

SPECIFICATION FOR APPROVAL

<p>CUSTOMER'S APPROVAL CHOP</p> <p>Approval's condition: _____</p> <p>Approved date: _____</p>
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KINDLY RETURN A SET WITH YOUR COMPANY'S OFFICIAL STAMP ON APPROVAL OF THIS ITEM

CUSTOMER'S NAME: _____

CUSTOMER'S MODEL NO. : _____

CUSTOMER'S PART NO. : _____

DESCRIPTION: _____ **EFD15** _____

Semitel'S MODEL NO. : _____ **EFD15-142** _____

VERSION: _____ **A** _____

DATE: _____ **2016-1-18** _____

- Attachments:**
- Product specification
 - Sample Qty. :
 - Test data

Prepared By	Checked By	Approved By
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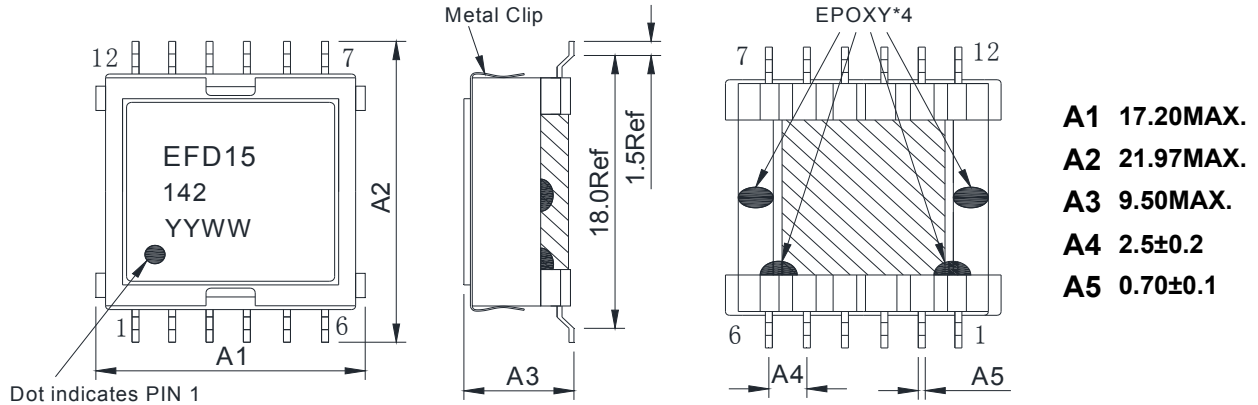
Revision Record

Version	Revision Date	Revision For Items	Reason For Revision
A	2016-1-18	New Revision	-
		Dimension A3 changes from 8.51mmMax to 9.5mmMax	Change according to the actual product size
		The flatness of PIN change from 0.1mmMax to 0.15mmMax	Amend for mass production
		L(3-5) changes from 135uH Min to 120uH Min (at 100kHz,0.1Vrms @ 1.2A)	Change according to the measured sample data

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VERSION:	A	CUSTOMER'S PART NO. :	
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Product Specification

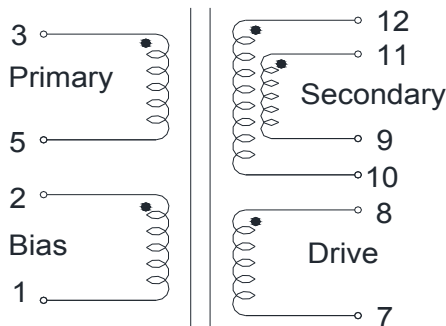
1. Physical Dimensions (Unit:mm)



Notes:

- (1), Marking type is laser printing
- (2), YY: Year Code; WW: Week Code
- (3), Dimension A2 does not including soldering tags
- (4), Coplanarity requirement: Less than 0.15mm

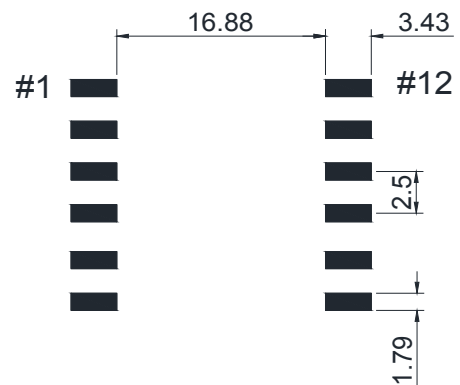
2. Connection



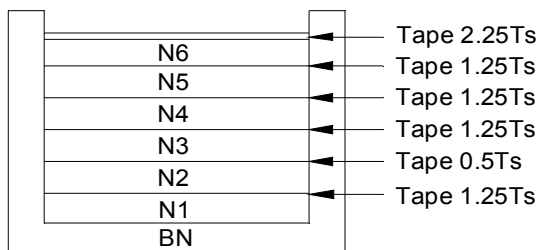
" • "Start of winding

The secondary windings are to be connected in parallel on the PC board.

