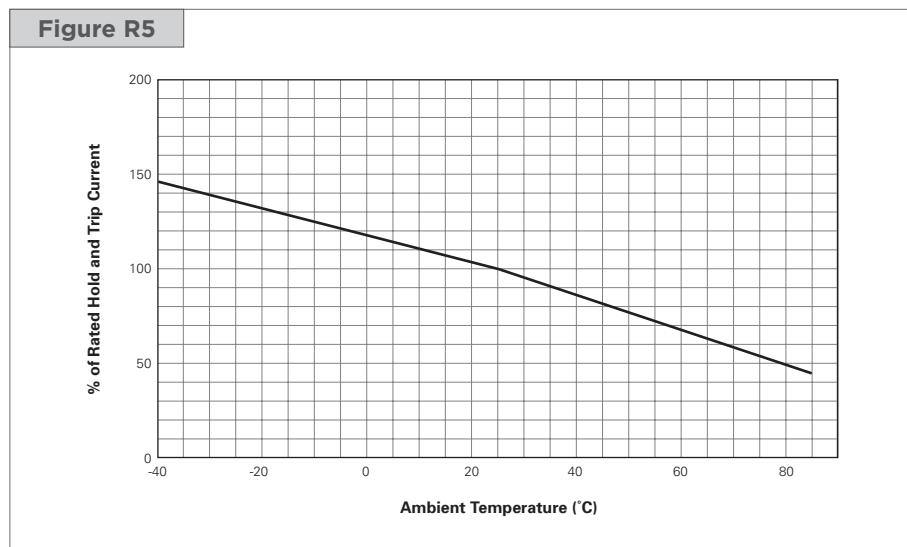
# PolySwitch Resettable Devices

## Radial-Leaded Devices

### Figures R1-R5 – Thermal Derating Curve

(Cont'd)

RGEF



**Table R3 – Electrical Characteristics**

| Part Number     | I <sub>H</sub><br>(A) | I <sub>T</sub><br>(A)  | V <sub>MAX</sub>     |                       | I <sub>MAX</sub> |     | P <sub>D Typ</sub><br>(W) | Max Time-to-trip |      | R <sub>MIN</sub><br>(Ω) | R <sub>MAX</sub><br>(Ω) | R <sub>1MAX</sub><br>(Ω) | Lead Size<br>[mm <sup>2</sup> (AWG)] |
|-----------------|-----------------------|------------------------|----------------------|-----------------------|------------------|-----|---------------------------|------------------|------|-------------------------|-------------------------|--------------------------|--------------------------------------|
|                 | (V <sub>DC</sub> )    | (V <sub>AC RMS</sub> ) | (DC <sub>ADC</sub> ) | (AC <sub>ARMs</sub> ) | (A)              | (s) | (Ω)                       | (Ω)              | (Ω)  |                         |                         |                          |                                      |
| <b>RXEF 60V</b> |                       |                        |                      |                       |                  |     |                           |                  |      |                         |                         |                          |                                      |
| RXEF005         | 0.05                  | 0.10                   | 60                   | —                     | 40               | —   | 0.22                      | 0.25             | 5.0  | 7.3                     | 11.10                   | 20.00                    | [0.128mm <sup>2</sup> (26)]          |
| RXEF010         | 0.10                  | 0.20                   | 60                   | —                     | 40               | —   | 0.38                      | 0.50             | 4.0  | 2.5                     | 4.50                    | 7.50                     | [0.205mm <sup>2</sup> (24)]          |
| RXEF017         | 0.17                  | 0.34                   | 60                   | —                     | 40               | —   | 0.48                      | 0.85             | 3.0  | 3.3                     | 5.21                    | 8.00                     | [0.205mm <sup>2</sup> (24)]          |
| <b>RXEF 72V</b> |                       |                        |                      |                       |                  |     |                           |                  |      |                         |                         |                          |                                      |
| RXEF020         | 0.20                  | 0.40                   | 72                   | 72                    | 40               | 40  | 0.41                      | 1.00             | 2.2  | 1.83                    | 2.75                    | 4.40                     | [0.205mm <sup>2</sup> (24)]          |
| RXEF025         | 0.25                  | 0.50                   | 72                   | 72                    | 40               | 40  | 0.45                      | 1.25             | 2.5  | 1.25                    | 1.95                    | 3.00                     | [0.205mm <sup>2</sup> (24)]          |
| RXEF030         | 0.30                  | 0.60                   | 72                   | 72                    | 40               | 40  | 0.49                      | 1.50             | 3.0  | 0.88                    | 1.33                    | 2.10                     | [0.205mm <sup>2</sup> (24)]          |
| RXEF040         | 0.40                  | 0.80                   | 72                   | 72                    | 40               | 40  | 0.56                      | 2.00             | 3.8  | 0.55                    | 0.86                    | 1.29                     | [0.205mm <sup>2</sup> (24)]          |
| RXEF050         | 0.50                  | 1.00                   | 72                   | 72                    | 40               | 40  | 0.77                      | 2.50             | 4.0  | 0.50                    | 0.77                    | 1.17                     | [0.205mm <sup>2</sup> (24)]          |
| RXEF065         | 0.65                  | 1.30                   | 72                   | 72                    | 40               | 40  | 0.88                      | 3.25             | 5.3  | 0.31                    | 0.48                    | 0.72                     | [0.205mm <sup>2</sup> (24)]          |
| RXEF075         | 0.75                  | 1.50                   | 72                   | 72                    | 40               | 40  | 0.92                      | 3.75             | 6.3  | 0.25                    | 0.40                    | 0.60                     | [0.205mm <sup>2</sup> (24)]          |
| RXEF090         | 0.90                  | 1.80                   | 72                   | 72                    | 40               | 40  | 0.99                      | 4.50             | 7.2  | 0.20                    | 0.31                    | 0.47                     | [0.205mm <sup>2</sup> (24)]          |
| RXEF110         | 1.10                  | 2.20                   | 72                   | 72                    | 40               | 40  | 1.50                      | 5.50             | 8.2  | 0.15                    | 0.25                    | 0.38                     | [0.520mm <sup>2</sup> (20)]          |
| RXEF135         | 1.35                  | 2.70                   | 72                   | 72                    | 40               | 40  | 1.70                      | 6.75             | 9.6  | 0.12                    | 0.19                    | 0.30                     | [0.520mm <sup>2</sup> (20)]          |
| RXEF160         | 1.60                  | 3.20                   | 72                   | 72                    | 40               | 40  | 1.90                      | 8.00             | 11.4 | 0.09                    | 0.14                    | 0.22                     | [0.520mm <sup>2</sup> (20)]          |
| RXEF185         | 1.85                  | 3.70                   | 72                   | 72                    | 40               | 40  | 2.10                      | 9.25             | 12.6 | 0.08                    | 0.12                    | 0.19                     | [0.520mm <sup>2</sup> (20)]          |
| RXEF250         | 2.50                  | 5.00                   | 72                   | 72                    | 40               | 40  | 2.50                      | 12.50            | 15.6 | 0.05                    | 0.08                    | 0.13                     | [0.520mm <sup>2</sup> (20)]          |
| RXEF300         | 3.00                  | 6.00                   | 72                   | 72                    | 40               | 40  | 2.80                      | 15.00            | 19.8 | 0.04                    | 0.06                    | 0.10                     | [0.520mm <sup>2</sup> (20)]          |
| RXEF375         | 3.75                  | 7.50                   | 72                   | 72                    | 40               | 40  | 3.20                      | 18.75            | 24.0 | 0.03                    | 0.05                    | 0.08                     | [0.520mm <sup>2</sup> (20)]          |

# PolySwitch Resettable Devices

## Radial-Leaded Devices

### Table R3 — Electrical Characteristics

(Cont'd)

| Part Number                                   | I <sub>H</sub><br>(A) | I <sub>T</sub><br>(A) | V <sub>MAX</sub><br>(V <sub>DC</sub> ) | V <sub>MAX</sub><br>(V <sub>AC RMS</sub> ) | I <sub>MAX</sub><br>(DC <sub>ADC</sub> ) | I <sub>MAX</sub><br>(AC <sub>ARMS</sub> ) | P <sub>D Typ</sub><br>(W) | Max Time-to-trip<br>(A) | Max Time-to-trip<br>(s) | R <sub>MIN</sub><br>(Ω) | R <sub>MAX</sub><br>(Ω) | R <sub>1MAX</sub><br>(Ω) | Lead Size<br>[mm <sup>2</sup> (AWG)] |
|---|-----------------------|-----------------------|--|--|--|---|---------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------------------|
| <b>RKEF<br/>60V</b>                           |                       |                       |  |  |  |   |                           |                         |                         |                         |                         |                          |                                      |
| RKEF050                                       | 0.50                  | 1.00                  | 60                                     | —  | 40                                       | —   | 1.00                      | 8.00                    | 0.8                     | 0.320                   | 0.529                   | 0.900                    | [0.205mm <sup>2</sup> (24)]          |
| RKEF065                                       | 0.65                  | 1.30                  | 60                                     | —  | 40                                       | —   | 1.25                      | 8.00                    | 1.0                     | 0.250                   | 0.450                   | 0.720                    | [0.205mm <sup>2</sup> (24)]          |
| RKEF075                                       | 0.75                  | 1.50                  | 60                                     | —  | 40                                       | —   | 1.40                      | 8.00                    | 1.5                     | 0.200                   | 0.390                   | 0.640                    | [0.205mm <sup>2</sup> (24)]          |
| RKEF090                                       | 0.90                  | 1.80                  | 60                                     | —  | 40                                       | —   | 1.50                      | 8.00                    | 2.0                     | 0.190                   | 0.320                   | 0.520                    | [0.205mm <sup>2</sup> (24)]          |
| RKEF110                                       | 1.10                  | 2.20                  | 60                                     | —  | 40                                       | —   | 2.20                      | 8.00                    | 3.0                     | 0.170                   | 0.280                   | 0.470                    | [0.520mm <sup>2</sup> (20)]          |
| RKEF135                                       | 1.35                  | 2.70                  | 60                                     | —  | 40                                       | —   | 2.30                      | 8.00                    | 4.5                     | 0.110                   | 0.220                   | 0.370                    | [0.520mm <sup>2</sup> (20)]          |
| RKEF160                                       | 1.60                  | 3.20                  | 60                                     | —  | 40                                       | —   | 2.40                      | 8.20                    | 9.0                     | 0.100                   | 0.200                   | 0.320                    | [0.520mm <sup>2</sup> (20)]          |
| RKEF185                                       | 1.85                  | 3.70                  | 60                                     | —  | 40                                       | —   | 2.60                      | 9.25                    | 12.6                    | 0.060                   | 0.152                   | 0.250                    | [0.520mm <sup>2</sup> (20)]          |
| RKEF250                                       | 2.50                  | 5.00                  | 60                                     | —  | 40                                       | —   | 2.80                      | 12.50                   | 15.6                    | 0.040                   | 0.085                   | 0.140                    | [0.520mm <sup>2</sup> (20)]          |
| RKEF300                                       | 3.00                  | 6.00                  | 60                                     | —  | 40                                       | —   | 3.20                      | 15.00                   | 19.8                    | 0.030                   | 0.050                   | 0.080                    | [0.520mm <sup>2</sup> (20)]          |
| RKEF375                                       | 3.75                  | 7.50                  | 60                                     | —  | 40                                       | —   | 3.40                      | 18.75                   | 22.0                    | 0.017                   | 0.040                   | 0.060                    | [0.520mm <sup>2</sup> (20)]          |
| RKEF400                                       | 4.00                  | 8.00                  | 60                                     | —  | 40                                       | —   | 3.70                      | 20.00                   | 24.0                    | 0.014                   | 0.038                   | 0.060                    | [0.520mm <sup>2</sup> (20)]          |
| RKEF500                                       | 5.00                  | 10.00                 | 60                                     | —  | 40                                       | —   | 5.00                      | 25.00                   | 28.0                    | 0.012                   | 0.030                   | 0.050                    | [0.520mm <sup>2</sup> (20)]          |
| <b>RUEF<br/>30V</b>                           |                       |                       |  |  |  |   |                           |                         |                         |                         |                         |                          |                                      |
| RUEF090                                       | 0.90                  | 1.80                  | 30                                     | 30   | 100                                      | 70  | 0.60                      | 4.50                    | 5.9                     | 0.070                   | 0.120                   | 0.22                     | [0.205mm <sup>2</sup> (24)]          |
| RUEF110                                       | 1.10                  | 2.20                  | 30                                     | 30   | 100                                      | 70  | 0.70                      | 5.50                    | 6.6                     | 0.070                   | 0.100                   | 0.17                     | [0.205mm <sup>2</sup> (24)]          |
| RUEF135                                       | 1.35                  | 2.70                  | 30                                     | 30   | 100                                      | 70  | 0.80                      | 6.75                    | 7.3                     | 0.040                   | 0.080                   | 0.13                     | [0.205mm <sup>2</sup> (24)]          |
| RUEF160                                       | 1.60                  | 3.20                  | 30                                     | 30   | 100                                      | 70  | 0.90                      | 8.00                    | 8.0                     | 0.030                   | 0.070                   | 0.11                     | [0.205mm <sup>2</sup> (24)]          |
| RUEF185                                       | 1.85                  | 3.70                  | 30                                     | 30   | 100                                      | 70  | 1.00                      | 9.25                    | 8.7                     | 0.030                   | 0.060                   | 0.09                     | [0.205mm <sup>2</sup> (24)]          |
| RUEF250                                       | 2.50                  | 5.00                  | 30                                     | 30   | 100                                      | 70  | 1.20                      | 12.50                   | 10.3                    | 0.020                   | 0.040                   | 0.07                     | [0.205mm <sup>2</sup> (24)]          |
| RUEF300                                       | 3.00                  | 6.00                  | 30                                     | 30   | 100                                      | 70  | 2.00                      | 15.00                   | 10.8                    | 0.020                   | 0.050                   | 0.08                     | [0.520mm <sup>2</sup> (20)]          |
| RUEF400                                       | 4.00                  | 8.00                  | 30                                     | 30   | 100                                      | 70  | 2.50                      | 20.00                   | 12.7                    | 0.010                   | 0.030                   | 0.05                     | [0.520mm <sup>2</sup> (20)]          |
| RUEF500                                       | 5.00                  | 10.00                 | 30                                     | 30   | 100                                      | 70  | 3.00                      | 25.00                   | 14.5                    | 0.010                   | 0.030                   | 0.05                     | [0.520mm <sup>2</sup> (20)]          |
| RUEF600                                       | 6.00                  | 12.00                 | 30                                     | 30   | 100                                      | 70  | 3.50                      | 30.00                   | 16.0                    | 0.005                   | 0.020                   | 0.04                     | [0.520mm <sup>2</sup> (20)]          |
| RUEF700                                       | 7.00                  | 14.00                 | 30                                     | 30   | 100                                      | 70  | 3.80                      | 35.00                   | 17.5                    | 0.005                   | 0.020                   | 0.03                     | [0.520mm <sup>2</sup> (20)]          |
| RUEF800                                       | 8.00                  | 16.00                 | 30                                     | 30   | 100                                      | 70  | 4.00                      | 40.00                   | 18.8                    | 0.005                   | 0.013                   | 0.02                     | [0.520mm <sup>2</sup> (20)]          |
| RUEF900                                       | 9.00                  | 18.00                 | 30                                     | 30   | 100                                      | 70  | 4.20                      | 45.00                   | 20.0                    | 0.005                   | 0.010                   | 0.02                     | [0.520mm <sup>2</sup> (20)]          |
| <b>RHEF*</b><br><b>30V - High Temperature</b> |                       |                       |  |  |  |   |                           |                         |                         |                         |                         |                          |                                      |
| RHEF050                                       | 0.5                   | 0.9                   | 30                                     | —  | 40                                       | —   | 0.9                       | 2.5                     | 2.5                     | 0.480                   | 0.780                   | 1.10                     | [0.205mm <sup>2</sup> (24)]          |
| RHEF070                                       | 0.7                   | 1.4                   | 30                                     | —  | 40                                       | —   | 1.4                       | 3.5                     | 3.2                     | 0.300                   | 0.540                   | 0.80                     | [0.205mm <sup>2</sup> (24)]          |
| RHEF100                                       | 1.0                   | 1.8                   | 30                                     | —  | 40                                       | —   | 1.4                       | 5.0                     | 5.2                     | 0.180                   | 0.300                   | 0.43                     | [0.205mm <sup>2</sup> (24)]          |
| <b>RUSBF<br/>16V</b>                          |                       |                       |  |  |  |   |                           |                         |                         |                         |                         |                          |                                      |
| RUSBF090                                      | 0.90                  | 1.8                   | 16                                     | —  | 40                                       | —   | 0.6                       | 8.0                     | 1.2                     | 0.070                   | 0.120                   | 0.180                    | [0.205mm <sup>2</sup> (24)]          |
| RUSBF110                                      | 1.10                  | 2.2                   | 16                                     | —  | 40                                       | —   | 0.7                       | 8.0                     | 2.3                     | 0.050                   | 0.095                   | 0.140                    | [0.205mm <sup>2</sup> (24)]          |
| RUSBF135                                      | 1.35                  | 2.7                   | 16                                     | —  | 40                                       | —   | 0.8                       | 8.0                     | 4.5                     | 0.040                   | 0.074                   | 0.112                    | [0.205mm <sup>2</sup> (24)]          |
| RUSBF160                                      | 1.60                  | 3.2                   | 16                                     | —  | 40                                       | —   | 0.9                       | 8.0                     | 9.0                     | 0.030                   | 0.061                   | 0.110                    | [0.205mm <sup>2</sup> (24)]          |
| RUSBF185                                      | 1.85                  | 3.7                   | 16                                     | —  | 40                                       | —   | 1.0                       | 8.0                     | 10.0                    | 0.030                   | 0.051                   | 0.090                    | [0.205mm <sup>2</sup> (24)]          |
| RUSBF250                                      | 2.50                  | 5.0                   | 16                                     | —  | 40                                       | —   | 1.2                       | 8.0                     | 40.0                    | 0.020                   | 0.036                   | 0.060                    | [0.205mm <sup>2</sup> (24)]          |
| <b>RGEF*</b><br><b>16V</b>                    |                       |                       |  |  |  |   |                           |                         |                         |                         |                         |                          |                                      |
| RGEF250                                       | 2.5                   | 4.7                   | 16                                     | —  | 100                                      | —   | 1.0                       | 12.5                    | 5.0                     | 0.0220                  | 0.0350                  | 0.0530                   | [0.205mm <sup>2</sup> (24)]          |
| RGEF300                                       | 3.0                   | 5.1                   | 16                                     | —  | 100                                      | —   | 2.3                       | 15.0                    | 1.0                     | 0.0380                  | 0.0645                  | 0.0975                   | [0.520mm <sup>2</sup> (20)]          |
| RGEF400                                       | 4.0                   | 6.8                   | 16                                     | —  | 100                                      | —   | 2.4                       | 20.0                    | 1.7                     | 0.0210                  | 0.0390                  | 0.0600                   | [0.520mm <sup>2</sup> (20)]          |
| RGEF500                                       | 5.0                   | 8.5                   | 16                                     | —  | 100                                      | —   | 2.6                       | 25.0                    | 2.0                     | 0.0150                  | 0.0240                  | 0.0340                   | [0.520mm <sup>2</sup> (20)]          |
| RGEF600                                       | 6.0                   | 10.2                  | 16                                     | —  | 100                                      | —   | 2.8                       | 30.0                    | 3.3                     | 0.0100                  | 0.0190                  | 0.0280                   | [0.520mm <sup>2</sup> (20)]          |
| RGEF700                                       | 7.0                   | 11.9                  | 16                                     | —  | 100                                      | —   | 3.0                       | 35.0                    | 3.5                     | 0.0077                  | 0.0131                  | 0.0200                   | [0.520mm <sup>2</sup> (20)]          |
| RGEF800                                       | 8.0                   | 13.6                  | 16                                     | —  | 100                                      | —   | 3.0                       | 40.0                    | 5.0                     | 0.0056                  | 0.0110                  | 0.0175                   | [0.520mm <sup>2</sup> (20)]          |
| RGEF900                                       | 9.0                   | 15.3                  | 16                                     | —  | 100                                      | —   | 3.3                       | 45.0                    | 5.5                     | 0.0047                  | 0.0091                  | 0.0135                   | [0.520mm <sup>2</sup> (20)]          |
| RGEF1000                                      | 10.0                  | 17.0                  | 16                                     | —  | 100                                      | —   | 3.6                       | 50.0                    | 6.0                     | 0.0040                  | 0.0070                  | 0.0102                   | [0.520mm <sup>2</sup> (20)]          |
| RGEF1100                                      | 11.0                  | 18.7                  | 16                                     | —  | 100                                      | —   | 3.7                       | 55.0                    | 7.0                     | 0.0037                  | 0.0060                  | 0.0089                   | [0.520mm <sup>2</sup> (20)]          |
| RGEF1200                                      | 12.0                  | 20.4                  | 16                                     | —  | 100                                      | —   | 4.2                       | 60.0                    | 7.5                     | 0.0033                  | 0.0057                  | 0.0086                   | [0.823mm <sup>2</sup> (18)]          |
| RGEF1400                                      | 14.0                  | 23.8                  | 16                                     | —  | 100                                      | —   | 4.6                       | 70.0                    | 9.0                     | 0.0026                  | 0.0043                  | 0.0064                   | [0.823mm <sup>2</sup> (18)]          |

