GENERAL INFORMATION

AVX SR Series

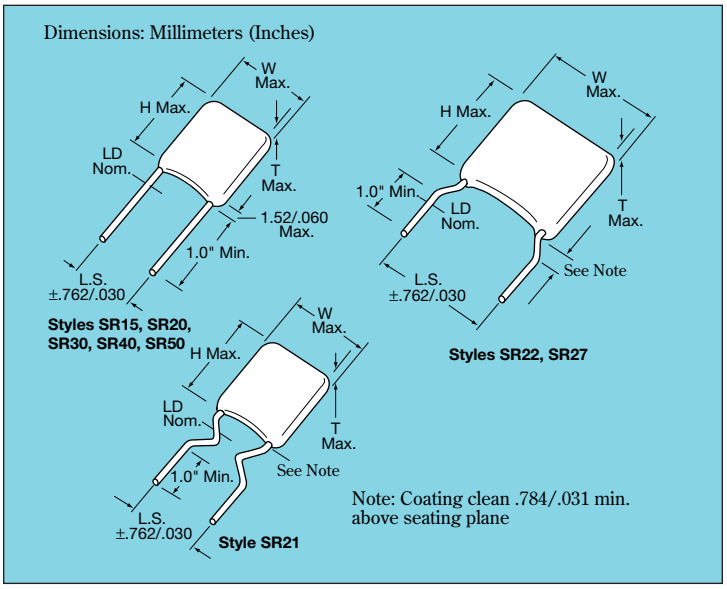
Conformally Coated Radial Leaded MLC

Temperature Coefficients: C0G (NP0), X7R, Z5U

200, 100, 50 Volts (300V, 400V & 500V also available)

Case Material: Epoxy

Lead Material: Solderable



HOW TO ORDER

AVX Styles: SR15, SR20, SR21, SR22, SR27, SR30, SR40, SR50

Part Number Example

SR21	5	E	10	4	M	A	A

AVX Style
Voltage
Temperature Coefficient
Sig. Figures of Capacitance
Multiplier (Additional no. of zeros)
Capacitance Tolerance
Failure Rate Not Applicable
Leads

Part Number Codes

Voltages: 50V = 5, 100V = 1, 200V = 2,
300V = 9, 400V = 8, 500V = 7

Temp. Coefficient: C0G (NP0) = A, X7R = C, Z5U = E

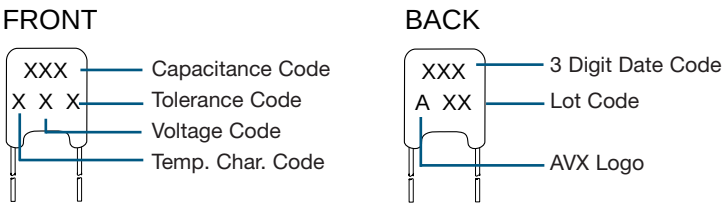
Sig. Figures of Capacitance and Multiplier:
First two digits are the significant figures of capacitance. Third digit indicates the additional number of zeros. For example, order 100,000 pF as 104. (For values below 10pF, use "R" in place of decimal point, e.g., 1R4 = 1.4 pF).

Capacitance Tolerances:
C0G (NP0): C = ±.25pF, D = ±.5pF, F = ±1.0% (>50 pF only)
G = ±2.0% (>25 pF only), J = ±5%, K = ±10%
X7R: J = ±5%, K = ±10%, M = ±20%
Z5U: M = ±20%, Z = +80%,-20%

Failure Rate: A = Not Applicable

Leads: T = Trimmed Leads, .230" ± .030"
A = Long Leads, 1.0" minimum
(Other lead lengths are available, contact AVX)

MARKING



PACKAGING REQUIREMENTS

	Quantity per Bag
SR15, 20, 21, 22, 27, 30	1000 Pieces
SR40, 50	500 Pieces

Note: SR15, SR20, SR21, SR30, and SR40 available on tape and reel per EIA specifications RS-468. See Pages 24 and 25.

