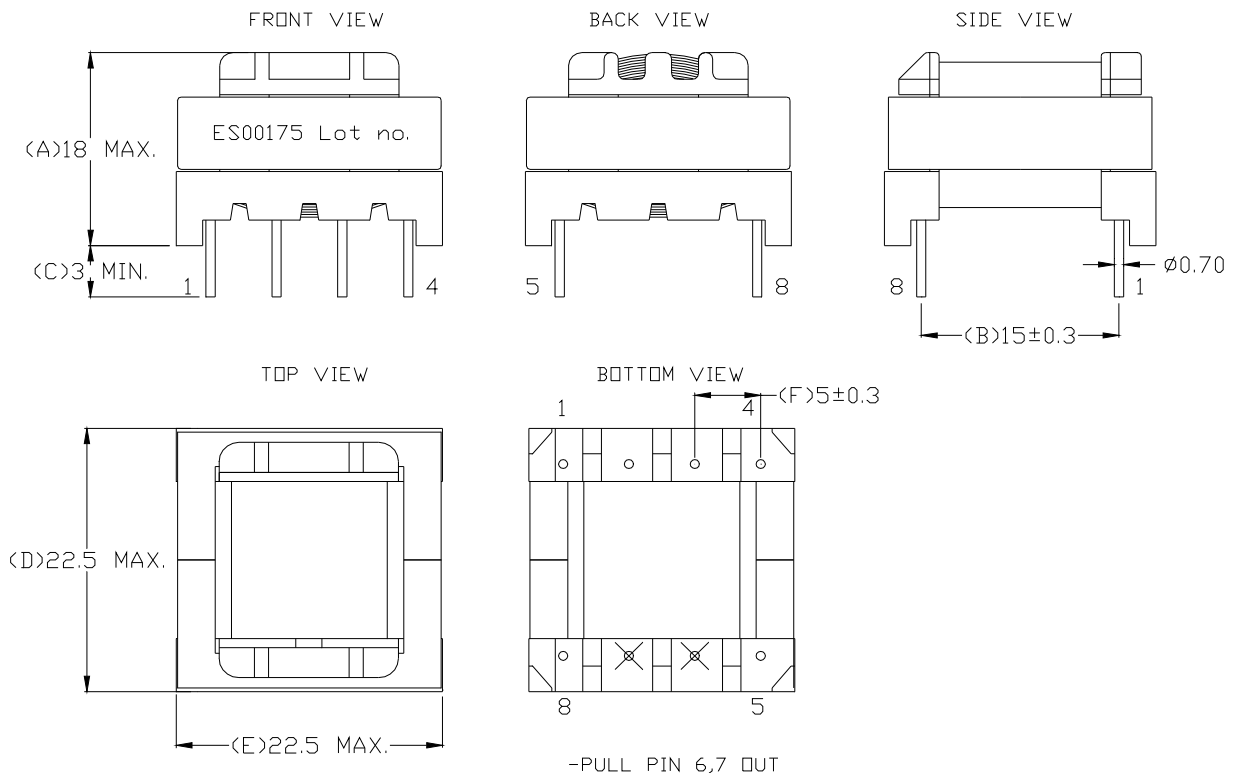




## 1. Components list.

| Item.              | Material.                                                    | Manufacturer.                                                                                                                       |
|--------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| 1. Bobbin          | Phenolic (UL94V-0)                                           | Chang chun plastic co., ltd UL no. E59481(S).<br>or equivalent.                                                                     |
| 2. Core EE-20      | DMR40                                                        | DMEGC or equivalent.                                                                                                                |
| 3. Copper wire     | Polyurethane enameled<br>copper (130 deg.c).                 | Thai hitachi enamel wire co., ltd. UL no. E137472.<br>Pacific-Thai electric wire & cable co.,ltd. UL no. E142108.<br>or equivalent. |
| 4. T.I.W. wire     | Tripple insulating wire (130 deg.c)                          | Young chang silicone.co.,ltd UL no. E242198.<br>Furukawa UL no. E206440.<br>or equivalent.                                          |
| 5. Insulation tape | Polyester #1350F (130 deg.c)<br>Polyester #35660 (130 deg.c) | 3M UL No.E17385.<br>Symbio INC UL.no. E50292.                                                                                       |
| 6. Solder bar      | Sn / Cu                                                      | Ultra core or equivalent.                                                                                                           |
| 7. Varnish         | Ultimeg 2000/380                                             | A.E.V PLC UL no. E220579 or equivalent.                                                                                             |

The drawing and dimension in millimetre unit.