# PolySwitch Resettable Devices

## Radial-Leaded Devices

**Table R3 — Electrical Characteristics**

(Cont'd)

| Part Number                   | I <sub>H</sub><br>(A) | I <sub>T</sub><br>(A) | V <sub>MAX</sub><br>(V <sub>DC</sub> ) | V <sub>MAX</sub><br>(V <sub>AC RMS</sub> ) | I <sub>MAX</sub><br>(DC <sub>ADC</sub> ) | I <sub>MAX</sub><br>(AC <sub>ARMS</sub> ) | P <sub>D Typ</sub><br>(W) | Max Time-to-trip<br>(A) | R <sub>MIN</sub><br>(Ω) | R <sub>MAX</sub><br>(Ω) | R <sub>1MAX</sub><br>(Ω) | Lead Size<br>[mm <sup>2</sup> (AWG)] |
|-------------------------------|-----------------------|-----------------------|--|--|--|---|---------------------------|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------------------|
| <b>RHEF*</b>                  |                       |                       |  |  |  |   |                           |                         |                         |                         |                          |                                      |
| <b>16V - High Temperature</b> |                       |                       |  |  |  |   |                           |                         |                         |                         |                          |                                      |
| RHEF200                       | 2.0                   | 3.8                   | 16                                     | —  | 100                                      | —   | 1.4                       | 10.0                    | 4.3                     | 0.0450                  | 0.07400                  | 0.1100                               |
| RHEF300                       | 3.0                   | 6.0                   | 16                                     | —  | 100                                      | —   | 3.0                       | 15.0                    | 5.0                     | 0.0330                  | 0.05300                  | 0.0790                               |
| RHEF400                       | 4.0                   | 7.5                   | 16                                     | —  | 100                                      | —   | 3.3                       | 20.0                    | 5.0                     | 0.0240                  | 0.04000                  | 0.0600                               |
| RHEF450                       | 4.5                   | 7.8                   | 16                                     | —  | 100                                      | —   | 3.6                       | 22.5                    | 3.0                     | 0.0220                  | 0.03600                  | 0.0540                               |
| RHEF550                       | 5.5                   | 10.0                  | 16                                     | —  | 100                                      | —   | 3.5                       | 27.5                    | 6.0                     | 0.0150                  | 0.02500                  | 0.0370                               |
| RHEF600                       | 6.0                   | 10.8                  | 16                                     | —  | 100                                      | —   | 4.1                       | 30.0                    | 5.0                     | 0.0130                  | 0.02150                  | 0.0320                               |
| RHEF650                       | 6.5                   | 12.0                  | 16                                     | —  | 100                                      | —   | 4.1                       | 32.5                    | 5.5                     | 0.0110                  | 0.01750                  | 0.0260                               |
| RHEF700                       | 7.0                   | 13.0                  | 16                                     | —  | 100                                      | —   | 4.0                       | 35.0                    | 7.0                     | 0.0100                  | 0.01640                  | 0.0250                               |
| RHEF750                       | 7.5                   | 13.1                  | 16                                     | —  | 100                                      | —   | 4.5                       | 37.5                    | 7.0                     | 0.0094                  | 0.01530                  | 0.0220                               |
| RHEF800                       | 8.0                   | 15.0                  | 16                                     | —  | 100                                      | —   | 4.2                       | 40.0                    | 8.0                     | 0.0080                  | 0.01350                  | 0.0200                               |
| RHEF900                       | 9.0                   | 16.5                  | 16                                     | —  | 100                                      | —   | 5.0                       | 45.0                    | 10.0                    | 0.0074                  | 0.01200                  | 0.0170                               |
| RHEF1000                      | 10.0                  | 18.5                  | 16                                     | —  | 100                                      | —   | 5.3                       | 50.0                    | 9.0                     | 0.0062                  | 0.01050                  | 0.0150                               |
| RHEF1100                      | 11.0                  | 20.0                  | 16                                     | —  | 100                                      | —   | 5.5                       | 55.0                    | 11.0                    | 0.0055                  | 0.00900                  | 0.0130                               |
| RHEF1300                      | 13.0                  | 24.0                  | 16                                     | —  | 100                                      | —   | 6.9                       | 65.0                    | 13.0                    | 0.0041                  | 0.00690                  | 0.0100                               |
| RHEF1400                      | 14.0                  | 27.0                  | 16                                     | —  | 100                                      | —   | 6.9                       | 70.0                    | 13.0                    | 0.0030                  | 0.00600                  | 0.0090                               |
| RHEF1500                      | 15.0                  | 28.0                  | 16                                     | —  | 100                                      | —   | 7.0                       | 75.0                    | 20.0                    | 0.0032                  | 0.00613                  | 0.0092                               |
| <b>RUSBF</b>                  |                       |                       |  |  |  |   |                           |                         |                         |                         |                          |                                      |
| <b>6V</b>                     |                       |                       |  |  |  |   |                           |                         |                         |                         |                          |                                      |
| RUSBF075                      | 0.75                  | 1.30                  | 6                                      | —  | 40                                       | —   | 0.3                       | 8.0                     | 0.4                     | 0.110                   | 0.1750                   | 0.23                                 |
| RUSBF120                      | 1.20                  | 2.00                  | 6                                      | —  | 40                                       | —   | 0.6                       | 8.0                     | 0.5                     | 0.070                   | 0.0975                   | 0.14                                 |
| RUSBF155                      | 1.55                  | 2.65                  | 6                                      | —  | 40                                       | —   | 0.6                       | 7.8                     | 2.2                     | 0.040                   | 0.0705                   | 0.10                                 |

**Notes:**

I<sub>H</sub> : Hold current: maximum current device will pass without interruption in 20°C still air.

I<sub>T</sub> : Trip current: minimum current that will switch the device from low resistance to high resistance in 20°C still air.

V<sub>MAX</sub> : Maximum continuous voltage device can withstand without damage at rated current.

I<sub>MAX</sub> : Maximum fault current device can withstand without damage at rated voltage.

P<sub>D</sub> : Power dissipated from device when in the tripped state in 20°C still air.

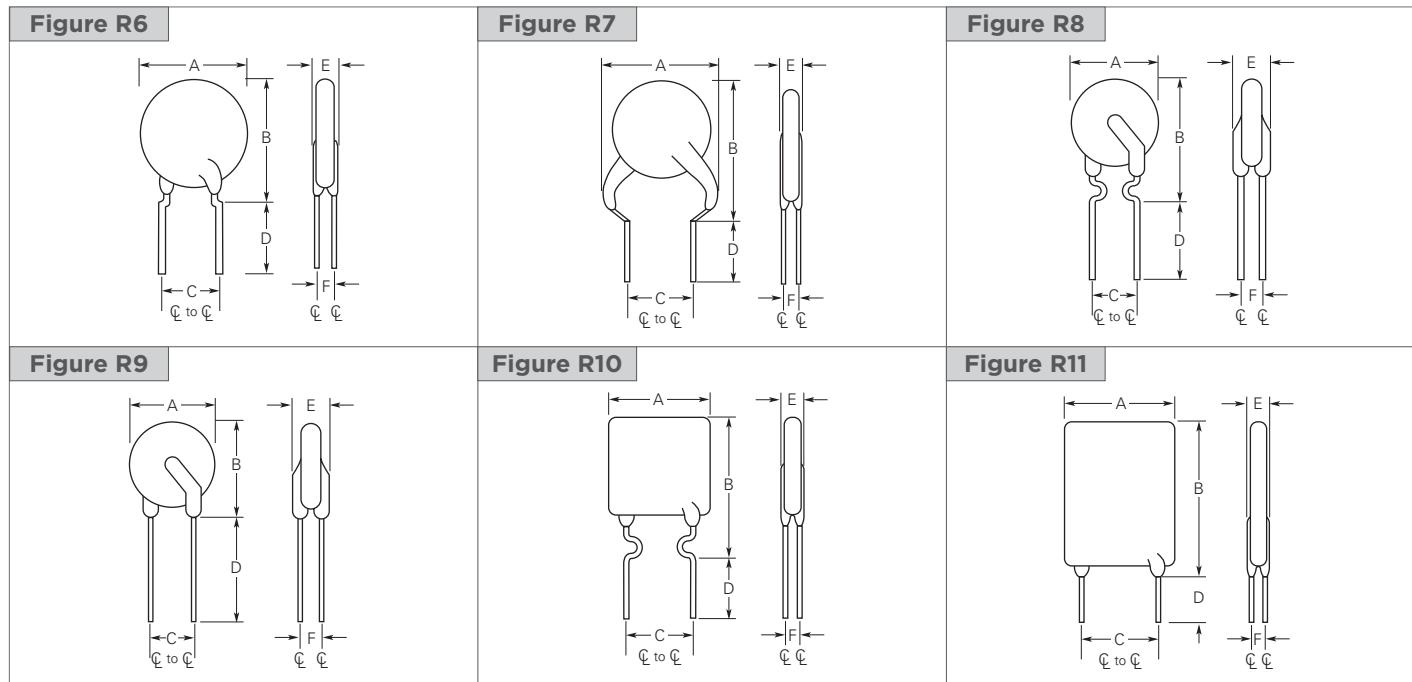
R<sub>MIN</sub> : Minimum resistance of device as supplied at 20°C unless otherwise specified.

R<sub>MAX</sub> : Maximum resistance of device as supplied at 20°C unless otherwise specified.

R<sub>1MAX</sub> : Maximum resistance of device when measured one hour post reflow (surface-mount device) or one hour post trip (radial-leaded device) at 20°C unless otherwise specified.

\* Electrical characteristics determined at 25°C.

**Figures R6-R14 — Dimension Figures**

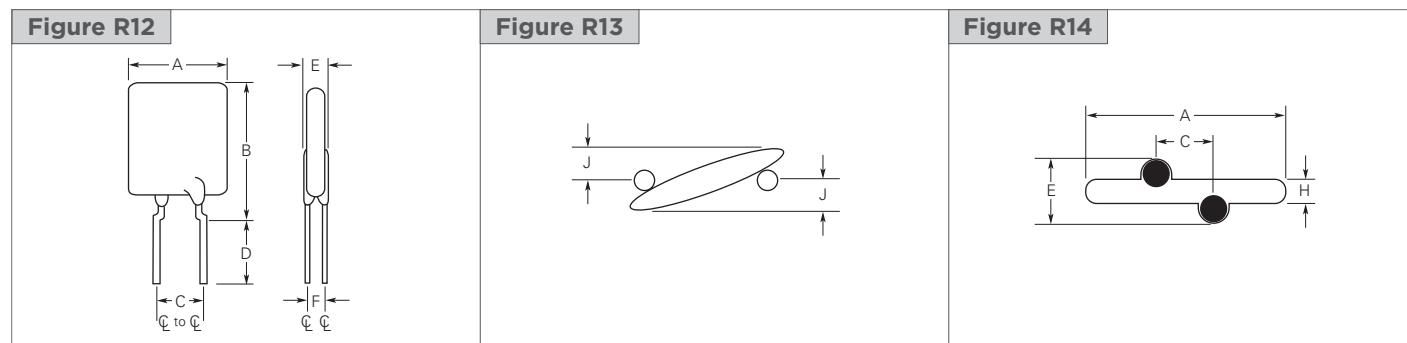


# PolySwitch Resettable Devices

## Radial-Leaded Devices

### Figures R6-R14 — Dimension Figures

(Cont'd)