C0G (NP0) Dielectric

SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

AVX Style	SR15	SR20	SR21	SR22	SR27	SR30	SR40	SR50
AVX "Insertable"	**SR07**	**SR29**	**SR59**	**N/A**	**N/A**	**SR65**	**SR75**	**N/A**
Width (W)	3.81 (.150)	5.08 (.200)	5.08 (.200)	5.08 (.200)	6.604 (.260)	7.62 (.300)	10.16 (.400)	12.70 (.500)
Height (H)	3.81 (.150)	5.08 (.200)	5.08 (.200)	5.08 (.200)	6.35 (.250)	7.62 (.300)	10.16 (.400)	12.70 (.500)
Thickness (T)	2.54 (.100)	3.175 (.125)	3.175 (.125)	3.175 (.125)	4.06 (.160)	3.81 (.150)	3.81 (.150)	5.08 (.200)
Lead Spacing (L.S.)	2.54 (.100)	2.54 (.100)	5.08 (.200)	6.35 (.250)	7.62 (.300)	5.08 (.200)	5.08 (.200)	10.16 (.400)
Lead Diameter (L.D.)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.635 (.025)

Cap. in.* pF	Industry Preferred Values in Blue	SR15 WVDC 200	100	50	SR20 WVDC 200	100	50	SR21 WVDC 200	100	50	SR22 WVDC 200	100	50	SR27 WVDC 200	100	50	SR30 WVDC 100	50	SR40 WVDC 100	50	SR50 WVDC 100	50
1.0-9.9	SR151A1R0DAA	■						■			■			■								
10	**SR151A100KAA**	■						■			■			■								
15	SR_____A150KAA	■						■			■			■								
22	SR_____A220KAA	■						■			■			■								
33	SR_____A330KAA	■						■			■			■								
39	SR_____A390KAA	■						■			■			■								
47	SR_____A470KAA	■						■			■			■								
68	SR_____A680KAA	■						■			■			■								
100	**SR151A101KAA**	■	■					■			■			■								
150	SR_____A151KAA	■	■					■			■			■								
220	SR_____A221KAA		■	■	■			■	■		■	■		■	■							
330	SR_____A331KAA		■	■	■			■	■		■	■		■	■							
390	SR_____A391KAA		■	■	■			■	■		■	■		■	■							
470	SR_____A471KAA		■	■	■			■	■		■	■		■	■							
680	SR_____A681KAA		■	■	■			■	■		■	■		■	■							
1000	**SR211A102KAA**			■	■	■		■	■	■	■	■	■	■	■	■						
1500	SR_____A152KAA			■	■	■	■	■	■	■	■	■	■	■	■	■						
2200	SR_____A222KAA			■	■	■	■	■	■	■	■	■	■	■	■	■						
3900	SR_____A392KAA					▨	■		■	■		■	■		■	■						
4700	SR_____A472KAA					▨	■		■	■		■	■		■	■						
6800	SR_____A682KAA					▨	■		■	■		■	■		■	■						
8200	SR-----A822KAA						▨			■			■				■	■				
10,000	**SR305A103KAA**																■	■			■	■
15,000	SR-----A153KAA																■	■			■	■
22,000	SR_____A223KAA																■	■	■		■	■
33,000	SR_____A333KAA																	■	■	■	■	■
39,000	SR_____A393KAA																	■	■	■	■	■
47,000	SR_____A473KAA																		■	■	■	■
68,000	SR_____A683KAA																		■	■	■	■
100,000	SR_____A104KAA																		■	■	■	■

For other styles, voltages, tolerances and lead lengths see Part No. Codes or contact factory.

***Other capacitance values available upon special request.**

■ = Industry preferred values

▨ = SR20 only

NOTE: Capacitance Ranges available for SR12 same as SR15
SR62 same as SR21
SR64 same as SR30
SR89 same as SR21

SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

	AVX Style	SR15	SR20	SR21	SR22	SR27	SR30	SR40	SR50
	AVX "Insertable"	SR07	SR29	SR59	N/A	N/A	SR65	SR75	N/A
	Width (W)	3.81 (.150)	5.08 (.200)	5.08 (.200)	5.08 (.200)	6.604 (.260)	7.62 (.300)	10.16 (.400)	12.70 (.500)
	Height (H)	3.81 (.150)	5.08 (.200)	5.08 (.200)	5.08 (.200)	6.35 (.250)	7.62 (.300)	10.16 (.400)	12.70 (.500)
	Thickness (T)	2.54 (.100)	3.175 (.125)	3.175 (.125)	3.175 (.125)	4.06 (.160)	3.81 (.150)	3.81 (.150)	5.08 (.200)
	Lead Spacing (L.S.)	2.54 (.100)	2.54 (.100)	5.08 (.200)	6.35 (.250)	7.62 (.300)	5.08 (.200)	5.08 (.200)	10.16 (.400)
	Lead Diameter (L.D.)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.635 (.025)
Cap. in.* pF	Industry Preferred Values in Blue	WVDC 200 100 50	WVDC 200 100 50	WVDC 100 50	WVDC 100 50	WVDC 100 50	WVDC 200 100 50	WVDC 200 100 50	WVDC 200 100 50
470	SR_____C471KAA								
1000	**SR155C102KAA**								
1500	SR_____C152KAA								
2200	SR_____C222KAA								
3300	SR_____C332KAA								
4700	SR_____C472KAA								
6800	SR_____C682KAA								
10,000	**SR215C103KAA**								
15,000	SR_____C153KAA								
22,000	SR_____C223KAA								
33,000	SR_____C333KAA								
47,000	SR_____C473KAA								
68,000	SR_____C683KAA								
100,000	**SR215C104KAA**								
150,000	SR_____C154KAA								
220,000	**SR215C224KAA**								
330,000	SR_____C334KAA								
390,000	SR_____C394KAA								
470,000	**SR305C474KAA**								
1.0 µF	**SR305C105KAA**								
2.2 µF	SR405C225KAA								
2.7 µF	SR505C275KAA								
4.7 µF	SR505C475KAA								

For other styles, voltages, tolerances and lead lengths see Part No. Codes or contact factory.

***Other capacitance values available upon special request.**

= Industry preferred values

= SR20 only

NOTE: Capacitance Ranges available for SR12 same as SR15
SR62 same as SR21
SR64 same as SR30
SR89 same as SR21

Z5U Dielectric

SIZE AND CAPACITANCE SPECIFICATIONS

EIA Characteristic

Dimensions: Millimeters (Inches)

AVX Style	SR15	SR20	SR21	SR22	SR27	SR30	SR40	SR50
AVX "Insertable"	SR07	SR29	SR59	N/A	N/A	SR65	SR75	N/A
Width (W)	3.81 (.150)	5.08 (.200)	5.08 (.200)	5.08 (.200)	6.604 (.260)	7.62 (.300)	10.16 (.400)	12.70 (.500)
Height (H)	3.81 (.150)	5.08 (.200)	5.08 (.200)	5.08 (.200)	6.35 (.250)	7.62 (.300)	10.16 (.400)	12.70 (.500)
Thickness (T)	2.54 (.100)	3.175 (.125)	3.175 (.125)	3.175 (.125)	4.06 (.160)	3.81 (.150)	3.81 (.150)	5.08 (.200)
Lead Spacing (L.S.)	2.54 (.100)	2.54 (.100)	5.08 (.200)	6.35 (.250)	7.62 (.300)	5.08 (.200)	5.08 (.200)	10.16 (.400)
Lead Diameter (L.D.)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.508 (.020)	.635 (.025)
Cap. in.* pF / Industry Preferred Values in Blue	WVDC 100 50	WVDC 100 50	WVDC 100 50	WVDC 100 50	WVDC 100 50	WVDC 100 50	WVDC 100 50	WVDC 100 50
10,000 **SR155E103ZAA** 47,000 SR_____E473ZAA **100,000** **SR215E104ZAA**								
150,000 SR_____E154ZAA **220,000** **SR215E224ZAA** **330,000** **SR215E334ZAA**								
470,000 **SR215E474ZAA** 680,000 SR_____E684ZAA								
1.0 µF **SR_____105ZAA** 1.5 µF SR30E155ZAA 2.2 µF SR30E225ZAA								
3.3 µF SR30E335ZAA 4.7 µF SR30E475ZAA								

For other styles, voltages, tolerances and lead lengths see Part No. Codes or contact factory.

***Other capacitance values available upon special request.**

= Industry preferred values

= SR20 only

*AVX 500 VOLT SKYCAPS***

STYLE*	MAXIMUM CAPACITANCE VALUE	
	C0G (NP0)	X7R
SR29	900 pF	.015 µF
SR20	1800 pF	.033 µF
SR28 SR59	900 pF	.015 µF
SR13 SR21	1800 pF	.033 µF
SR30 SR61 SR65	7200 pF	.12 µF
SR40 SR75	.015 µF	.27 µF
SR22	1800 pF	.033 µF
SR27	1800 pF	.033 µF
SR76	.015 µF	.27 µF
SR50	.036 µF	.59 µF

*Consult pages 18 and 19 for style sizes.

