

KV ELECTRONICS CO., LTD.

988 MOO 2, SOI THETSABAN BANG PU 60

TUMBOL THAI BAN , AMPHUR MUANG

SAMUTPRAKARN 10280

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E-MAIL : kvea@loxinfo.co.th

Customer name : Electronic source

Customer part no. : ES00175

Drawing no. :

Description : Transformer EF-20

KV no. : 14114

Revision : 01

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Issue date
25 March 2014

Check by

Approve by

Revise record.

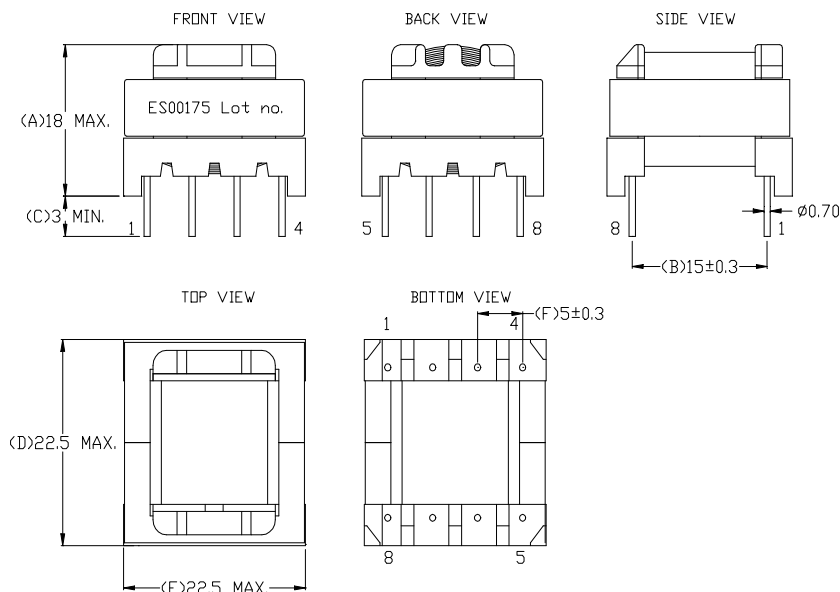
Rev.	Date	Revise description	Page.
01	16-n.y.-14	- Change from Description Transformer EF-20 (B-1) to Description Transformer EF-20 - Add Kapton tape in components list. - Cancele pull pin 6,7 out in drawing. - Change from P1 Pin 3 – 4 to P1 Pin 2 – 1 - Change from B1 Pin 1 – 2 to B1 Pin 3 – 4	1 2 2 3 3



1. Components list.

Item.	Material.	Manufacturer.
1. Bobbin	Phenolic (UL94V-0)	Chang chun plastic co., ltd UL no. E59481(S). or equivalent.
2. Core EE-20	DMR40	DMEGC or equivalent.
3. Copper wire	Polyurethane enameled copper (130 deg.c).	Thai hitachi enamel wire co., ltd. UL no. E137472. Pacific-Thai electric wire & cable co.,ltd. UL no. E142108. or equivalent.
4. T.I.W. wire	Tripple insulating wire (130 deg.c)	Young chang silicone.co.,ltd UL no. E242198. Furukawa UL no. E206440. or equivalent.
5. Insulation tape	Polyester #1350F-1 (130 deg.c) Polyester #35660 (130 deg.c)	3M UL No.E17385. Symbio INC UL.no. E50292.
6. Kapton tape	Polyimide film insulating tape with silicone base adhesive, Cat. No. KA180K	Symbio Inc. UL No.E50292.
7. Solder bar	Sn / Cu	Ultra core or equivalent.
8. Varnish	Ultimég 2000/380	A.E.V PLC UL no. E220579 or equivalent.

The drawing and dimension in millimetre unit.



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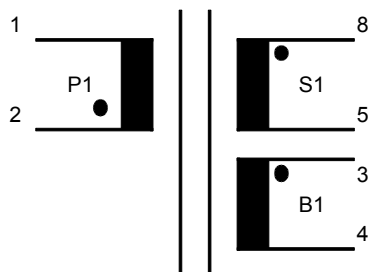
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2. Schematic diagram and winding instruction.



P1 Pin 2 – 1 = Wire 0.18 mm. / 108 Ts.

Insulation 1 Ts.

B1 Pin 3 – 4 = 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 : Pin 8 – 5 Use Kapton tape

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

Item	Pin no.	Specification	Test data									
			1	2	3	4	5	6	7	8	9	10
Inductance (L) At 10KHz, 1V	2 – 1	2.24 mH +/-10%	2.17	2.22	2.20	2.15	2.12	2.25	2.16	2.23	2.22	2.27
Leakaged Inductance At 10KHz, 1V (LK) (Shorted 3,4,5,8)	2 – 1	67.36 uH Max.	33.48	36.30	33.06	33.48	35.53	35.54	34.27	34.81	34.34	35.52
DC-Resistance (DCR)	2 – 1	2.90 Ohm Max.	2.24	2.24	2.24	2.23	2.23	2.24	2.25	2.24	2.24	2.23
Voltage ratio test. I/P 2-1, 20KHz, 1Vrms	8 – 5	0.097 – 0.106 Vrms	0.102	0.101	0.101	0.101	0.101	0.102	0.102	0.101	0.101	0.101
	3 – 4	0.152 – 0.162 Vrms	0.157	0.157	0.158	0.157	0.157	0.157	0.157	0.157	0.157	0.157
Hi-Potential test. 1mA 50Hz	Apply 2000Vac between P1,B1 to S1 for 2 sec. Apply 1500Vac between wire to core for 2 sec.								Passed Passed			
Phase check follow to schematic diagram.									Passed			

Mechanical test
Sample no.

	A	B	C	D	E	F
1	15.40	15.04	4	20.72	20.37	4.96
2	15.41	15.03	4	20.74	20.57	4.98
3	15.41	15.05	4	20.84	20.51	4.99
4	15.45	15.11	4	20.89	20.41	4.93
5	15.44	15.03	4	20.77	20.57	4.91
6	15.42	15.04	4	20.76	20.47	5.03
7	15.54	15.02	4	20.79	20.40	4.83
8	15.48	15.11	4	20.85	20.41	4.97
9	15.42	15.07	4	20.77	20.44	4.97
10	15.43	14.99	4	20.82	20.56	5.01

Test date : 22 September 2014

Test by : Apiwat