**Table R4 — Dimensions and Weights**

| Part Number  | Dimensions in Millimeters (Inches) |                |     |                |               |                |               |     |     |               | Figure | Device Mass (g)<br>(Only for Reference) |               |                 |       |
|--------------|------------------------------------|----------------|-----|----------------|---------------|----------------|---------------|-----|-----|---------------|--------|---|---------------|-----------------|-------|
|              | A                                  |                | B   |                | C             |                | D             |     | E   |               |        |   |               |                 |       |
|              | Min                                | Max            | Min | Max            | Min           | Max            | Min           | Max | Min | Max           | Typ    | Typ                                     | Typ           |                 |       |
| <b>RXEFT</b> |                                    |                |     |                |               |                |               |     |     |               |        |   |               |                 |       |
| <b>60V</b>   | —                                  | 8.0<br>(0.32)  | —   | 8.3<br>(0.33)  | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.07<br>(0.042)                         | 1.0<br>(0.04) | R7, R13,<br>R14 | 0.069 |
| RXEFO05      | —                                  | 7.4<br>(0.29)  | —   | 11.6<br>(0.46) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.07<br>(0.042)                         | 1.0<br>(0.04) | R8, R13,<br>R14 | 0.128 |
| RXEFO10      | —                                  | 7.4<br>(0.29)  | —   | 12.7<br>(0.50) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.68<br>(0.066)                         | 1.7<br>(0.07) | R8, R13,<br>R14 | 0.174 |
| <b>72V</b>   | —                                  | 7.4<br>(0.29)  | —   | 11.7<br>(0.46) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.17<br>(0.046)                         | 1.0<br>(0.04) | R8, R13,<br>R14 | 0.119 |
| RXEFO20      | —                                  | 7.4<br>(0.29)  | —   | 12.7<br>(0.50) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.17<br>(0.046)                         | 1.0<br>(0.04) | R8, R13,<br>R14 | 0.130 |
| RXEFO25      | —                                  | 7.4<br>(0.29)  | —   | 12.7<br>(0.50) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.17<br>(0.046)                         | 1.0<br>(0.04) | R8, R13,<br>R14 | 0.143 |
| RXEFO30      | —                                  | 7.4<br>(0.29)  | —   | 13.5<br>(0.53) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.17<br>(0.046)                         | 1.0<br>(0.04) | R8, R13,<br>R14 | 0.202 |
| RXEFO40      | —                                  | 7.6<br>(0.30)  | —   | 13.7<br>(0.53) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.17<br>(0.046)                         | 1.2<br>(0.05) | R8, R13,<br>R14 | 0.210 |
| RXEFO50      | —                                  | 7.9<br>(0.31)  | —   | 14.5<br>(0.54) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.17<br>(0.046)                         | 1.2<br>(0.05) | R8, R13,<br>R14 | 0.277 |
| RXEFO65      | —                                  | 9.4<br>(0.37)  | —   | 15.2<br>(0.60) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.17<br>(0.046)                         | 1.5<br>(0.06) | R8, R13,<br>R14 | 0.310 |
| RXEFO75      | —                                  | 10.2<br>(0.40) | —   | 15.8<br>(0.62) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.17<br>(0.046)                         | 1.5<br>(0.06) | R8, R13,<br>R14 | 0.365 |
| RXEFO90      | —                                  | 11.2<br>(0.44) | —   | 17.5<br>(0.69) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.17<br>(0.046)                         | 1.2<br>(0.05) | R9, R13,<br>R14 | 0.546 |
| RXEFO110     | —                                  | 14.5<br>(0.57) | —   | 19.1<br>(0.75) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.37<br>(0.054)                         | 1.2<br>(0.05) | R9, R13,<br>R14 | 0.653 |
| RXEFO135     | —                                  | 16.3<br>(0.64) | —   | 20.8<br>(0.82) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.37<br>(0.054)                         | 1.5<br>(0.06) | R9, R13,<br>R14 | 0.684 |
| RXEFO160     | —                                  | 17.5<br>(0.69) | —   | 22.4<br>(0.88) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.37<br>(0.054)                         | 1.5<br>(0.06) | R9, R13,<br>R14 | 0.808 |
| RXEFO250     | —                                  | 20.8<br>(0.82) | —   | 25.4<br>(1.00) | 9.4<br>(0.37) | 10.9<br>(0.43) | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.37<br>(0.054)                         | 1.7<br>(0.07) | R9, R13,<br>R14 | 1.139 |
| RXEFO300     | —                                  | 23.9<br>(0.94) | —   | 28.6<br>(1.13) | 9.4<br>(0.37) | 10.9<br>(0.43) | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.37<br>(0.054)                         | 1.7<br>(0.07) | R9, R13,<br>R14 | 1.379 |
| RXEFO375     | —                                  | 27.2<br>(1.07) | —   | 31.8<br>(1.25) | 9.4<br>(0.37) | 10.9<br>(0.43) | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | —      | 1.37<br>(0.054)                         | 1.7<br>(0.07) | R9, R13,<br>R14 | 1.708 |

# PolySwitch Resettable Devices

## Radial-Leaded Devices

**Table R4 — Dimensions and Weights**

(Cont'd)

| Part Number     | Dimensions in Millimeters (Inches) |                 |     |                 |                |                 |                |     |     |                |     |                 | Figure        | Device Mass (g)<br>(Only for Reference) |       |
|-----------------|------------------------------------|-----------------|-----|-----------------|----------------|-----------------|----------------|-----|-----|----------------|-----|-----------------|---------------|---|-------|
|                 | A                                  |                 | B   |                 | C              |                 | D              |     | E   |                | F   | H               | J             |   |       |
|                 | Min                                | Max             | Min | Max             | Min            | Max             | Min            | Max | Min | Max            | Typ | Typ             | Typ           |   |       |
| <b>RKEF 60V</b> |                                    |                 |     |                 |                |                 |                |     |     |                |     |                 |               |   |       |
| RKEF050         | —                                  | 7.10<br>(0.28)  | —   | 11.43<br>(0.45) | 4.32<br>(0.17) | 5.84<br>(0.23)  | 7.60<br>(0.30) | —   | —   | 3.56<br>(0.14) | —   | —               | —             | R10, R13,<br>R14                        | 0.166 |
| RKEF065         | —                                  | 7.11<br>(0.28)  | —   | 12.20<br>(0.48) | 4.32<br>(0.17) | 5.84<br>(0.23)  | 7.60<br>(0.30) | —   | —   | 3.56<br>(0.14) | —   | —               | —             | R10, R13,<br>R14                        | 0.182 |
| RKEF075         | —                                  | 7.87<br>(0.31)  | —   | 12.20<br>(0.48) | 4.32<br>(0.17) | 5.84<br>(0.23)  | 7.60<br>(0.30) | —   | —   | 3.56<br>(0.14) | —   | —               | —             | R10, R13,<br>R14                        | 0.201 |
| RKEF090         | —                                  | 7.87<br>(0.31)  | —   | 13.97<br>(0.55) | 4.32<br>(0.17) | 5.84<br>(0.23)  | 7.60<br>(0.30) | —   | —   | 3.56<br>(0.14) | —   | —               | —             | R10, R13,<br>R14                        | 0.235 |
| RKEF110         | —                                  | 7.60<br>(0.30)  | —   | 15.00<br>(0.59) | 4.32<br>(0.17) | 5.84<br>(0.23)  | 7.60<br>(0.30) | —   | —   | 4.10<br>(0.16) | —   | —               | —             | R10, R13,<br>R14                        | 0.353 |
| RKEF135         | —                                  | 10.20<br>(0.40) | —   | 17.00<br>(0.67) | 4.32<br>(0.17) | 5.84<br>(0.23)  | 7.60<br>(0.30) | —   | —   | 3.81<br>(0.15) | —   | —               | —             | R11, R13,<br>R14                        | 0.438 |
| RKEF160         | —                                  | 12.20<br>(0.48) | —   | 18.30<br>(0.72) | 4.32<br>(0.17) | 5.84<br>(0.23)  | 7.60<br>(0.30) | —   | —   | 3.81<br>(0.15) | —   | —               | —             | R11, R13,<br>R14                        | 0.546 |
| RKEF185         | —                                  | 13.00<br>(0.51) | —   | 18.80<br>(0.74) | 4.32<br>(0.17) | 5.84<br>(0.23)  | 7.60<br>(0.30) | —   | —   | 3.81<br>(0.15) | —   | —               | —             | R11, R13,<br>R14                        | 0.538 |
| RKEF250         | —                                  | 14.00<br>(0.55) | —   | 20.60<br>(0.81) | 4.32<br>(0.17) | 5.84<br>(0.23)  | 7.60<br>(0.30) | —   | —   | 3.00<br>(0.12) | —   | —               | —             | R11, R13,<br>R14                        | 0.775 |
| RKEF300         | —                                  | 16.50<br>(0.65) | —   | 21.20<br>(0.83) | 4.32<br>(0.17) | 5.84<br>(0.23)  | 7.60<br>(0.30) | —   | —   | 3.00<br>(0.12) | —   | —               | —             | R11, R13,<br>R14                        | 0.971 |
| RKEF375         | —                                  | 16.50<br>(0.65) | —   | 25.20<br>(0.99) | 9.40<br>(0.37) | 10.90<br>(0.43) | 7.60<br>(0.30) | —   | —   | 3.00<br>(0.12) | —   | —               | —             | R11, R13,<br>R14                        | 1.142 |
| RKEF400         | —                                  | 21.00<br>(0.83) | —   | 24.90<br>(0.98) | 9.40<br>(0.37) | 10.90<br>(0.43) | 7.60<br>(0.30) | —   | —   | 3.00<br>(0.12) | —   | —               | —             | R11, R13,<br>R14                        | 1.391 |
| RKEF500         | —                                  | 24.10<br>(0.95) | —   | 29.00<br>(1.14) | 9.40<br>(0.37) | 10.90<br>(0.43) | 7.60<br>(0.30) | —   | —   | 3.00<br>(0.12) | —   | —               | —             | R11, R13,<br>R14                        | 1.783 |
| <b>RUEF 30V</b> |                                    |                 |     |                 |                |                 |                |     |     |                |     |                 |               |   |       |
| RUEF090         | —                                  | 7.4<br>(0.29)   | —   | 12.2<br>(0.48)  | 4.3<br>(0.17)  | 5.8<br>(0.23)   | 7.6<br>(0.30)  | —   | —   | 3.0<br>(0.12)  | —   | 0.89<br>(0.035) | 0.8<br>(0.03) | R10, R13,<br>R14                        | 0.183 |
| RUEF110         | —                                  | 7.4<br>(0.29)   | —   | 14.2<br>(0.56)  | 4.3<br>(0.17)  | 5.8<br>(0.23)   | 7.6<br>(0.30)  | —   | —   | 3.0<br>(0.12)  | —   | 0.89<br>(0.035) | 0.8<br>(0.03) | R10, R13,<br>R14                        | 0.204 |
| RUEF135         | —                                  | 8.9<br>(0.35)   | —   | 13.5<br>(0.53)  | 4.3<br>(0.17)  | 5.8<br>(0.23)   | 7.6<br>(0.30)  | —   | —   | 3.0<br>(0.12)  | —   | 0.89<br>(0.035) | 1.0<br>(0.04) | R10, R13,<br>R14                        | 0.255 |
| RUEF160         | —                                  | 8.9<br>(0.35)   | —   | 15.2<br>(0.60)  | 4.3<br>(0.17)  | 5.8<br>(0.23)   | 7.6<br>(0.30)  | —   | —   | 3.0<br>(0.12)  | —   | 0.89<br>(0.035) | 1.0<br>(0.04) | R10, R13,<br>R14                        | 0.289 |
| RUEF185         | —                                  | 10.2<br>(0.40)  | —   | 15.7<br>(0.62)  | 4.3<br>(0.17)  | 5.8<br>(0.23)   | 7.6<br>(0.30)  | —   | —   | 3.0<br>(0.12)  | —   | 0.89<br>(0.035) | 1.0<br>(0.04) | R10, R13,<br>R14                        | 0.379 |
| RUEF250         | —                                  | 11.4<br>(0.45)  | —   | 18.3<br>(0.72)  | 4.3<br>(0.17)  | 5.8<br>(0.23)   | 7.6<br>(0.30)  | —   | —   | 3.0<br>(0.12)  | —   | 0.89<br>(0.035) | 1.2<br>(0.05) | R10, R13,<br>R14                        | 0.493 |
| RUEF300         | —                                  | 11.4<br>(0.45)  | —   | 16.5<br>(0.65)  | 4.3<br>(0.17)  | 5.8<br>(0.23)   | 7.6<br>(0.30)  | —   | —   | 3.0<br>(0.12)  | —   | 1.19<br>(0.047) | 1.5<br>(0.06) | R11, R13,<br>R14                        | 0.516 |
| RUEF400         | —                                  | 14.0<br>(0.55)  | —   | 19.3<br>(0.76)  | 4.3<br>(0.17)  | 5.8<br>(0.23)   | 7.6<br>(0.30)  | —   | —   | 3.0<br>(0.12)  | —   | 1.19<br>(0.047) | 1.7<br>(0.07) | R11, R13,<br>R14                        | 0.670 |
| RUEF500         | —                                  | 14.0<br>(0.55)  | —   | 24.1<br>(0.95)  | 9.4<br>(0.37)  | 10.9<br>(0.43)  | 7.6<br>(0.30)  | —   | —   | 3.0<br>(0.12)  | —   | 1.19<br>(0.047) | 1.0<br>(0.04) | R11, R13,<br>R14                        | 0.926 |
| RUEF600         | —                                  | 16.5<br>(0.65)  | —   | 24.1<br>(0.95)  | 9.4<br>(0.37)  | 10.9<br>(0.43)  | 7.6<br>(0.30)  | —   | —   | 3.0<br>(0.12)  | —   | 1.19<br>(0.047) | 1.0<br>(0.04) | R11, R13,<br>R14                        | 1.352 |
| RUEF700         | —                                  | 19.1<br>(0.75)  | —   | 25.9<br>(1.02)  | 9.4<br>(0.37)  | 10.9<br>(0.43)  | 7.6<br>(0.30)  | —   | —   | 3.0<br>(0.12)  | —   | 1.19<br>(0.047) | 1.2<br>(0.05) | R11, R13,<br>R14                        | 1.543 |
| RUEF800         | —                                  | 21.6<br>(0.85)  | —   | 28.4<br>(1.12)  | 9.4<br>(0.37)  | 10.9<br>(0.43)  | 7.6<br>(0.30)  | —   | —   | 3.0<br>(0.12)  | —   | 1.19<br>(0.047) | 1.5<br>(0.06) | R11, R13,<br>R14                        | 1.852 |
| RUEF900         | —                                  | 24.1<br>(0.95)  | —   | 29.0<br>(1.14)  | 9.4<br>(0.37)  | 10.9<br>(0.43)  | 7.6<br>(0.30)  | —   | —   | 3.0<br>(0.12)  | —   | 1.19<br>(0.047) | 1.5<br>(0.06) | R11, R13,<br>R14                        | 2.104 |

# PolySwitch Resettable Devices

## Radial-Leaded Devices

### Table R4 — Dimensions and Weights

(Cont'd)