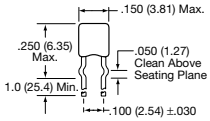
**Voltage rating based on DWV of 150% of rated voltage.

Configurations by Lead Spacing

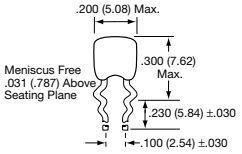
LEAD SPACING .100 ±.030

Dimensions: Inches (Millimeters)

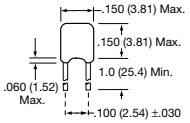
SR07*
(T=.100)



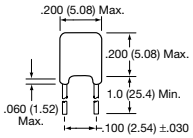
SR14
(T=.100)



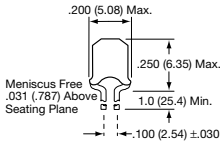
SR15*
(T=.100)



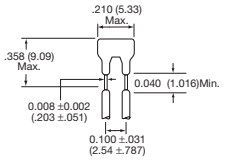
SR20*
(T=.125)



SR29*
(T=.125)

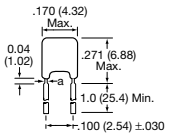


SR62*
(T=.125)



Leads = #22 AWG

SR62-LP*
(T=.100)

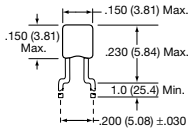


Leads = #22 AWG

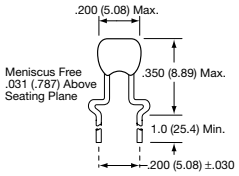
LEAD SPACING .200 ±.030

Dimensions: Inches (Millimeters)

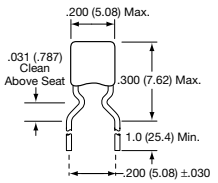
SR12*
(T=.100)



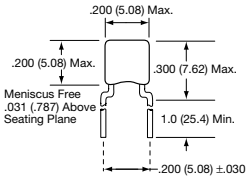
SR13*
(T=.125)



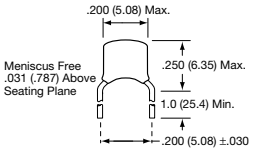
SR21*
(T=.125)



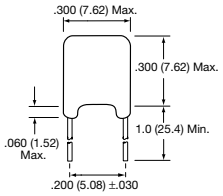
SR21-85*
(T=.125)



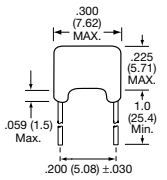
SR28*
(T=.125)



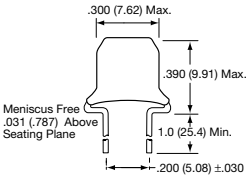
SR30*
(T=.150)



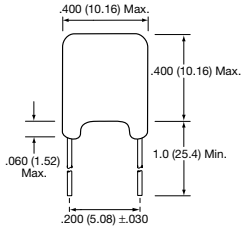
SR30-LP*
(T=.150)



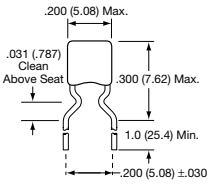
SR32*
(T=.150)



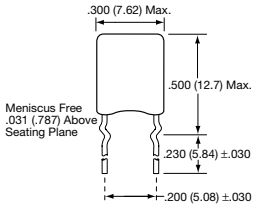
SR40*
(T=.150)



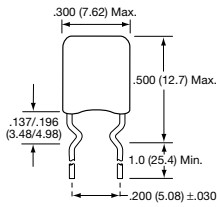
SR59*
(T=.125)



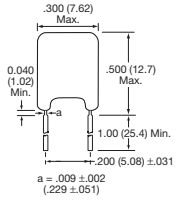
SR61
(T=.150)



SR63*
(T=.150)

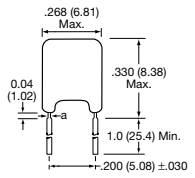


SR64*
(T=.150)



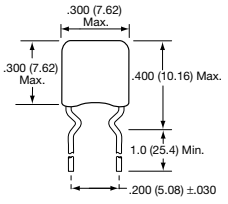
Leads = #22 AWG

SR64-LP*
(T=.150)