## KV ELECTRONICS CO., LTD.

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E-MAIL : kvea@loxinfo.co.th

Customer name : Electronic source

Customer part no. : ES00175

Drawing no. :

Description : Transformer EF-20 (B-1)

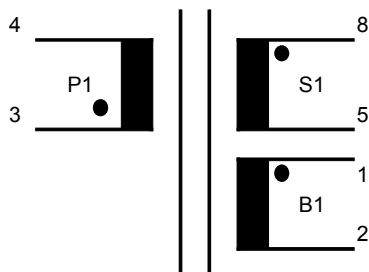
KV no. : 14114

Revision : 00

Page 3 of 3



## 2. Schematic diagram and winding instruction.



- P1 Pin 3-4 = Wire 0.18 mm. / 108 Ts.  
Insulation 1 Ts.
- B1 Pin 1-2 = Wire 0.18 mm. X2 / 17 Ts.  
Insulation 3 Ts.
- S1 Pin 8-5 = TEX-E Wire 0.45 mm. X2 / 11 Ts.  
Insulation 2 Ts.

Note :

## 3. Electricals specification and test data (at 25 deg.c).

| Item                                                          | Pin no.                                                                                       | Specification    | Test data |       |       |       |       |       |                  |  |  |  |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------|-----------|-------|-------|-------|-------|-------|------------------|--|--|--|
|                                                               |                                                                                               |                  | 1         | 2     | 3     | 4     | 5     | 6     |                  |  |  |  |
| Inductance (L)<br>At 10KHz, 1V                                | 3 – 4                                                                                         | 2.24 mH +/-10%   | 2.19      | 2.29  | 2.26  | 2.28  | 2.20  | 2.14  |                  |  |  |  |
| Leakaged Inductance<br>At 10KHz, 1V (LK)<br>(Shorted 1,2,5,8) | 3 – 4                                                                                         | 67.36 uH Max.    | 32.90     | 31.00 | 34.30 | 32.40 | 34.60 | 33.20 |                  |  |  |  |
| DC-Resistance (DCR)                                           | 3 – 4                                                                                         | 2.90 Ohm Max.    | 2.26      | 2.27  | 2.25  | 2.25  | 2.28  | 2.29  |                  |  |  |  |
| Voltage ratio test.<br>I/P 3-4, 20KHz, 1Vrms                  | 8 – 5                                                                                         | 0.097-0.106 Vrms | 0.101     | 0.102 | 0.101 | 0.102 | 0.102 | 0.102 |                  |  |  |  |
|                                                               | 1 – 2                                                                                         | 0.152-0.162 Vrms | 0.157     | 0.157 | 0.157 | 0.157 | 0.157 | 0.158 |                  |  |  |  |
| Hi-Potential test.<br>1mA 50Hz                                | Apply 2000Vac between P1,B1 to S1 for 2 sec.<br>Apply 1500Vac between wire to core for 2 sec. |                  |           |       |       |       |       |       | Passed<br>Passed |  |  |  |
| Phase check follow to schematic diagram.                      |                                                                                               |                  |           |       |       |       |       |       | Passed           |  |  |  |

Mechanical test  
Sample no.

|   | A     | B     | C | D     | E     | F    |
|---|-------|-------|---|-------|-------|------|
| 1 | 15.18 | 14.91 | 4 | 20.75 | 20.41 | 4.92 |
| 2 | 15.27 | 15.01 | 4 | 20.79 | 20.51 | 4.83 |
| 3 | 15.13 | 14.99 | 4 | 20.64 | 20.53 | 4.86 |
| 4 | 15.60 | 14.90 | 4 | 20.73 | 20.63 | 5.00 |
| 5 | 15.26 | 14.86 | 4 | 20.69 | 20.77 | 4.94 |
| 6 | 15.14 | 14.88 | 4 | 20.92 | 20.53 | 4.90 |

Test date : March 25, 2014

Test by : Apiwat