| Part Number                            | Dimensions in Millimeters (Inches) |                 |                |                |               |                |                |                |               |               |               |                 | Figure        | Device Mass (g)<br>(Only for Reference) |       |
|--|------------------------------------|-----------------|----------------|----------------|---------------|----------------|----------------|----------------|---------------|---------------|---------------|-----------------|---------------|---|-------|
|  | A                                  |                 | B              |                | C             |                | D              |                | E             |               | F             | H               | J             |   |       |
|  | Min                                | Max             | Min            | Max            | Min           | Max            | Min            | Max            | Min           | Max           | Typ           | Typ             | Typ           |   |       |
| <b>RHEF<br/>30V - High Temperature</b> |                                    |                 |                |                |               |                |                |                |               |               |               |                 |               |   |       |
| RHEF050                                | —                                  | 7.4<br>(0.29)   | —              | 12.7<br>(0.50) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | —             | 3.0<br>(0.12) | 1.2<br>(0.05) | —               | —             | R8, R13,<br>R14                         | 0.177 |
| RHEF070                                | —                                  | 6.9<br>(0.27)   | —              | 10.8<br>(0.43) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | —             | 3.0<br>(0.12) | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.2<br>(0.05) | R10, R13,<br>R14                        | 0.259 |
| RHEF100                                | —                                  | 9.7<br>(0.38)   | —              | 13.6<br>(0.54) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | —             | 3.0<br>(0.12) | —             | —               | —             | R8, R13,<br>R14                         | 0.312 |
| <b>RUSBF<br/>16V</b>                   |                                    |                 |                |                |               |                |                |                |               |               |               |                 |               |   |       |
| RUSBF090                               | —                                  | 7.4<br>(0.29)   | —              | 12.2<br>(0.48) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | —             | 3.1<br>(0.12) | —             | 0.89<br>(0.035) | 0.8<br>(0.03) | R10, R13,<br>R14                        | 0.183 |
| RUSBF110                               | —                                  | 7.4<br>(0.29)   | —              | 14.2<br>(0.56) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | —             | 3.0<br>(0.12) | —             | 0.89<br>(0.035) | 0.8<br>(0.03) | R10, R13,<br>R14                        | 0.204 |
| RUSBF135                               | —                                  | 8.9<br>(0.35)   | —              | 13.5<br>(0.53) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | —             | 3.0<br>(0.12) | —             | 0.89<br>(0.035) | 1.0<br>(0.04) | R10, R13,<br>R14                        | 0.240 |
| RUSBF160                               | —                                  | 8.9<br>(0.35)   | —              | 15.2<br>(0.60) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | —             | 3.0<br>(0.12) | —             | 0.89<br>(0.035) | 1.0<br>(0.04) | R10, R13,<br>R14                        | 0.300 |
| RUSBF185                               | —                                  | 10.2<br>(0.40)  | —              | 15.7<br>(0.62) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | —             | 3.0<br>(0.12) | —             | 0.89<br>(0.035) | 1.0<br>(0.04) | R10, R13,<br>R14                        | 0.368 |
| RUSBF250                               | —                                  | 11.4<br>(0.45)  | —              | 18.3<br>(0.72) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | —             | 3.0<br>(0.12) | —             | 0.89<br>(0.035) | 1.2<br>(0.05) | R10, R13,<br>R14                        | 0.467 |
| <b>RGEF<br/>16V</b>                    |                                    |                 |                |                |               |                |                |                |               |               |               |                 |               |   |       |
| RGEF250                                | —                                  | 8.9<br>(0.35)   | —              | 12.8<br>(0.50) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 3.18<br>(0.13) | 6.18<br>(0.24) | —             | 3.0<br>(0.12) | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.2<br>(0.05) | R10, R13,<br>R14                        | 0.277 |
| RGEF300                                | 6.1<br>(0.24)                      | 7.1<br>(0.28)   | 6.1<br>(0.24)  | 11.0<br>(0.43) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | 2.0<br>(0.08) | 3.0<br>(0.12) | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.2<br>(0.05) | R11, R13,<br>R14                        | 0.323 |
| RGEF400                                | 7.9<br>(0.31)                      | 8.9<br>(0.35)   | 7.9<br>(0.31)  | 12.8<br>(0.50) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | 2.0<br>(0.08) | 3.0<br>(0.12) | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.4<br>(0.06) | R11, R13,<br>R14                        | 0.417 |
| RGEF500                                | 9.4<br>(0.37)                      | 10.4<br>(0.41)  | 9.4<br>(0.37)  | 14.3<br>(0.56) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | 2.0<br>(0.08) | 3.0<br>(0.12) | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.6<br>(0.06) | R11, R13,<br>R14                        | 0.540 |
| RGEF600                                | 9.7<br>(0.38)                      | 10.7<br>(0.42)  | 12.2<br>(0.48) | 17.1<br>(0.67) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | 2.0<br>(0.08) | 3.0<br>(0.12) | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.6<br>(0.06) | R11, R13,<br>R14                        | 0.604 |
| RGEF700                                | 10.2<br>(0.40)                     | 11.2<br>(0.44)  | 14.7<br>(0.58) | 19.7<br>(0.78) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | 2.0<br>(0.08) | 3.0<br>(0.12) | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.7<br>(0.07) | R11, R13,<br>R14                        | 0.701 |
| RGEF800                                | 11.7<br>(0.46)                     | 12.7<br>(0.50)  | 16.0<br>(0.63) | 20.9<br>(0.82) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | 2.0<br>(0.08) | 3.0<br>(0.12) | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.8<br>(0.07) | R11, R13,<br>R14                        | 0.829 |
| RGEF900                                | 13.0<br>(0.51)                     | 14.0<br>(0.55)  | 16.8<br>(0.66) | 21.7<br>(0.85) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | 2.0<br>(0.08) | 3.0<br>(0.12) | 1.2<br>(0.05) | 1.24<br>(0.049) | 2.0<br>(0.08) | R11, R13,<br>R14                        | 0.887 |
| RGEF1000                               | —                                  | 16.5<br>(0.65)  | 21.1<br>(0.83) | 25.2<br>(0.99) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | 2.0<br>(0.08) | 3.0<br>(0.12) | 1.2<br>(0.05) | 1.24<br>(0.049) | 2.0<br>(0.08) | R11, R13,<br>R14                        | 1.219 |
| RGEF1100                               | 16.5<br>(0.65)                     | 17.5<br>(0.69)  | 21.1<br>(0.83) | 26.0<br>(1.02) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | 2.0<br>(0.08) | 3.0<br>(0.12) | 1.2<br>(0.05) | 1.24<br>(0.049) | 2.4<br>(0.09) | R11, R13,<br>R14                        | 1.408 |
| RGEF1200                               | 16.4<br>(0.65)                     | 17.5<br>(0.69)  | 22.6<br>(0.89) | 28.0<br>(1.10) | 9.4<br>(0.37) | 10.9<br>(0.43) | 7.6<br>(0.30)  | —              | 2.3<br>(0.09) | 3.5<br>(0.14) | 1.4<br>(0.06) | 1.45<br>(0.057) | 1.5<br>(0.06) | R11, R13,<br>R14                        | 1.650 |
| RGEF1400                               | —                                  | 23.5<br>(0.925) | 22.6<br>(0.89) | 27.9<br>(1.10) | 9.4<br>(0.37) | 10.9<br>(0.43) | 7.6<br>(0.30)  | —              | 2.3<br>(0.09) | 3.5<br>(0.14) | 1.4<br>(0.06) | 1.45<br>(0.057) | 1.9<br>(0.08) | R11, R13,<br>R14                        | 2.146 |
| <b>RHEF<br/>16V - High Temperature</b> |                                    |                 |                |                |               |                |                |                |               |               |               |                 |               |   |       |
| RHEF200                                | —                                  | 9.4<br>(0.37)   | —              | 14.4<br>(0.57) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | —             | 3.1<br>(0.12) | —             | —               | —             | R8, R13,<br>R14                         | 0.278 |
| RHEF300                                | —                                  | 8.8<br>(0.35)   | —              | 13.8<br>(0.55) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | —             | 3.0<br>(0.12) | 1.2<br>(0.05) | —               | —             | R12, R13,<br>R14                        | 0.433 |
| RHEF400                                | —                                  | 10.0<br>(0.39)  | —              | 15.0<br>(0.59) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30)  | —              | —             | 3.0<br>(0.12) | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.6<br>(0.06) | R12, R13,<br>R14                        | 0.509 |

**PolySwitch Resettable Devices**  
Radial-Leaded Devices

**Table R4 — Dimensions and Weights**

(Cont'd)

| Part Number                            | Dimensions in Millimeters (Inches) |                 |     |                |               |                |               |     |     |               |               |                 | Figure         | Device Mass (g)<br>(Only for Reference) |       |
|--|------------------------------------|-----------------|-----|----------------|---------------|----------------|---------------|-----|-----|---------------|---------------|-----------------|----------------|---|-------|
|  | A                                  |                 | B   |                | C             |                | D             |     | E   |               | F             | H               | J              |   |       |
|  | Min                                | Max             | Min | Max            | Min           | Max            | Min           | Max | Min | Max           | Typ           | Typ             | Typ            |   |       |
| <b>RHEF<br/>16V - High Temperature</b> |                                    |                 |     |                |               |                |               |     |     |               |               |                 |                |   |       |
| RHEF450                                | —                                  | 10.4<br>(0.41)  | —   | 15.6<br>(0.61) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.6<br>(0.06)  | R12, R13,<br>R14                        | 0.605 |
| RHEF550                                | —                                  | 11.2<br>(0.44)  | —   | 18.9<br>(0.74) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | 1.2<br>(0.05) | —               | —              | R12, R13,<br>R14                        | 0.704 |
| RHEF600                                | —                                  | 11.2<br>(0.44)  | —   | 21.0<br>(0.83) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.7<br>(0.067) | R12, R13,<br>R14                        | 0.792 |
| RHEF650                                | —                                  | 12.7<br>(0.50)  | —   | 22.2<br>(0.88) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.8<br>(0.07)  | R12, R13,<br>R14                        | 0.952 |
| RHEF700                                | —                                  | 14.0<br>(0.55)  | —   | 21.9<br>(0.86) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | 1.2<br>(0.05) | —               | —              | R12, R13,<br>R14                        | 0.850 |
| RHEF750                                | —                                  | 14.0<br>(0.55)  | —   | 23.5<br>(0.93) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | 1.2<br>(0.05) | 1.24<br>(0.049) | 2.0<br>(0.08)  | R12, R13,<br>R14                        | 1.054 |
| RHEF800                                | —                                  | 16.5<br>(0.65)  | —   | 22.5<br>(0.88) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | 1.2<br>(0.05) | —               | —              | R12, R13,<br>R14                        | 1.073 |
| RHEF900                                | —                                  | 16.5<br>(0.65)  | —   | 25.7<br>(1.01) | 4.3<br>(0.17) | 5.8<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | 1.2<br>(0.05) | —               | —              | R12, R13,<br>R14                        | 1.516 |
| RHEF1000                               | —                                  | 17.5<br>(0.69)  | —   | 26.5<br>(1.04) | 9.4<br>(0.37) | 10.9<br>(0.43) | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | 1.2<br>(0.05) | 1.24<br>(0.049) | 1.5<br>(0.06)  | R12, R13,<br>R14                        | 1.791 |
| RHEF1100                               | —                                  | 21.0<br>(0.83)  | —   | 26.1<br>(1.03) | 9.4<br>(0.37) | 10.9<br>(0.43) | 7.6<br>(0.30) | —   | —   | 3.0<br>(0.12) | 1.2<br>(0.05) | —               | —              | R12, R13,<br>R14                        | 1.570 |
| RHEF1300                               | —                                  | 23.5<br>(0.925) | —   | 28.7<br>(1.13) | 9.4<br>(0.37) | 10.9<br>(0.43) | 7.6<br>(0.30) | —   | —   | 3.6<br>(0.14) | 1.4<br>(0.06) | 1.45<br>(0.057) | 1.9<br>(0.084) | R12, R13,<br>R14                        | 2.257 |
| RHEF1400                               | —                                  | 23.5<br>(0.925) | —   | 28.6<br>(1.13) | 9.4<br>(0.37) | 10.9<br>(0.43) | 7.6<br>(0.30) | —   | —   | 3.6<br>(0.14) | 1.4<br>(0.06) | —               | —              | R12, R13,<br>R14                        | 2.051 |
| RHEF1500                               | —                                  | 23.5<br>(0.925) | —   | 28.7<br>(1.13) | 9.4<br>(0.37) | 10.9<br>(0.43) | 7.6<br>(0.30) | —   | —   | 3.6<br>(0.14) | 1.4<br>(0.06) | 1.45<br>(0.057) | 1.9<br>(0.084) | R12, R13,<br>R14                        | 2.257 |
| <b>RUSBF<br/>6V</b>                    |                                    |                 |     |                |               |                |               |     |     |               |               |                 |                |   |       |
| RUSBF075                               | —                                  | 6.9<br>(0.27)   | —   | 11.4<br>(0.45) | 4.3<br>(0.17) | 5.9<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.1<br>(0.12) | —             | 0.91<br>(0.036) | 1.0<br>(0.04)  | R8, R13,<br>R14                         | 0.123 |
| RUSBF120                               | —                                  | 6.9<br>(0.27)   | —   | 11.7<br>(0.46) | 4.3<br>(0.17) | 5.9<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.1<br>(0.12) | —             | 0.91<br>(0.036) | 1.0<br>(0.04)  | R8, R13,<br>R14                         | 0.111 |
| RUSBF155                               | —                                  | 6.9<br>(0.27)   | —   | 11.7<br>(0.46) | 4.3<br>(0.17) | 5.9<br>(0.23)  | 7.6<br>(0.30) | —   | —   | 3.1<br>(0.12) | —             | 0.91<br>(0.036) | 1.0<br>(0.04)  | R8, R13,<br>R14                         | 0.135 |

# PolySwitch Resettable Devices

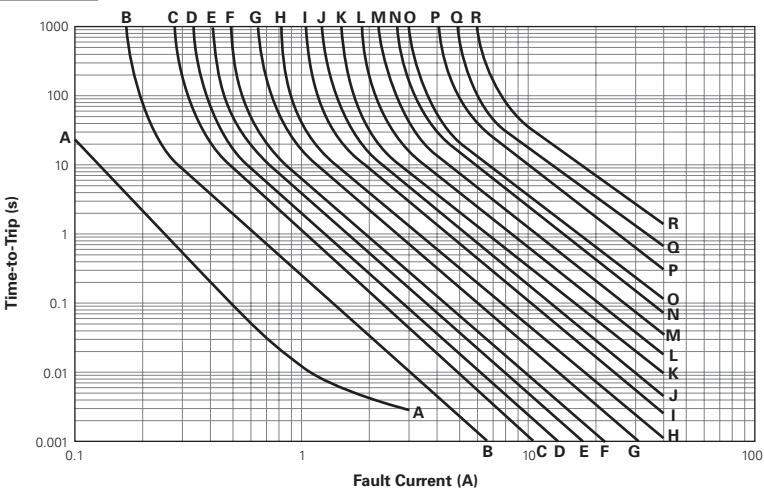
## Radial-Leaded Devices

### Figures R15-R20 – Typical Time-to-Trip Curves at 20°C

#### RXEF

|             |             |
|-------------|-------------|
| A = RXEF005 | J = RXEF075 |
| B = RXEF010 | K = RXEF090 |
| C = RXEF017 | L = RXEF110 |
| D = RXEF020 | M = RXEF135 |
| E = RXEF025 | N = RXEF160 |
| F = RXEF030 | O = RXEF185 |
| G = RXEF040 | P = RXEF250 |
| H = RXEF050 | Q = RXEF300 |
| I = RXEF065 | R = RXEF375 |

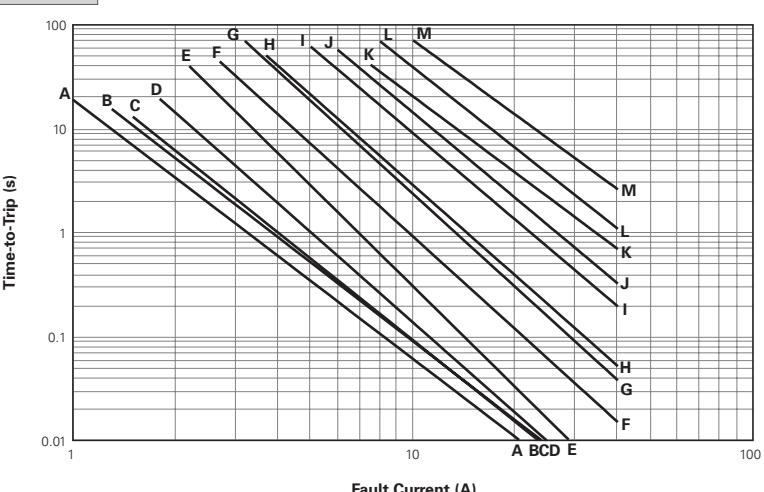
Figure R15



#### RKEF

|             |             |
|-------------|-------------|
| A = RKEF050 | J = RKEF300 |
| B = RKEF065 | K = RKEF375 |
| C = RKEF075 | L = RKEF400 |
| D = RKEF090 | M = RKEF500 |
| E = RKEF110 |             |
| F = RKEF135 |             |
| G = RKEF160 |             |
| H = RKEF185 |             |
| I = RKEF250 |             |

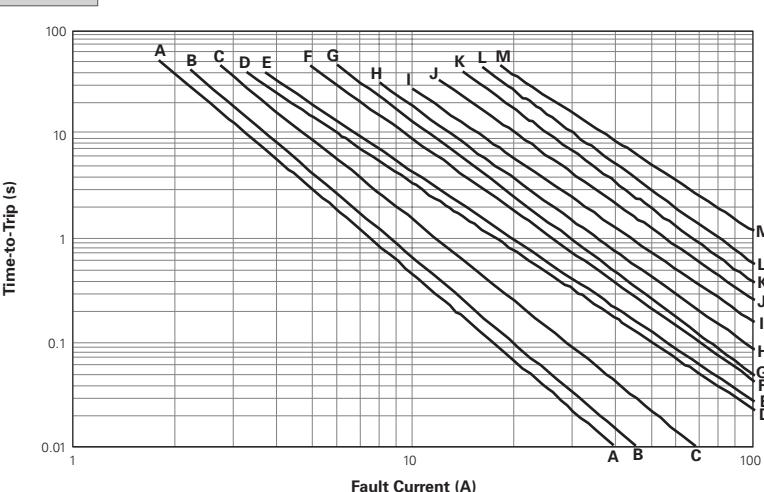
Figure R16



#### RUEF

|             |             |
|-------------|-------------|
| A = RUEF090 | H = RUEF400 |
| B = RUEF110 | I = RUEF500 |
| C = RUEF135 | J = RUEF600 |
| D = RUEF160 | K = RUEF700 |
| E = RUEF185 | L = RUEF800 |
| F = RUEF250 | M = RUEF900 |
| G = RUEF300 |             |

Figure R17



# PolySwitch Resettable Devices

## Radial-Leaded Devices

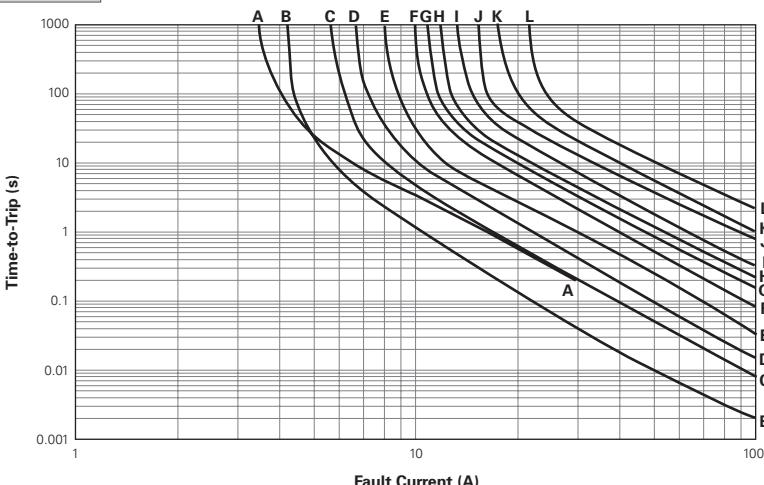
### Figures R15-R20 – Typical Time-to-Trip Curves at 20°C