Leads = #22 AWG

SR65*
(T=.150)

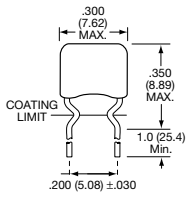


Configurations by Lead Spacing

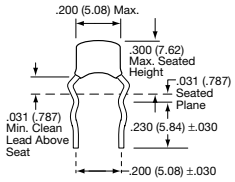
LEAD SPACING .200 ±.030 continued

Dimensions: Inches (Millimeters)

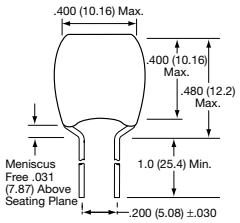
SR65-LP*
(T=.150)



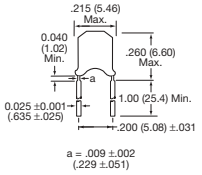
SR67
(T=.125)



SR75*
(T=.150)
Leads = #22 AWG



SR89*
(T=.125)

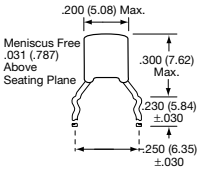


Leads = #22 AWG

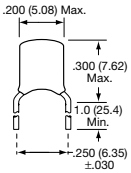
LEAD SPACING .250 ±.030

Dimensions: Inches (Millimeters)

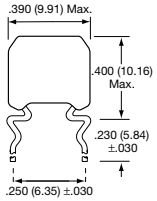
SR16
(T=.125)



SR22
(T=.125)

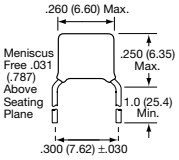


SR33
(T=.150)

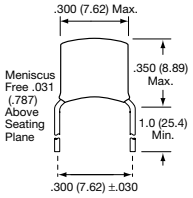


LEAD SPACING .300 ±.030

SR27
(T=.150)

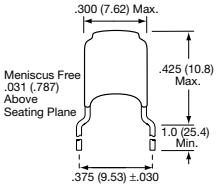


SR34
(T=.150)



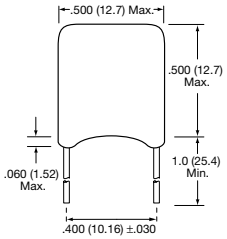
LEAD SPACING .375 ±.030

SR38
(T=.150)

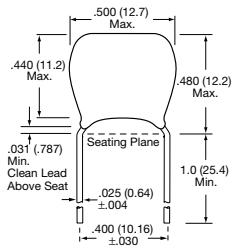


LEAD SPACING .400 ±.030

SR50
(T=.200)



SR76
(T=.175)



Leads = #22 AWG

NOTES:
1. All leads are #24 AWG unless otherwise noted.
2. Available in tape and reel packaging(*).
3. Other styles are also available, contact factory.
4. (T = XXX) under type designation is maximum thickness in inches.

Tape and Reel

GENERAL INFORMATION

1. Standard reel diameter is 355 millimeters (14 inches) maximum.

2. Reeling standard (#1 or #2) should be specified when ordering.

HOW TO ORDER

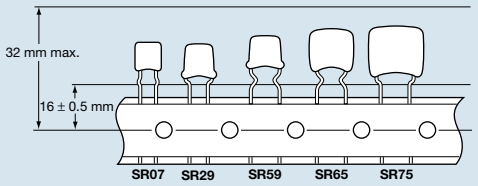
To specify tape and reel packaging, add TR1, TR2 or TRX to the end of the AVX 12 digit part number.

Examples:

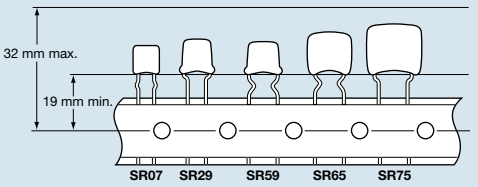
SR215C104KAATR1
SR305E105MAATR2
SR215C103JAATRX