(Cont'd)

#### RGEF (data at 25°C)

- A = RGEF250
- B = RGEF300
- C = RGEF400
- D = RGEF500
- E = RGEF600
- F = RGEF700
- G = RGEF800
- H = RGEF900
- I = RGEF1000
- J = RGEF1100
- K = RGEF1200
- L = RGEF1400

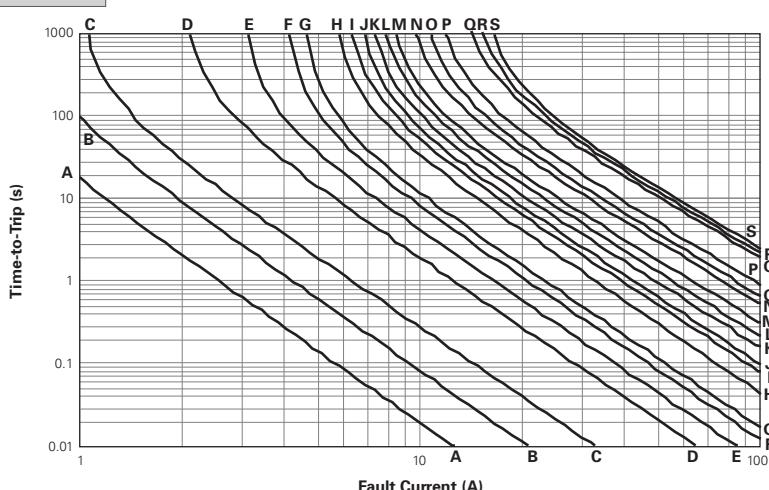
**Figure R18**



#### RHEF (data at 25°C)

- |             |              |
|-------------|--------------|
| A = RHEF050 | K = RHEF700  |
| B = RHEF070 | L = RHEF750  |
| C = RHEF100 | M = RHEF800  |
| D = RHEF200 | N = RHEF900  |
| E = RHEF300 | O = RHEF1000 |
| F = RHEF400 | P = RHEF1100 |
| G = RHEF450 | Q = RHEF1300 |
| H = RHEF550 | R = RHEF1400 |
| I = RHEF600 | S = RHEF1500 |
| J = RHEF650 |              |

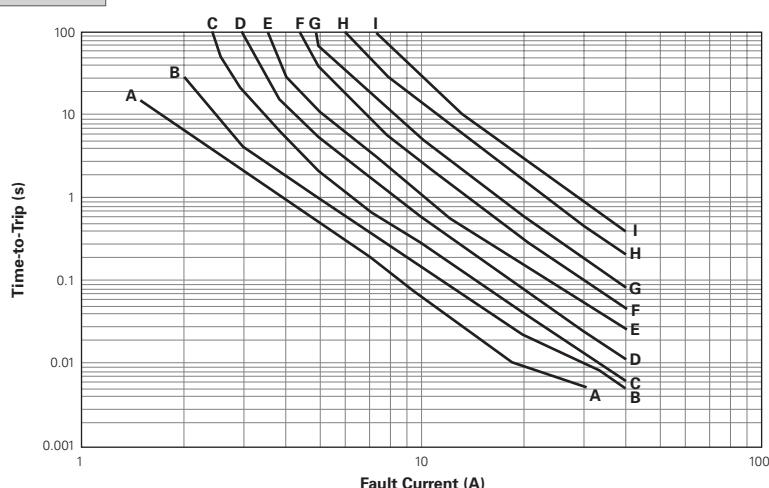
**Figure R19**



#### RUSBF

- A = RUSBF075
- B = RUSBF090
- C = RUSBF110
- D = RUSBF120
- E = RUSBF135
- F = RUSBF155
- G = RUSBF160
- H = RUSBF185
- I = RUSBF250

**Figure R20**



# PolySwitch Resettable Devices

## Radial-Leaded Devices

**Table R5 — Physical Characteristics and Environmental Specifications**

| <b>RXEFT</b>                    |   |   |
|---------------------------------|---|---|
| <b>Physical Characteristics</b> |   |   |
| Lead Material                   | RXEFT005  | : Tin-plated Nickel-copper Alloy, 0.128mm <sup>2</sup> (26AWG), ø0.40mm (0.016in) |
|                                 | RXEFT010  | : Tin-plated Nickel-copper Alloy, 0.205mm <sup>2</sup> (24AWG), ø0.51mm (0.020in) |
|                                 | RXEFT017 to 040   | : Tin-plated Copper-clad Steel, 0.205mm <sup>2</sup> (24AWG), ø0.51mm (0.020in)   |
|                                 | RXEFT050 to 090   | : Tin-plated Copper, 0.205mm <sup>2</sup> (24AWG), ø0.51mm (0.020in)              |
|                                 | RXEFT110 to 375   | : Tin-plated Copper, 0.52mm <sup>2</sup> (20AWG), ø0.81mm (0.032in)               |
| Soldering Characteristics       | Solderability per ANSI/J-STD-002 Category 3   |   |
|                                 | RXEFT005, RXEFT010 Meet ANSI/J-STD-002 Category 1   |   |
| Solder Heat Withstand           | RXEFT005- RXEFT025: per IEC-STD 68-2-20, Test Tb, Method 1a, Condition a;<br>Can Withstand 5s at 260°C ±5°C |   |
|                                 | All Other Sizes : per IEC-STD 68-2-20, Test Tb, Method 1a, Condition b;<br>Can Withstand 10s at 260°C ±5°C  |   |
| Insulating Material             | Cured, Flame-retardant Epoxy Polymer; Meets UL 94V-0  |   |
| Operation Temperature           | -40°C~85°C  |   |

**Note:** Devices are not designed to be placed through a reflow process.

| <b>Environmental Specifications</b> |                          |                          |
|-------------------------------------|--------------------------|--------------------------|
| <b>Test</b>                         | <b>Conditions</b>        | <b>Resistance Change</b> |
| Passive Aging                       | -40°C, 1000 hrs          | ±5%                      |
|                                     | 85°C, 1000 hrs           | ±5%                      |
| Humidity Aging                      | 85°C, 85%RH, 1000 hrs    | ±10%                     |
| Thermal Shock                       | 85°C, -40°C (10 Times)   | ±10%                     |
| Solvent Resistance                  | MIL-STD-202, Method 215F | No Change                |

| <b>RKEFT</b>                    |  |  |
|---------------------------------|--|--|
| <b>Physical Characteristics</b> |  |  |
| Lead Material                   | RKEFT050 to 090  | : Tin-plated Copper, 0.205mm <sup>2</sup> (24AWG), ø0.51mm (0.020in) |
|                                 | RKEFT110 to 500  | : Tin-plated Copper, 0.52mm <sup>2</sup> (20AWG), ø0.81mm (0.032in)  |
| Soldering Characteristics       | Solderability per ANSI/J-STD-002 Category 3  |  |
| Solder Heat Withstand           | RKEFT050-RKEFT185: per IEC-STD 68-2-20, Test Tb, Method 1a, Condition a;<br>Can Withstand 5s at 260°C ±5°C       |  |
|                                 | All Other Sizes : per IEC-STD 68-2-20, Test Tb, Method 1a, Condition b;<br>RKEFT Can Withstand 10s at 260°C ±5°C |  |
| Insulating Material             | Cured, Flame-retardant Epoxy Polymer; Meets UL 94V-0   |  |
| Operation Temperature           | -40°C~85°C   |  |

**Note:** Devices are not designed to be placed through a reflow process.

| <b>Environmental Specifications</b> |                          |                          |
|-------------------------------------|--------------------------|--------------------------|
| <b>Test</b>                         | <b>Conditions</b>        | <b>Resistance Change</b> |
| Passive Aging                       | -40°C, 1000 hrs          | ±5%                      |
|                                     | 85°C, 1000 hrs           | ±5%                      |
| Humidity Aging                      | 85°C, 85%RH, 1000 hrs    | ±10%                     |
| Thermal Shock                       | 85°C, -40°C (10 Times)   | ±10%                     |
| Solvent Resistance                  | MIL-STD-202, Method 215F | No Change                |

# PolySwitch Resettable Devices

## Radial-Leaded Devices

**Table R5 — Physical Characteristics and Environmental Specifications**

(Cont'd)

| <b>RUEF</b>                     |   |
|---------------------------------|---|
| <b>Physical Characteristics</b> |   |
| Lead Material                   | RUEF090 to RUEF250: Tin-plated Copper-clad Steel, 0.205mm <sup>2</sup> (24AWG)<br>RUEF300 to RUEF900: Tin-plated Copper, 0.52mm <sup>2</sup> (20AWG), ø0.81mm (0.032in) |
| Soldering Characteristics       | Solderability per ANSI/J-STD-002 Category 3   |
| Solder Heat Withstand           | per IEC-STD 68-2-20, Test Tb, Method 1A, Condition B, Can Withstand 10s at 260°C ±5°C   |
| Insulating Material             | Cured, Flame-retardant Epoxy Polymer; Meets UL 94V-0  |
| Operation Temperature           | -40°C~85°C  |

**Note:** Devices are not designed to be placed through a reflow process.

| <b>Environmental Specifications</b> |                                  |                          |
|-------------------------------------|----------------------------------|--------------------------|
| <b>Test</b>                         | <b>Conditions</b>                | <b>Resistance Change</b> |
| Passive Aging                       | 70°C, 1000 hrs<br>85°C, 1000 hrs | ±5%                      |
| Humidity Aging                      | 85°C, 85%RH, 1000 hrs            | ±5%                      |
| Thermal Shock                       | 85°C, -40°C (10 times)           | ±5%                      |
| Solvent Resistance                  | MIL-STD-202, Method 215F         | No Change                |

| <b>RUSBF</b>                    |  |
|---------------------------------|--|
| <b>Physical Characteristics</b> |  |
| Lead Material                   | RUSBF075 : Tin-plated Nickel-copper Alloy, 0.205mm <sup>2</sup> (24AWG), ø0.51mm/0.020in<br>RUSBF090 to RUSBF250: Tin-plated Copper-clad Steel, 0.205mm <sup>2</sup> (24AWG), ø0.51mm/0.020in        |
| Soldering Characteristics       | Solderability per ANSI/J-STD-002 Category 3 Except<br>RUSBF075 Meet ANSI/J-STD-002 Category 1  |
| Solder Heat Withstand           | RUSBF120: per IEC-STD 68-2-20, Test Tb, Method 1A, Condition A; Can Withstand 5s at 260°C ±5°C<br>All Others : per IEC-STD 68-2-20, Test Tb, Method 1A, Condition B; Can Withstand 10s at 260°C ±5°C |
| Insulating Material             | Cured, Flame-retardant Epoxy Polymer; Meets UL 94V-0   |
| Operation Temperature           | -40°C~85°C   |

**Note:** Devices are not designed to be placed through a reflow process.

| <b>Environmental Specifications</b> |                                  |                          |
|-------------------------------------|----------------------------------|--------------------------|
| <b>Test</b>                         | <b>Conditions</b>                | <b>Resistance Change</b> |
| Passive Aging                       | 70°C, 1000 hrs<br>85°C, 1000 hrs | ±5%                      |
| Humidity Aging                      | 85°C, 85%RH, 1000 hrs            | ±5%                      |
| Thermal Shock                       | 85°C, -40°C (10 Times)           | ±5%                      |
| Solvent Resistance                  | MIL-STD-202, Method 215F         | No change                |

# PolySwitch Resettable Devices

## Radial-Leaded Devices

**Table R5 — Physical Characteristics and Environmental Specifications**

(Cont'd)

| <b>RGEF</b>                     |  |   |
|---------------------------------|--|---|
| <b>Physical Characteristics</b> |  |   |
| Lead Material                   | RGEF250  | : Tin-plated Copper-clad Steel, 0.205mm <sup>2</sup> (24AWG), ø0.51mm/0.020in |
|                                 | RGEF300 to RGEF1100  | : Tin-plated Copper, 0.52mm <sup>2</sup> (20AWG), ø0.81mm/0.032in             |
|                                 | RGEF1200 to RGEF1400   | : Tin-plated Copper, 0.82mm <sup>2</sup> (18AWG), ø1.0mm/0.04in               |
| Soldering Characteristics       | Solderability per ANSI/J-STD-002 Category 3  |   |
| Solder Heat Withstand           | RGEF250 and RGEF400 : per IEC 68-2-20, Test Tb, Method 1a, Condition a;<br>can withstand 5s at 260°C ±5°C  |   |
|                                 | RGEF500 to RGEF1400 : per IEC 68-2-20, Test Tb, Method 1a, Condition b;<br>can withstand 10s at 260°C ±5°C |   |
| Insulating Material             | Cured, Flame-retardant Epoxy Polymer; Meets UL 94V-0   |   |
| Operation Temperature           | -40°C~85°C   |   |

**Note:** Devices are not designed to be placed through a reflow process.

| <b>Environmental Specifications</b> |                          |                          |
|-------------------------------------|--------------------------|--------------------------|
| <b>Test</b>                         | <b>Conditions</b>        | <b>Resistance Change</b> |
| Passive Aging                       | -40°C, 1000 hrs          | ±5%                      |
|                                     | 85°C, 1000 hrs           | ±5%                      |
| Humidity Aging                      | 85°C, 85%RH, 1000 hrs    | ±5%                      |
| Thermal Shock                       | 85°C, -40°C (10 Times)   | ±5%                      |
| Solvent Resistance                  | MIL-STD-202, Method 215F | No Change                |

| <b>RHEF</b>                     |  |   |
|---------------------------------|--|---|
| <b>Physical Characteristics</b> |  |   |
| Lead Material                   | RHEF050 to RHEF200   | : Tin-plated Copper-clad Steel, 0.205mm <sup>2</sup> (24AWG), ø0.51mm/0.020in |
|                                 | RHEF300 to RHEF1100  | : Tin-plated Copper, 0.52mm <sup>2</sup> (20AWG), ø0.81mm/0.032in             |
|                                 | RHEF1300 to RHEF1500   | : Tin-plated Copper, 0.82mm <sup>2</sup> (18AWG), ø1.0mm/0.04in               |
| Soldering Characteristics       | Solderability per ANSI/J-STD-002 Category 3                                      |   |
| Solder Heat Withstand           | per IEC 68-2-20, Test Tb, Method 1A, Condition B; Can Wthstand 10s at 260°C ±5°C |   |
| Insulating Material             | Cured, Flame-retardant Epoxy Polymer; Meets UL 94V-0                             |   |
| Operation Temperature           | -40°C~125°C  |   |

**Note:** Devices are not designed to be placed through a reflow process.

| <b>Environmental Specifications</b> |                          |                          |
|-------------------------------------|--------------------------|--------------------------|
| <b>Test</b>                         | <b>Conditions</b>        | <b>Resistance Change</b> |
| Passive Aging                       | 70°C, 1000 hrs           | ±5%                      |
|                                     | 85°C, 1000 hrs           | ±5%                      |
| Humidity Aging                      | 85°C, 85%RH, 1000 hrs    | ±5%                      |
| Thermal Shock                       | 125°C, -40°C (10 Times)  | ±5%                      |
| Solvent Resistance                  | MIL-STD-202, Method 215F | No Change                |

## Storage Conditions

|                    |  |
|--------------------|--|
| Storage Conditions | 40°C max, 70% RH max; devices should remain in original sealed bags prior to use.<br>Devices may not meet specified values if these storage conditions are exceeded. |
|--------------------|--|