The Insertables

STANDARD 1

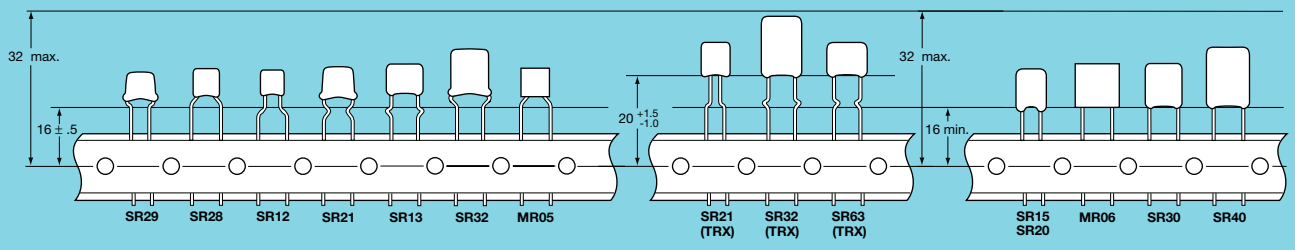


STANDARD 2



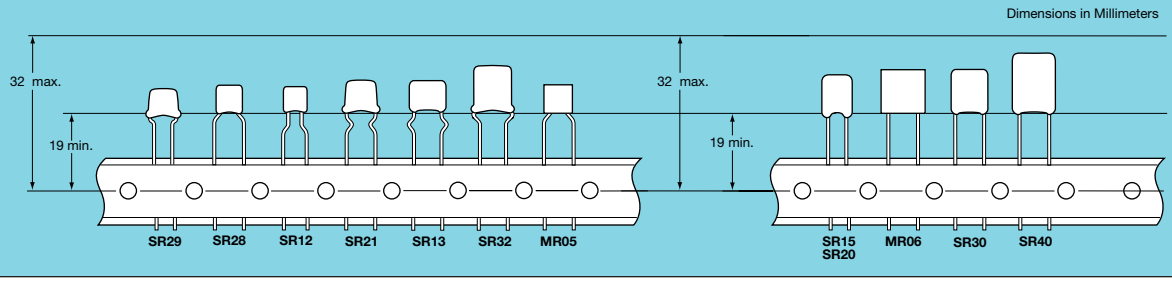
STANDARD 1

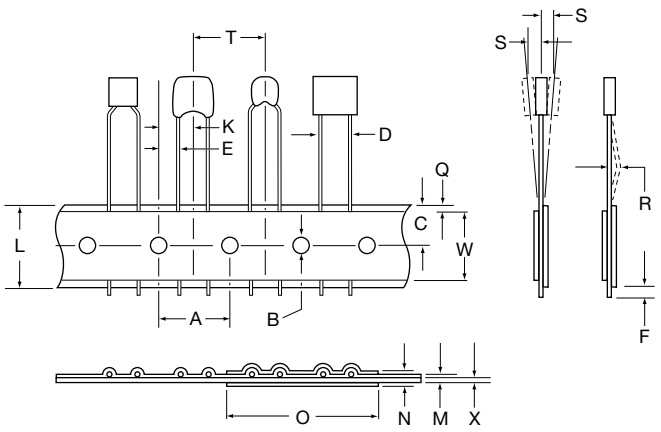
Dimensions in Millimeters



STANDARD 2

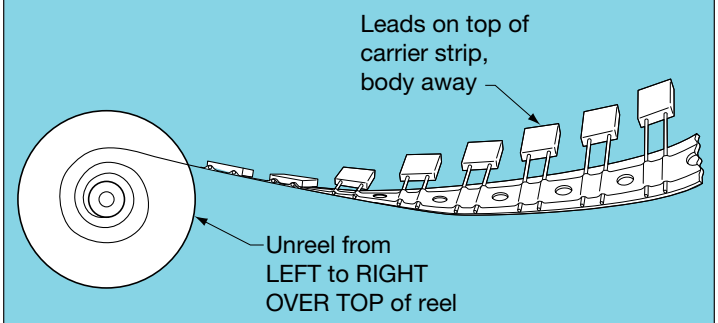
Dimensions in Millimeters



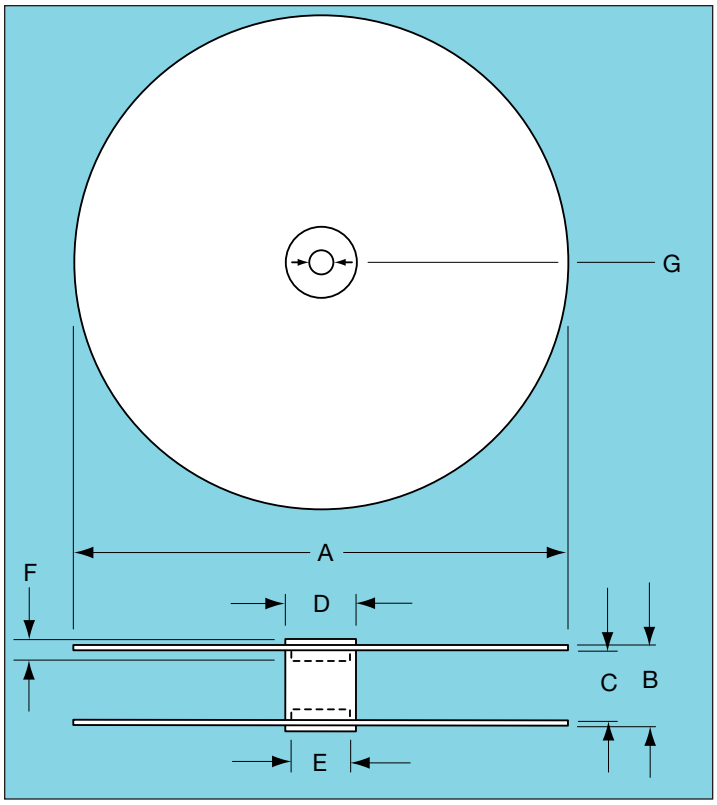


DESCRIPTION	DIMENSIONS (MM)
A. Feed Hole Pitch	12.70 ± .20
B. Feed Hole Diameter	3.99 ± .20
C. Feed Hole Location	9.02 ± .51
D. Component Lead Spacing	$5.00^{+.79}_{-.20}$ or $2.54^{+.79}_{-.20}$
E. Component Lead Location	3.81 ±.51 or 5.00 ±.51 for 2.54 lead spacing
F. Component Lead Protrusion (edge of carrier to cut end of lead)	2.00 maximum
K. Component Body Location	6.35 ±.41
L. Carrier Tape Width	$18.01^{+1.02}_{-.51}$
M. Carrier Tape Assembly Thickness	.71 ± .20
N. Carrier Tape Spliced Thickness	1.42 maximum
O. Carrier Tape Spliced Length	50.80 - 88.90
Q. Adhesive Tape Border	3.00 maximum
R. Component Bent Leads (either direction)	.79 maximum
S. Component Misalignment	.99 maximum
T. Component Pitch	12.70 ±.99
W. Adhesive Tape Width	5.00 minimum
X. Carrier Tape Thickness	.51 ±.10
Y. Cumulative Pitch over 20 Pitches	254 ±2.00

REEL DIRECTION



QUANTITY PER REEL	
PART	**PCS**
SR15, 07, 12	3500
SR20, 21, 23, 28 13, 29, 59, 62, 89	3000
SR30, 32, 40, 63, 64 65, 75	2000
MR05, 06	2500



DESCRIPTION	DIMENSIONS (MM)
A – Reel Diameter	304.80 - 355
B – Reel Outside Width	50.80 maximum
C – Reel Inside Width	38.10 - 46.02
D – Core Diameter (O.D.)	102.01 maximum
E – Hub Recess Diameter	86.36 maximum
F – Hub Recess Depth	9.50 minimum
G – Arbor Hole Diameter	25.40 - 30.48

CONVERSION TABLE									
MM	**IN**	**MM**	**IN**	**MM**	**IN**	**MM**	**IN**	**MM**	**IN**
.10	.004	1.52	.060	5.00	.197	9.91	.390	32.00	1.260
.20	.007	2.00	.079	5.08	.200	10.03	.395	38.10	1.500
.38	.015	2.54	.100	6.22	.245	10.16	.400	46.02	1.812
.41	.016	3.00	.118	6.35	.250	11.68	.460	50.80	2.000
.51	.020	3.18	.125	6.60	.260	12.50	.492	86.36	3.400
.71	.028	3.48	.137	6.99	.275	12.70	.500	88.90	3.500
.79	.031	3.81	.150	7.62	.300	16.00	.630	102.01	4.016
.99	.039	3.99	.157	8.89	.350	18.01	.709	254.00	10.000
1.02	.040	4.45	.175	9.02	.355	25.40	1.000	304.80	12.000
1.42	.056	4.98	.196	9.50	.374	30.48	1.200	355.00	14.000