**PolySwitch Resettable Devices**  
Radial-Leaded Devices

**Table R6 — Packaging and Marking Information**

| Part Number     | Bag Quantity | Tape and Reel Quantity | Ammo Pack Quantity | Standard Package Quantity | Part Marking | Agency Recognition |
|-----------------|--------------|------------------------|--------------------|---------------------------|--------------|--------------------|
| <b>RXEF 60V</b> |              |                        |                    |                           |              |                    |
| RXEF005         | 500          | —                      | —                  | 10,000                    | —            | UL, CSA, TÜV, CQC  |
| RXEF005-2       | —            | 3,000                  | —                  | 15,000                    | —            | UL, CSA, TÜV, CQC  |
| RXEF005-AP      | —            | —                      | 2,000              | 10,000                    | —            | UL, CSA, TÜV, CQC  |
| RXEF010         | 500          | —                      | —                  | 10,000                    | X10          | UL, CSA, TÜV, CQC  |
| RXEF010-2       | —            | 3,000                  | —                  | 15,000                    | X10          | UL, CSA, TÜV, CQC  |
| RXEF010-AP      | —            | —                      | 2,000              | 10,000                    | X10          | UL, CSA, TÜV, CQC  |
| RXEF017         | 500          | —                      | —                  | 10,000                    | X17          | UL, CSA, TÜV, CQC  |
| RXEF017-2       | —            | 2,500                  | —                  | 12,500                    | X17          | UL, CSA, TÜV, CQC  |
| RXEF017-AP      | —            | —                      | 2,000              | 10,000                    | X17          | UL, CSA, TÜV, CQC  |
| <b>RXEF 72V</b> |              |                        |                    |                           |              |                    |
| RXEF020         | 500          | —                      | —                  | 10,000                    | X20          | UL, CSA, TÜV, CQC  |
| RXEF020-2       | —            | 3,000                  | —                  | 15,000                    | X20          | UL, CSA, TÜV, CQC  |
| RXEF020-AP      | —            | —                      | 2,000              | 10,000                    | X20          | UL, CSA, TÜV, CQC  |
| RXEF025         | 500          | —                      | —                  | 10,000                    | X25          | UL, CSA, TÜV, CQC  |
| RXEF025-2       | —            | 3,000                  | —                  | 15,000                    | X25          | UL, CSA, TÜV, CQC  |
| RXEF025-AP      | —            | —                      | 2,000              | 10,000                    | X25          | UL, CSA, TÜV, CQC  |
| RXEF030         | 500          | —                      | —                  | 10,000                    | X30          | UL, CSA, TÜV, CQC  |
| RXEF030-2       | —            | 3,000                  | —                  | 15,000                    | X30          | UL, CSA, TÜV, CQC  |
| RXEF030-AP      | —            | —                      | 2,000              | 10,000                    | X30          | UL, CSA, TÜV, CQC  |
| RXEF040         | 500          | —                      | —                  | 10,000                    | X40          | UL, CSA, TÜV, CQC  |
| RXEF040-2       | —            | 3,000                  | —                  | 15,000                    | X40          | UL, CSA, TÜV, CQC  |
| RXEF040-AP      | —            | —                      | 2,000              | 10,000                    | X40          | UL, CSA, TÜV, CQC  |
| RXEF050         | 500          | —                      | —                  | 10,000                    | X50          | UL, CSA, TÜV, CQC  |
| RXEF050-2       | —            | 3,000                  | —                  | 15,000                    | X50          | UL, CSA, TÜV, CQC  |
| RXEF050-AP      | —            | —                      | 2,000              | 10,000                    | X50          | UL, CSA, TÜV, CQC  |
| RXEF065         | 500          | —                      | —                  | 10,000                    | X65          | UL, CSA, TÜV, CQC  |
| RXEF065-2       | —            | 3,000                  | —                  | 15,000                    | X65          | UL, CSA, TÜV, CQC  |
| RXEF065-AP      | —            | —                      | 2,000              | 10,000                    | X65          | UL, CSA, TÜV, CQC  |
| RXEF075         | 500          | —                      | —                  | 10,000                    | X75          | UL, CSA, TÜV, CQC  |
| RXEF075-2       | —            | 3,000                  | —                  | 15,000                    | X75          | UL, CSA, TÜV, CQC  |
| RXEF075-AP      | —            | —                      | 2,000              | 10,000                    | X75          | UL, CSA, TÜV, CQC  |
| RXEF090         | 500          | —                      | —                  | 10,000                    | X90          | UL, CSA, TÜV, CQC  |
| RXEF090-2       | —            | 3,000                  | —                  | 15,000                    | X90          | UL, CSA, TÜV, CQC  |
| RXEF090-AP      | —            | —                      | 2,000              | 10,000                    | X90          | UL, CSA, TÜV, CQC  |
| RXEF110         | 500          | —                      | —                  | 10,000                    | X110         | UL, CSA, TÜV, CQC  |
| RXEF110-2       | —            | 1,500                  | —                  | 7,500                     | X110         | UL, CSA, TÜV, CQC  |
| RXEF110-AP      | —            | —                      | 1,000              | 5,000                     | X110         | UL, CSA, TÜV, CQC  |
| RXEF135         | 500          | —                      | —                  | 10,000                    | X135         | UL, CSA, TÜV, CQC  |
| RXEF135-2       | —            | 1,500                  | —                  | 7,500                     | X135         | UL, CSA, TÜV, CQC  |
| RXEF135-AP      | —            | —                      | 1,000              | 5,000                     | X135         | UL, CSA, TÜV, CQC  |
| RXEF160         | 500          | —                      | —                  | 10,000                    | X160         | UL, CSA, TÜV, CQC  |
| RXEF160-2       | —            | 1,500                  | —                  | 7,500                     | X160         | UL, CSA, TÜV, CQC  |
| RXEF160-AP      | —            | —                      | 1,000              | 5,000                     | X160         | UL, CSA, TÜV, CQC  |
| RXEF185         | 500          | —                      | —                  | 10,000                    | X185         | UL, CSA, TÜV, CQC  |
| RXEF185-2       | —            | 1,500                  | —                  | 7,500                     | X185         | UL, CSA, TÜV, CQC  |
| RXEF185-AP      | —            | —                      | 1,000              | 5,000                     | X185         | UL, CSA, TÜV, CQC  |
| RXEF250         | 250          | —                      | —                  | 5,000                     | X250         | UL, CSA, TÜV, CQC  |
| RXEF250-2       | —            | 1,000                  | —                  | 5,000                     | X250         | UL, CSA, TÜV, CQC  |
| RXEF250-AP      | —            | —                      | 1,000              | 5,000                     | X250         | UL, CSA, TÜV, CQC  |

**PolySwitch Resettable Devices**  
Radial-Leaded Devices

**Table R6 — Packaging and Marking Information**

(Cont'd)

| Part Number     | Bag Quantity | Tape and Reel Quantity | Ammo Pack Quantity | Standard Package Quantity | Part Marking | Agency Recognition |
|-----------------|--------------|------------------------|--------------------|---------------------------|--------------|--------------------|
| <b>RXEF 72V</b> |              |                        |                    |                           |              |                    |
| RXEF300         | 250          | —                      | —                  | 5,000                     | X300         | UL, CSA, TÜV, CQC  |
| RXEF300-2       | —            | 1,000                  | —                  | 5,000                     | X300         | UL, CSA, TÜV, CQC  |
| RXEF300-AP      | —            | —                      | 1,000              | 5,000                     | X300         | UL, CSA, TÜV, CQC  |
| RXEF375         | 250          | —                      | —                  | 5,000                     | X375         | UL, CSA, TÜV, CQC  |
| <b>RKEF 60V</b> |              |                        |                    |                           |              |                    |
| RKEF050         | 500          | —                      | —                  | 10,000                    | K50          | UL, CSA, TÜV       |
| RKEF065         | 500          | —                      | —                  | 10,000                    | K65          | UL, CSA, TÜV       |
| RKEF075         | 500          | —                      | —                  | 10,000                    | K75          | UL, CSA, TÜV       |
| RKEF090         | 500          | —                      | —                  | 10,000                    | K90          | UL, CSA, TÜV       |
| RKEF110         | 500          | —                      | —                  | 10,000                    | K110         | UL, CSA, TÜV       |
| RKEF135         | 500          | —                      | —                  | 10,000                    | K135         | UL, CSA, TÜV       |
| RKEF160         | 500          | —                      | —                  | 10,000                    | K160         | UL, CSA, TÜV       |
| RKEF185         | 500          | —                      | —                  | 10,000                    | K185         | UL, CSA, TÜV       |
| RKEF250         | 500          | —                      | —                  | 10,000                    | K250         | UL, CSA, TÜV       |
| RKEF300         | 250          | —                      | —                  | 5,000                     | K300         | UL, CSA, TÜV       |
| RKEF375         | 250          | —                      | —                  | 5,000                     | K375         | UL, CSA, TÜV       |
| RKEF400         | 250          | —                      | —                  | 5,000                     | K400         | UL, CSA, TÜV       |
| RKEF500         | 250          | —                      | —                  | 5,000                     | K500         | UL, CSA, TÜV       |
| <b>RUEF 30V</b> |              |                        |                    |                           |              |                    |
| RUEF090         | 500          | —                      | —                  | 10,000                    | U90          | UL, CSA, TÜV, CQC  |
| RUEF090-2       | —            | 3,000                  | —                  | 15,000                    | U90          | UL, CSA, TÜV, CQC  |
| RUEF090-AP      | —            | —                      | 2,000              | 10,000                    | U90          | UL, CSA, TÜV, CQC  |
| RUEF110         | 500          | —                      | —                  | 10,000                    | U110         | UL, CSA, TÜV, CQC  |
| RUEF110-2       | —            | 3,000                  | —                  | 15,000                    | U110         | UL, CSA, TÜV, CQC  |
| RUEF110-AP      | —            | —                      | 2,000              | 10,000                    | U110         | UL, CSA, TÜV, CQC  |
| RUEF135         | 500          | —                      | —                  | 10,000                    | U135         | UL, CSA, TÜV, CQC  |
| RUEF135-2       | —            | 3,000                  | —                  | 15,000                    | U135         | UL, CSA, TÜV, CQC  |
| RUEF135-AP      | —            | —                      | 2,000              | 10,000                    | U135         | UL, CSA, TÜV, CQC  |
| RUEF160         | 500          | —                      | —                  | 10,000                    | U160         | UL, CSA, TÜV, CQC  |
| RUEF160-2       | —            | 3,000                  | —                  | 15,000                    | U160         | UL, CSA, TÜV, CQC  |
| RUEF160-AP      | —            | —                      | 2,000              | 10,000                    | U160         | UL, CSA, TÜV, CQC  |
| RUEF185         | 500          | —                      | —                  | 10,000                    | U185         | UL, CSA, TÜV, CQC  |
| RUEF185-2       | —            | 3,000                  | —                  | 15,000                    | U185         | UL, CSA, TÜV, CQC  |
| RUEF185-AP      | —            | —                      | 2,000              | 10,000                    | U185         | UL, CSA, TÜV, CQC  |
| RUEF250         | 500          | —                      | —                  | 10,000                    | U250         | UL, CSA, TÜV, CQC  |
| RUEF250-2       | —            | 3,000                  | —                  | 15,000                    | U250         | UL, CSA, TÜV, CQC  |
| RUEF250-AP      | —            | —                      | 2,000              | 10,000                    | U250         | UL, CSA, TÜV, CQC  |
| RUEF300         | 500          | —                      | —                  | 10,000                    | U300         | UL, CSA, TÜV, CQC  |
| RUEF300-2       | —            | 2,500                  | —                  | 12,500                    | U300         | UL, CSA, TÜV, CQC  |
| RUEF300-AP      | —            | —                      | 1,000              | 5,000                     | U300         | UL, CSA, TÜV, CQC  |
| RUEF400         | 500          | —                      | —                  | 10,000                    | U400         | UL, CSA, TÜV, CQC  |
| RUEF400-2       | —            | 1,500                  | —                  | 7,500                     | U400         | UL, CSA, TÜV, CQC  |
| RUEF400-AP      | —            | —                      | 1,000              | 5,000                     | U400         | UL, CSA, TÜV, CQC  |
| RUEF500         | 250          | —                      | —                  | 5,000                     | U500         | UL, CSA, TÜV, CQC  |
| RUEF500-2       | —            | 1,500                  | —                  | 7,500                     | U500         | UL, CSA, TÜV, CQC  |
| RUEF500-AP      | —            | —                      | 1,000              | 5,000                     | U500         | UL, CSA, TÜV, CQC  |
| RUEF600         | 250          | —                      | —                  | 5,000                     | U600         | UL, CSA, TÜV, CQC  |
| RUEF600-2       | —            | 1,000                  | —                  | 5,000                     | U600         | UL, CSA, TÜV, CQC  |

# PolySwitch Resettable Devices

## Radial-Leaded Devices

**Table R6 — Packaging and Marking Information**

(Cont'd)

| Part Number                            | Bag Quantity | Tape and Reel Quantity | Ammo Pack Quantity | Standard Package Quantity | Part Marking | Agency Recognition |
|--|--------------|------------------------|--------------------|---------------------------|--------------|--------------------|
| <b>RUEF<br/>30V</b>                    |              |                        |                    |                           |              |                    |
| RUEF600-AP                             | —            | —                      | 1,000              | 5,000                     | U600         | UL, CSA, TÜV, CQC  |
| RUEF700                                | 250          | —                      | —                  | 5,000                     | U700         | UL, CSA, TÜV, CQC  |
| RUEF700-2                              | —            | 1,000                  | —                  | 5,000                     | U700         | UL, CSA, TÜV, COC  |
| RUEF700-AP                             | —            | —                      | 1,000              | 5,000                     | U700         | UL, CSA, TÜV, CQC  |
| RUEF800                                | 250          | —                      | —                  | 5,000                     | U800         | UL, CSA, TÜV, CQC  |
| RUEF800-2                              | —            | 1,000                  | —                  | 5,000                     | U800         | UL, CSA, TÜV, CQC  |
| RUEF800-AP                             | —            | —                      | 1,000              | 5,000                     | U800         | UL, CSA, TÜV, CQC  |
| RUEF900                                | 250          | —                      | —                  | 5,000                     | U900         | UL, CSA, TÜV, CQC  |
| RUEF900-2                              | —            | 1,000                  | —                  | 4,000                     | U900         | UL, CSA, TÜV, CQC  |
| RUEF900-AP                             | —            | —                      | 1,000              | 4,000                     | U900         | UL, CSA, TÜV, CQC  |
| <b>RHEF<br/>30V - High Temperature</b> |              |                        |                    |                           |              |                    |
| RHEF050                                | 500          | —                      | —                  | 10,000                    | H0.5         | UL, CSA, TÜV       |
| RHEF050-2                              | —            | 2,500                  | —                  | 12,500                    | H0.5         | UL, CSA, TÜV       |
| RHEF070                                | 500          | —                      | —                  | 10,000                    | H0.7         | UL, CSA, TÜV       |
| RHEF070-2                              | —            | 2,500                  | —                  | 12,500                    | H0.7         | UL, CSA, TÜV       |
| RHEF100                                | 500          | —                      | —                  | 10,000                    | H1           | UL, CSA, TÜV       |
| RHEF100-2                              | —            | 2,500                  | —                  | 12,500                    | H1           | UL, CSA, TÜV       |
| <b>RUSBF<br/>16V</b>                   |              |                        |                    |                           |              |                    |
| RUSBF090                               | 500          | —                      | —                  | 10,000                    | R90          | UL, CSA, TÜV       |
| RUSBF090-2                             | —            | 3,000                  | —                  | 15,000                    | R90          | UL, CSA, TÜV       |
| RUSBF090-AP                            | —            | —                      | 2,000              | 10,000                    | R90          | UL, CSA, TÜV       |
| RUSBF110                               | 500          | —                      | —                  | 10,000                    | R110         | UL, CSA, TÜV       |
| RUSBF110-2                             | —            | 3,000                  | —                  | 15,000                    | R110         | UL, CSA, TÜV       |
| RUSBF110-AP                            | —            | —                      | 2,000              | 10,000                    | R110         | UL, CSA, TÜV       |
| RUSBF135                               | 500          | —                      | —                  | 10,000                    | R135         | UL, CSA, TÜV       |
| RUSBF135-2                             | —            | 3,000                  | —                  | 15,000                    | R135         | UL, CSA, TÜV       |
| RUSBF135-AP                            | —            | —                      | 2,000              | 10,000                    | R135         | UL, CSA, TÜV       |
| RUSBF160                               | 500          | —                      | —                  | 10,000                    | R160         | UL, CSA, TÜV       |
| RUSBF160-2                             | —            | 3,000                  | —                  | 15,000                    | R160         | UL, CSA, TÜV       |
| RUSBF160-AP                            | —            | —                      | 2,000              | 10,000                    | R160         | UL, CSA, TÜV       |
| RUSBF185                               | 500          | —                      | —                  | 10,000                    | R185         | UL, CSA, TÜV       |
| RUSBF185-2                             | —            | 3,000                  | —                  | 15,000                    | R185         | UL, CSA, TÜV       |
| RUSBF185-AP                            | —            | —                      | 2,000              | 10,000                    | R185         | UL, CSA, TÜV       |
| RUSBF250                               | 500          | —                      | —                  | 10,000                    | R250         | UL, CSA, TÜV       |
| RUSBF250-2                             | —            | 3,000                  | —                  | 15,000                    | R250         | UL, CSA, TÜV       |
| RUSBF250-AP                            | —            | —                      | 2,000              | 10,000                    | R250         | UL, CSA, TÜV       |
| <b>RGEF<br/>16V</b>                    |              |                        |                    |                           |              |                    |
| RGEF250                                | 500          | —                      | —                  | 10,000                    | G2.5         | UL, CSA, TÜV       |
| RGEF250-2                              | —            | 3,000                  | —                  | 15,000                    | G2.5         | UL, CSA, TÜV       |
| RGEF250-AP                             | —            | —                      | 2,000              | 10,000                    | G2.5         | UL, CSA, TÜV       |
| RGEF300                                | 500          | —                      | —                  | 10,000                    | G3           | UL, CSA, TÜV       |
| RGEF300-2                              | —            | 2,500                  | —                  | 12,500                    | G3           | UL, CSA, TÜV       |
| RGEF300-AP                             | —            | —                      | 2,000              | 10,000                    | G3           | UL, CSA, TÜV       |
| RGEF400                                | 500          | —                      | —                  | 10,000                    | G4           | UL, CSA, TÜV       |
| RGEF400-2                              | —            | 2,500                  | —                  | 12,500                    | G4           | UL, CSA, TÜV       |
| RGEF400-AP                             | —            | —                      | 2,000              | 10,000                    | G4           | UL, CSA, TÜV       |
| RGEF500                                | 500          | —                      | —                  | 10,000                    | G5           | UL, CSA, TÜV       |

**PolySwitch Resettable Devices**  
Radial-Leaded Devices

**Table R6 — Packaging and Marking Information**

(Cont'd)

| Part Number                            | Bag Quantity | Tape and Reel Quantity | Ammo Pack Quantity | Standard Package Quantity | Part Marking | Agency Recognition |
|--|--------------|------------------------|--------------------|---------------------------|--------------|--------------------|
| <b>RGEF<br/>16V</b>                    |              |                        |                    |                           |              |                    |
| RGEF500-2                              | —            | 2,000                  | —                  | 10,000                    | G5           | UL, CSA, TÜV       |
| RGEF500-AP                             | —            | —                      | 2,000              | 10,000                    | G5           | UL, CSA, TÜV       |
| RGEF600                                | 500          | —                      | —                  | 10,000                    | G6           | UL, CSA, TÜV       |
| RGEF600-2                              | —            | 2,000                  | —                  | 10,000                    | G6           | UL, CSA, TÜV       |
| RGEF600-AP                             | —            | —                      | 2,000              | 10,000                    | G6           | UL, CSA, TÜV       |
| RGEF700                                | 500          | —                      | —                  | 10,000                    | G7           | UL, CSA, TÜV       |
| RGEF700-2                              | —            | 1,500                  | —                  | 7,500                     | G7           | UL, CSA, TÜV       |
| RGEF700-AP                             | —            | —                      | 1,500              | 7,500                     | G7           | UL, CSA, TÜV       |
| RGEF800                                | 500          | —                      | —                  | 10,000                    | G8           | UL, CSA, TÜV       |
| RGEF800-2                              | —            | 1,500                  | —                  | 7,500                     | G8           | UL, CSA, TÜV       |
| RGEF800-AP                             | —            | —                      | 1,500              | 7,500                     | G8           | UL, CSA, TÜV       |
| RGEF900                                | 500          | —                      | —                  | 10,000                    | G9           | UL, CSA, TÜV       |
| RGEF900-2                              | —            | 1,000                  | —                  | 5,000                     | G9           | UL, CSA, TÜV       |
| RGEF900-AP                             | —            | —                      | 1,000              | 5,000                     | G9           | UL, CSA, TÜV       |
| RGEF1000                               | 250          | —                      | —                  | 5,000                     | G10          | UL, CSA, TÜV       |
| RGEF1000-2                             | —            | 1,000                  | —                  | 5,000                     | G10          | UL, CSA, TÜV       |
| RGEF1000-AP                            | —            | —                      | 1,000              | 5,000                     | G10          | UL, CSA, TÜV       |
| RGEF1100                               | 250          | —                      | —                  | 5,000                     | G11          | UL, CSA, TÜV       |
| RGEF1100-2                             | —            | 1,000                  | —                  | 5,000                     | G11          | UL, CSA, TÜV       |
| RGEF1100-AP                            | —            | —                      | 1,000              | 5,000                     | G11          | UL, CSA, TÜV       |
| RGEF1200                               | 250          | —                      | —                  | 5,000                     | G12          | UL, CSA, TÜV       |
| RGEF1200-2                             | —            | 1,000                  | —                  | 5,000                     | G12          | UL, CSA, TÜV       |
| RGEF1200-AP                            | —            | —                      | 1,000              | 5,000                     | G12          | UL, CSA, TÜV       |
| RGEF1400                               | 250          | —                      | —                  | 5,000                     | G14          | UL, CSA, TÜV       |
| RGEF1400-2                             | —            | 1,000                  | —                  | 5,000                     | G14          | UL, CSA, TÜV       |
| RGEF1400-AP                            | —            | —                      | 1,000              | 5,000                     | G14          | UL, CSA, TÜV       |
| <b>RHEF<br/>16V - High Temperature</b> |              |                        |                    |                           |              |                    |
| RHEF200                                | 500          | —                      | —                  | 10,000                    | H2           | UL, CSA, TÜV       |
| RHEF200-2                              | —            | 2,500                  | —                  | 12,500                    | H2           | UL, CSA, TÜV       |
| RHEF200-AP                             | —            | —                      | 2,500              | 12,500                    | H2           | UL, CSA, TÜV       |
| RHEF300                                | 500          | —                      | —                  | 10,000                    | H3           | UL, CSA, TÜV       |
| RHEF300-2                              | —            | 2,000                  | —                  | 10,000                    | H3           | UL, CSA, TÜV       |
| RHEF300-AP                             | —            | —                      | 2,000              | 10,000                    | H3           | UL, CSA, TÜV       |
| RHEF400                                | 500          | —                      | —                  | 10,000                    | H4           | UL, CSA, TÜV       |
| RHEF400-2                              | —            | 1,500                  | —                  | 7,500                     | H4           | UL, CSA, TÜV       |
| RHEF400-AP                             | —            | —                      | 1,500              | 7,500                     | H4           | UL, CSA, TÜV       |
| RHEF450                                | 500          | —                      | —                  | 10,000                    | H4.5         | UL, CSA, TÜV       |
| RHEF450-2                              | —            | 1,500                  | —                  | 7,500                     | H4.5         | UL, CSA, TÜV       |
| RHEF450-AP                             | —            | —                      | 1,500              | 7,500                     | H4.5         | UL, CSA, TÜV       |
| RHEF550                                | 500          | —                      | —                  | 10,000                    | H5.5         | UL, CSA, TÜV       |
| RHEF550-2                              | —            | 2,000                  | —                  | 10,000                    | H5.5         | UL, CSA, TÜV       |
| RHEF550-AP                             | —            | —                      | 2,000              | 10,000                    | H5.5         | UL, CSA, TÜV       |
| RHEF600                                | 500          | —                      | —                  | 10,000                    | H6           | UL, CSA, TÜV       |
| RHEF600-2                              | —            | 2,000                  | —                  | 10,000                    | H6           | UL, CSA, TÜV       |
| RHEF600-AP                             | —            | —                      | 2,000              | 10,000                    | H6           | UL, CSA, TÜV       |
| RHEF650                                | 500          | —                      | —                  | 10,000                    | H6.5         | UL, CSA, TÜV       |
| RHEF650-2                              | —            | 1,500                  | —                  | 7,500                     | H6.5         | UL, CSA, TÜV       |
| RHEF650-AP                             | —            | —                      | 1,500              | 7,500                     | H6.5         | UL, CSA, TÜV       |
| RHEF700                                | 500          | —                      | —                  | 10,000                    | H7           | UL, CSA, TÜV       |

# PolySwitch Resettable Devices

## Radial-Leaded Devices

**Table R6 — Packaging and Marking Information**

(Cont'd)

| Part Number                   | Bag Quantity | Tape and Reel Quantity | Ammo Pack Quantity | Standard Package Quantity | Part Marking | Agency Recognition |
|-------------------------------|--------------|------------------------|--------------------|---------------------------|--------------|--------------------|
| <b>RHEF</b>                   |              |                        |                    |                           |              |                    |
| <b>16V - High Temperature</b> |              |                        |                    |                           |              |                    |
| RHEF700-2                     | —            | 1,500                  | —                  | 7,500                     | H7           | UL, CSA, TÜV       |
| RHEF700-AP                    | —            | —                      | 1,500              | 7,500                     | H7           | UL, CSA, TÜV       |
| RHEF750                       | 500          | —                      | —                  | 10,000                    | H75          | UL, CSA, TÜV       |
| RHEF750-2                     | —            | 1,000                  | —                  | 5,000                     | H7.5         | UL, CSA, TÜV       |
| RHEF750-AP                    | —            | —                      | 1,000              | 5,000                     | H7.5         | UL, CSA, TÜV       |
| RHEF800                       | 500          | —                      | —                  | 10,000                    | H8           | UL, CSA, TÜV       |
| RHEF800-2                     | —            | 1,000                  | —                  | 5,000                     | H8           | UL, CSA, TÜV       |
| RHEF800-AP                    | —            | —                      | 1,000              | 5,000                     | H8           | UL, CSA, TÜV       |
| RHEF900                       | 250          | —                      | —                  | 5,000                     | H9           | UL, CSA, TÜV       |
| RHEF900-2                     | —            | 1,000                  | —                  | 5,000                     | H9           | UL, CSA, TÜV       |
| RHEF900-AP                    | —            | —                      | 1,000              | 5,000                     | H9           | UL, CSA, TÜV       |
| RHEF1000                      | 250          | —                      | —                  | 5,000                     | H10          | UL, CSA, TÜV       |
| RHEF1000-2                    | —            | 1,000                  | —                  | 5,000                     | H10          | UL, CSA, TÜV       |
| RHEF1000-AP                   | —            | —                      | 1,000              | 5,000                     | H10          | UL, CSA, TÜV       |
| RHEF1100                      | 250          | —                      | —                  | 5,000                     | H11          | UL, CSA, TÜV       |
| RHEF1100-2                    | —            | 1,000                  | —                  | 5,000                     | H11          | UL, CSA, TÜV       |
| RHEF1100-AP                   | —            | —                      | 1,000              | 5,000                     | H11          | UL, CSA, TÜV       |
| RHEF1300                      | 250          | —                      | —                  | 5,000                     | H13          | UL, CSA, TÜV       |
| RHEF1300-2                    | —            | 1,000                  | —                  | 5,000                     | H13          | UL, CSA, TÜV       |
| RHEF1300-AP                   | —            | —                      | 1,000              | 5,000                     | H13          | UL, CSA, TÜV       |
| RHEF1400                      | 250          | —                      | —                  | 5,000                     | H14          | UL, CSA, TÜV       |
| RHEF1400-2                    | —            | 1,000                  | —                  | 5,000                     | H14          | UL, CSA, TÜV       |
| RHEF1400-AP                   | —            | —                      | 1,000              | 5,000                     | H14          | UL, CSA, TÜV       |
| RHEF1500                      | 250          | —                      | —                  | 5,000                     | H15          | UL, CSA, TÜV       |
| RHEF1500-2                    | —            | 1,000                  | —                  | 5,000                     | H15          | UL, CSA, TÜV       |
| RHEF1500-AP                   | —            | —                      | 1,000              | 5,000                     | H15          | UL, CSA, TÜV       |
| <b>RUSBF</b>                  |              |                        |                    |                           |              |                    |
| <b>6V</b>                     |              |                        |                    |                           |              |                    |
| RUSBF075                      | 500          | —                      | —                  | 10,000                    | R75          | UL, CSA, TÜV       |
| RUSBF075-2                    | —            | 3,000                  | —                  | 15,000                    | R75          | UL, CSA, TÜV       |
| RUSBF075-AP                   | —            | —                      | 2,000              | 10,000                    | R75          | UL, CSA, TÜV       |
| RUSBF120                      | 500          | —                      | —                  | 10,000                    | R120         | UL, CSA, TÜV       |
| RUSBF120-2                    | —            | 3,000                  | —                  | 15,000                    | R120         | UL, CSA, TÜV       |
| RUSBF120-AP                   | —            | —                      | 2,000              | 10,000                    | R120         | UL, CSA, TÜV       |
| RUSBF155                      | 500          | —                      | —                  | 10,000                    | R155         | UL, CSA, TÜV       |
| RUSBF155-2                    | —            | 3,000                  | —                  | 15,000                    | R155         | UL, CSA, TÜV       |
| RUSBF155-AP                   | —            | —                      | 2,000              | 10,000                    | R155         | UL, CSA, TÜV       |

## Agency Recognitions

|     |  |
|-----|--|
| UL  | File # E74889  |
| CSA | File # CA78165   |
| TÜV | Certificate number available on request (per IEC 60730-1). |

# PolySwitch Resettable Devices

## Radial-Leaded Devices

### Table R7 — Tape and Reel Specifications

RXEF and RKEF devices are available in tape and reel packaging per EIA468-B/IEC60286-2 standards.

| Description   | EIA Mark       | Dimension (mm) | Tolerance  |
|---|----------------|----------------|------------|
| Carrier Tape Width  | W              | 18             | -0.5/+1.0  |
| Hold-Down Tape Width  | W <sub>4</sub> | 11             | Minimum    |
| Top Distance between Tape Edges   | W <sub>6</sub> | 3              | Maximum    |
| Sprocket Hole Position  | W <sub>5</sub> | 9              | -0.5/+0.75 |
| Sprocket Hole Diameter  | D <sub>0</sub> | 4              | ± 0.2      |
| Abscissa to Plane (Straight Lead) (RXEF110 To RXEF300, RKEF135 To RKEF500)      | H              | 18.5           | ± 2.5      |
| Abscissa to Plane (Kinked Lead) (RXEF010 To RXEF090, RKEF050 To RKEF110)        | H <sub>0</sub> | 16.0           | ± 0.5      |
| Abscissa to Top (RXEF010 To RXEF090, RKEF050 To RKEF185)                        | H <sub>1</sub> | 32.2           | Maximum    |
| Abscissa to Top* (RXEF110 To RXEF300, RKEF250 To RKEF500)                       | H <sub>1</sub> | 47.5           | Maximum    |
| Overall Width with Lead Protrusion (RXEF010 To RXEF090, RKEF050 To RKEF185)     | C <sub>1</sub> | 43.2           | Maximum    |
| Overall Width with Lead Protrusion* (RXEF110 To RXEF300, RKEF250 To RKEF500)    | C <sub>1</sub> | 58             | Maximum    |
| Overall Width without Lead Protrusion (RXEF010 To RXEF090, RKEF050 To RKEF185)  | C <sub>2</sub> | 42.5           | Maximum    |
| Overall Width without Lead Protrusion* (RXEF110 To RXEF300, RKEF250 To RKEF500) | C <sub>2</sub> | 57             | Maximum    |
| Lead Protrusion   | L <sub>1</sub> | 1.0            | Maximum    |
| Protrusion of Cut-Out   | L              | 11.0           | Maximum    |
| Protrusion beyond Hold-down Tape  | I <sub>2</sub> | Not Specified  | —          |
| Sprocket Hole Pitch   | P <sub>0</sub> | 12.7           | ± 0.3      |
| Device Pitch (RXEF010 To RXEF090, RKEF050 To RKEF185)                           | —              | 12.7           | ± 0.3      |
| Device Pitch (RXEF110 To RXEF300, RKEF250 To RKEF500)                           | —              | 25.4           | ± 0.61     |
| Pitch Tolerance   | —              | 20 Consecutive | ± 1        |
| Tape Thickness  | T              | 0.9            | Maximum    |
| Overall Tape and Lead Thickness (RXEF010 To RXEF090, RKEF050 To RKEF185)        | T <sub>1</sub> | 1.5            | Maximum    |
| Overall Tape and Lead Thickness (RXEF110 To RXEF300, RKEF250 To RKEF500)        | T <sub>1</sub> | 2.3            | Maximum    |
| Splice Sprocket Hole Alignment  | —              | 0              | ± 0.3      |
| Body Lateral Deviation  | D <sub>h</sub> | 0              | ± 1.0      |
| Body Tape Plane Deviation   | D <sub>p</sub> | 0              | ± 1.3      |
| Ordinate to Adjacent Component Lead (RXEF010 To RXEF185, RKEF050 To RKEF300)    | P <sub>1</sub> | 3.81           | ± 0.7      |
| Ordinate to Adjacent Component Lead (RXEF250 To RXEF300, RKEF375 To RKEF500)    | P <sub>1</sub> | 7.62           | ± 0.7      |
| Lead Spacing* (RXEF010 To RXEF185, RKEF050 To RKEF300)                          | F              | 5.05           | ± 0.75     |
| Lead Spacing* (RXEF250 To RXEF300, RKEF375 To RKEF500)                          | F              | 10.15          | ± 0.75     |
| Reel Width (RXEF010 To RXEF090, RKEF050 To RKEF185)                             | W <sub>2</sub> | 56.0           | Maximum    |
| Reel Width* (RXEF110 To RXEF300, RKEF250 To RKEF500)                            | W <sub>2</sub> | 63.5           | Maximum    |
| Reel Diameter   | A              | 370.0          | Maximum    |
| Space between Flanges* (RXEF010 To RXEF090, RKEF050 To RKEF185)                 | W <sub>1</sub> | 48.00          | Maximum    |
| Space between Flanges* (RXEF110 To RXEF300, RKEF250 To RKEF500)                 | W <sub>1</sub> | 55.00          | Maximum    |
| Arbor Hold Diameter   | C              | 26.0           | ± 12.0     |
| Core Diameter*  | N              | 91.0           | Maximum    |
| Box   | —              | 64/372/362     | Maximum    |
| Consecutive Missing Places  | —              | None           | —          |
| Empty Places per Reel   | —              | 0.1%           | Maximum    |

\*Differs from EIA specification.

# PolySwitch Resettable Devices

## Radial-Leaded Devices

**Table R7 — Tape and Reel Specifications**

(Cont'd)

RUEF and RUSBF devices are available in tape and reel packaging per EIA468-B/IEC60286-2 standards.

| Description  | EIA Mark       | Dimension (mm) | Tolerance  |
|--|----------------|----------------|------------|
| Carrier Tape Width   | W              | 18             | -0.5/+1.0  |
| Hold-down Tape Width   | W <sub>4</sub> | 11             | Minimum    |
| Top Distance between Tape Edges  | W <sub>6</sub> | 3              | Maximum    |
| Sprocket Hole Position   | W <sub>5</sub> | 9              | -0.5/+0.75 |
| Sprocket Hole Diameter   | D <sub>0</sub> | 4              | ± 0.2      |
| Abscissa to Plane (Straight Lead)* (RUEF300 to RUEF900)                          | H              | 18.5           | ± 2.5      |
| Abscissa to Plane (Kinked Lead) (RUSBF075 to RUSBF250, RUEF090 to RUEF250)       | H <sub>0</sub> | 16.0           | ± 0.5      |
| Abscissa to Top (RUSBF075 to RUSBF250, RUEF090 to RUEF300)                       | H <sub>1</sub> | 32.2           | Maximum    |
| Abscissa to Top* (RUEF400 to RUEF900)  | H <sub>1</sub> | 45.0           | Maximum    |
| Overall Width with Lead Protrusion (RUSBF075 to RUSBF250, RUEF090 to RUEF300)    | C <sub>1</sub> | 43.2           | Maximum    |
| Overall Width with Lead Protrusion (RUEF400 To RUEF900)                          | C <sub>1</sub> | 56             | Maximum    |
| Overall Width without Lead Protrusion (RUSBF075 to RUSBF250, RUEF090 to RUEF300) | C <sub>2</sub> | 42.5           | Maximum    |
| Overall Width without Lead Protrusion (RUEF400 to RUEF900)                       | C <sub>2</sub> | 56             | Maximum    |
| Lead Protrusion  | L <sub>1</sub> | 1.0            | Maximum    |
| Protrusion of Cut-out  | L              | 11             | Maximum    |
| Protrusion beyond Hold-down Tape   | I <sub>2</sub> | Not Specified  | —          |
| Sprocket Hole Pitch  | P <sub>0</sub> | 12.7           | ± 0.3      |
| Device Pitch (RUSBF075 to RUSBF250, RUEF090 to RUEF300)                          | —              | 12.7           | ± 0.3      |
| Device Pitch (RUEF400 to RUEF900)  | —              | 25.4           | ± 0.6      |
| Pitch Tolerance  | —              | 20 Consecutive | ± 1        |
| Tape Thickness   | T              | 0.9            | Maximum    |
| Overall Tape and Lead Thickness (RUSBF075 to RUSBF250, RUEF090 to RUEF50)        | T <sub>1</sub> | 1.5            | Maximum    |
| Overall Tape and Lead Thickness* (RUEF300 to RUEF900)                            | T <sub>1</sub> | 2.3            | Maximum    |
| Splice Sprocket Hole Alignment   | —              | 0              | ± 0.3      |
| Body Lateral Deviation   | D <sub>h</sub> | 0              | ± 1.0      |
| Body Tape Plane Deviation  | D <sub>p</sub> | 0              | ± 1.3      |
| Ordinate to Adjacent Component Lead (RUSBF075 to RUSBF250, RUEF090 to RUEF300)   | P <sub>1</sub> | 3.81           | ± 0.7      |
| Ordinate to Adjacent Component Lead (RUEF400 to RUEF900)                         | P <sub>1</sub> | 7.62           | ± 0.7      |
| Lead Spacing* (RUSBF075 to RUSBF250, RUEF090 to RUEF400)                         | F              | 5.05           | ± 0.75     |
| Lead Spacing* (RUEF500 to RUEF900)   | F              | 10.15          | ± 0.75     |
| Reel Width (RUEF090 to RUEF400, Rusbf075 to Rusbf250)                            | W <sub>2</sub> | 56.0           | Maximum    |
| Reel Width (RUEF500* to RUEF900)   | W <sub>2</sub> | 63.5           | Maximum    |
| Reel Diameter  | A              | 370.0          | Maximum    |
| Space between Flanges* (RUEF090 to RUEF400, RUSBF075 to RUSBF250)                | W <sub>1</sub> | 48.0           | Maximum    |
| Space between Flanges* (RUEF500 to RUEF900)                                      | W <sub>1</sub> | 55.0           | Maximum    |
| Arbor Hold Diameter  | C              | 26.0           | ± 12.0     |
| Core Diameter*   | N              | 91.0           | Maximum    |
| Box  | —              | 64/372/362     | Maximum    |
| Consecutive Missing Places   | —              | None           | —          |
| Empty Places per Reel  | —              | 0.1%           | Maximum    |

\*Differs from EIA specification.

# PolySwitch Resettable Devices

## Radial-Leaded Devices

**Table R7 — Tape and Reel Specifications**

(Cont'd)

RGEF and RHEF devices are available in tape and reel packaging per EIA468-B/IEC60286-2 standards.

| Description  | EIA Mark       | Dimension (mm) | Tolerance  |
|--|----------------|----------------|------------|
| Carrier Tape Width   | W              | 18             | -0.5/+1.0  |
| Hold-Down Tape Width   | W <sub>4</sub> | 11             | Minimum    |
| Top Distance between Tape Edges  | W <sub>6</sub> | 3              | Maximum    |
| Sprocket Hole Position   | W <sub>5</sub> | 9              | -0.5/+0.75 |
| Sprocket Hole Diameter   | D <sub>0</sub> | 4              | ± 0.2      |
| Abscissa to Plane (Straight Lead) (RGEF250 to RGEF1400)                          | H              | 18.5           | ± 2.5      |
| Abscissa to Plane (Kinked Lead) (RHEF050 to RGEF1500)                            | H <sub>0</sub> | 16.0           | ± 0.5      |
| Abscissa to Top (RGEF250 to RGEF500, RGEF050 to RGEF450)                         | H <sub>1</sub> | 32.2           | Maximum    |
| Abscissa to Top* (RGEF600 to RGEF1400, RHEF550 to RHEF1500)                      | H <sub>1</sub> | 45.0           | Maximum    |
| Overall Width with Lead Protrusion (RGEF250 to RGEF600, RHEF050 to RHEF450)      | C <sub>1</sub> | 43.2           | Maximum    |
| Overall Width with Lead Protrusion (RGEF700 to RGEF1400, RHEF550 to RHEF1500)    | C <sub>1</sub> | 55             | Maximum    |
| Overall Width without Lead Protrusion (RGEF250 to RGEF600, RHEF050 to RHEF450)   | C <sub>2</sub> | 42.5           | Maximum    |
| Overall Width without Lead Protrusion (RGEF700 to RGEF1400, RHEF550 to RHEF1500) | C <sub>2</sub> | 54             | Maximum    |
| Lead Protrusion  | L <sub>1</sub> | 1.0            | Maximum    |
| Protrusion of Cut-out  | L              | 11             | Maximum    |
| Protrusion beyond Hold-down Tape   | I <sub>2</sub> | Not Specified  | —          |
| Sprocket Hole Pitch  | P <sub>0</sub> | 12.7           | ± 0.3      |
| Device Pitch (RGEF250 to RGEF700, RHEF050 to RHEF600)                            | —              | 25.4           | ± 0.61     |
| Device Pitch (RGEF800 to RGEF1400, RHEF650 to RHEF1500)                          | —              | 25.4           | ± 0.6      |
| Pitch Tolerance  | —              | 20 Consecutive | ± 1        |
| Tape Thickness   | T              | 0.9            | Maximum    |
| Overall Tape and Lead Thickness* (RGEF250 to RGEF1100, RHEF050 to RHEF1100)      | T <sub>1</sub> | 2.0            | Maximum    |
| Overall Tape and Lead Thickness* (RGEF1200 to RGEF1400, RHEF1300 to RHEF1500)    | T <sub>1</sub> | 2.3            | Maximum    |
| Splice Sprocket Hole Alignment   | —              | 0              | ± 0.3      |
| Body Lateral Deviation   | D <sub>h</sub> | 0              | ± 1.0      |
| Body Tape Plane Deviation  | D <sub>p</sub> | 0              | ± 1.3      |
| Ordinate to Adjacent Component Lead (RGEF250 to RGEF1100, RHEF050 to RHEF900)    | P <sub>1</sub> | 3.81           | ± 0.7      |
| Ordinate to Adjacent Component Lead (RGEF1200 to RGEF1400, RHEF1000 to RHEF1500) | P <sub>1</sub> | 7.62           | ± 0.7      |
| Lead Spacing* (RGEF250 to RGEF1100, RHEF050 to RHEF900)                          | F              | 5.05           | ± 0.75     |
| Lead Spacing* (RGEF1200 to RGEF1400, RHEF1000 to RHEF1500)                       | F              | 10.15          | ± 0.75     |
| Reel Width (RGEF250 to RGEF600, RHEF050 to RHEF450)                              | W <sub>2</sub> | 56.0           | Maximum    |
| Reel Width* (RGEF700 to RGEF1400 & RHEF550 to RHEF1500)                          | W <sub>2</sub> | 63.5           | Maximum    |
| Reel Diameter  | A              | 370.0          | Maximum    |
| Space between Flanges* (RGEF250 to RGEF600, RHEF050 to RHEF450)                  | W <sub>1</sub> | 48.0           | Maximum    |
| Space between Flanges* (RGEF700 to RGEF400, RHEF550 to RHEF1500)                 | W <sub>1</sub> | 55.0           | Maximum    |
| Arbor Hold Diameter  | C              | 26.0           | ± 12.0     |
| Core Diameter*   | N              | 91.0           | Maximum    |
| Box  | —              | 64/372/362     | Maximum    |
| Consecutive Missing Places   | —              | None           | —          |
| Empty Places per Reel  | —              | 0.1%           | Maximum    |

\*Differs from EIA specification.

# PolySwitch Resettable Devices

## Radial-Leaded Devices

Figure R21 — EIA Referenced Taped Component Dimensions

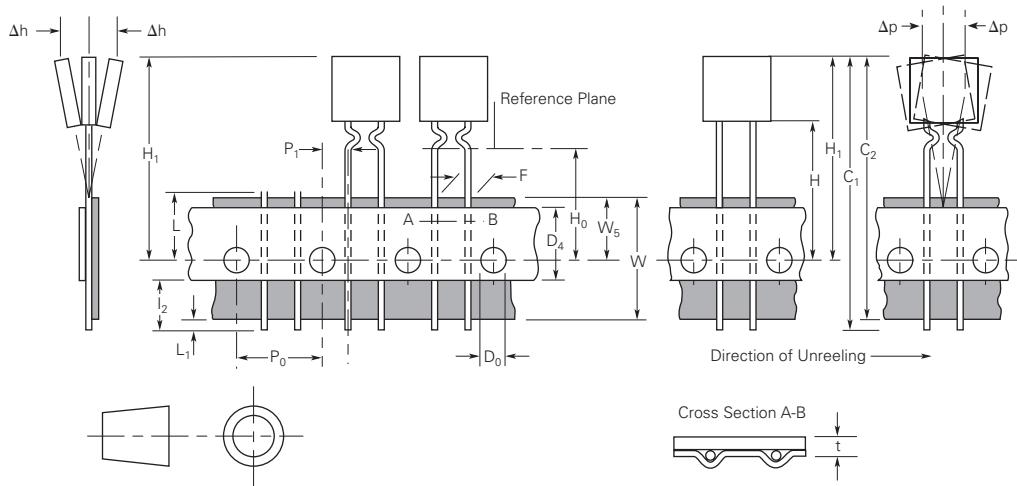
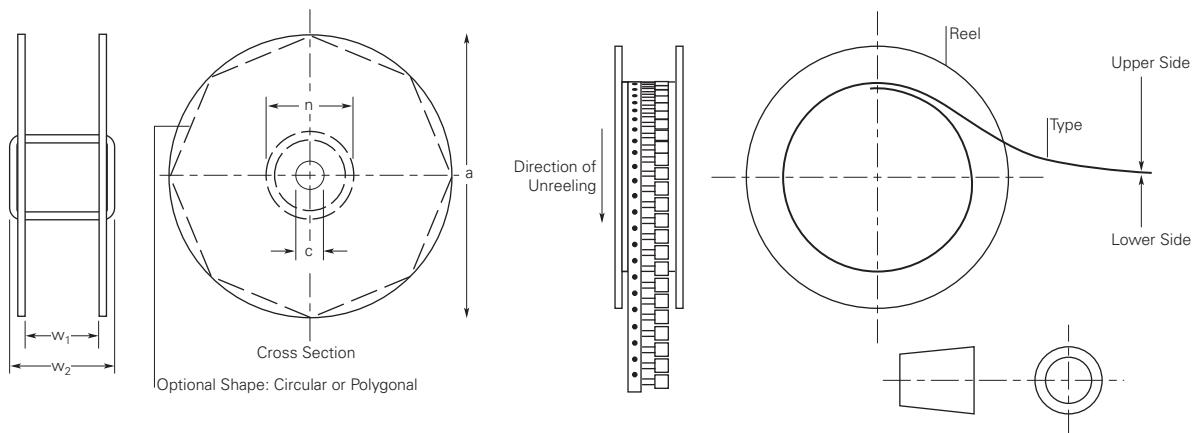


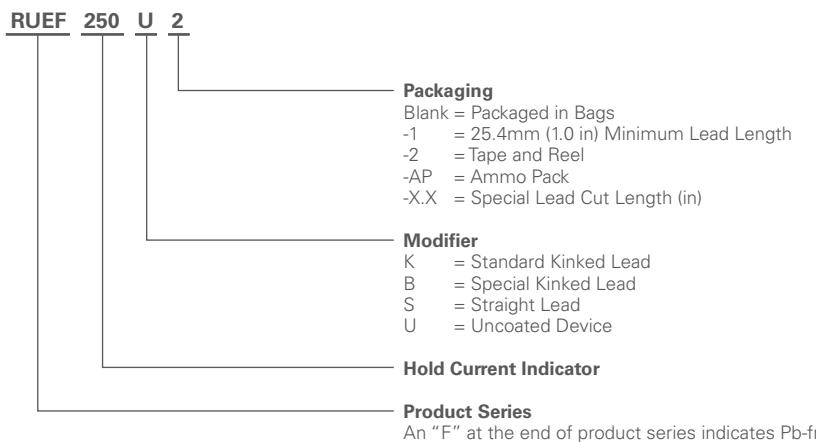
Figure R22 — EIA Referenced Reel Dimensions



# PolySwitch Resettable Devices

## Radial-Leaded Devices

### Part Numbering System



**Note:** Kinked parts are recommended to control the height of the part on the PCB in non-auto PCB applications.



#### Warning :

- Users should independently evaluate the suitability of and test each product selected for their own application.
- Operation beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
- These devices are intended for protection against damage caused by occasional overcurrent or overtemperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated.
- Contamination of the PPTC material with certain silicone-based oils or some aggressive solvents can adversely impact the performance of the devices.
- Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal, and mechanical procedures for electronic components.
- PPTC devices are not recommended for installation in applications where the device is constrained such that its PTC properties are inhibited, for example in rigid potting materials or in rigid housings, which lack adequate clearance to accommodate device expansion.
- Operation in circuits with a large inductance can generate a circuit voltage ( $Ldi/dt$ ) above the rated voltage of the device.

#### Notice:

Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and shall not be used for, any purpose (including, without limitation, military, aerospace, medical, life-saving, life-sustaining or nuclear facility applications, devices intended for surgical implant into the body, or any other application in which the failure or lack of desired operation of the product may result in personal injury, death, or property damage) other than those expressly set forth in applicable Littelfuse product documentation. Warranties granted by Littelfuse shall be deemed void for products used for any purpose not expressly set forth in applicable Littelfuse documentation. Littelfuse shall not be liable for any claims or damages arising out of products used in applications not expressly intended by Littelfuse as set forth in applicable Littelfuse documentation. The sale and use of Littelfuse products is subject to Littelfuse Terms and Conditions of Sale, unless otherwise agreed by Littelfuse.