3. Suggested Pad Layout (Unit:mm)



4. Structure of Products



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5. Electrical Characteristics

*Operating temperature range: -40°C~+125°C

*Storage temperature range: -40°C~+125°C

Items	Winding	Specifications	Test Conditions
Inductance	L(3-5)	150uH ±10%	at 100kHz,0.1Vrms
Inductance	L(3-5)	120uH MIN.	at 100kHz,0.1Vrms @ 1.2A
LK-Inductance	LK(3-5) Tie secondary and drive	2.0uH MAX.	at 100kHz,0.1Vrms
	LK(8-7) Tie secondary	0.4uH MAX.	
DCR	R(3-5)	0.52Ω MAX.	at 25°C
	R(11,12-9,10)	0.0275mΩ MAX.	
	R(8-7)	0.525mΩ MAX.	
	R(2-1)	0.77mΩ MAX.	
Turns Ratio	Pri:Sec	5.0:1±2%	at 100kHz,0.1Vrms
	Pri:drive	3.2:1±2%	
	Pri:Bias	2.25:1±2%	
Hi-Pot	Pri. TO Sec.	1500VAC	1mA.3 SEC.
	Bias TO Sec.	1500VAC	1mA.3 SEC.

6. Bill of Material

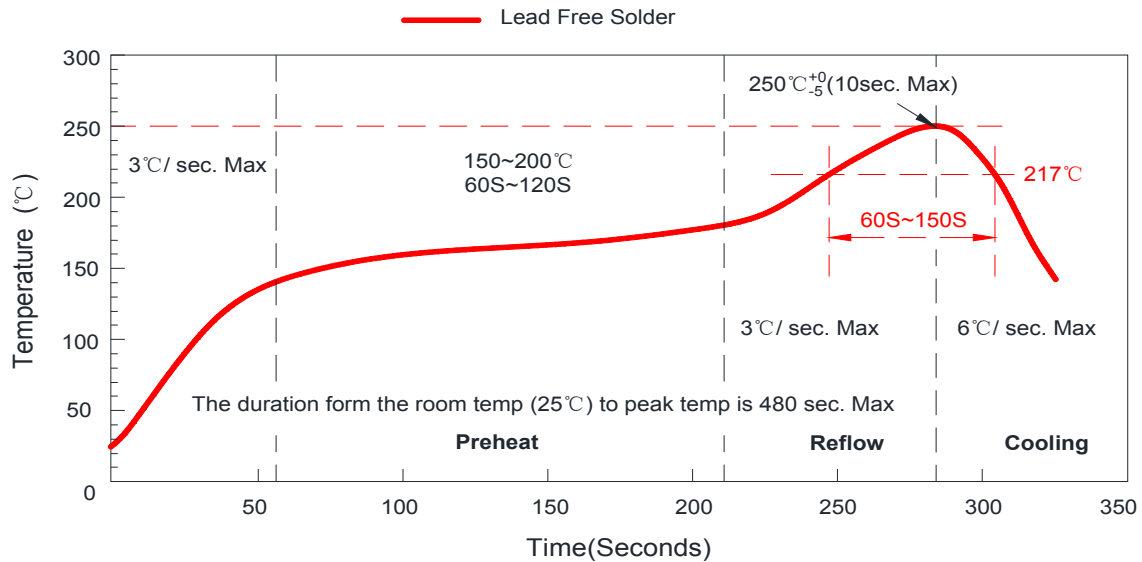
No	Item	Material Name	Manufacturer	UL File No	SGS File No
1	Core	FERRITE CORE P4 or JP4B	ACME or JINNING	NIL	CE/2014/C0424A SHAEC1504591802
2	Bobbin	PM9630	SUMITOMO or Equivalent	E41429	10363385(2)
3	Copper Wire	Polyurethane wire P180	ELEKTRISOLA or Equivalent	E258243	CE/2015/44583
4	Insulation tape	1350F-1/1350F-2 YELLOW COLOR	3M or Equivalent	E17385	CE/2015/A3854
5	Epoxy	TH320	TIANHUAN or Equivalent	E257593	CANEC1417094801
6	Epoxy	EB-360	CHANGFENG or Equivalent	NIL	SHAEC1423099403
7	Solder	Lead free solder	HONGTAIZHOU or Equivalent	NIL	CANEC1510999213

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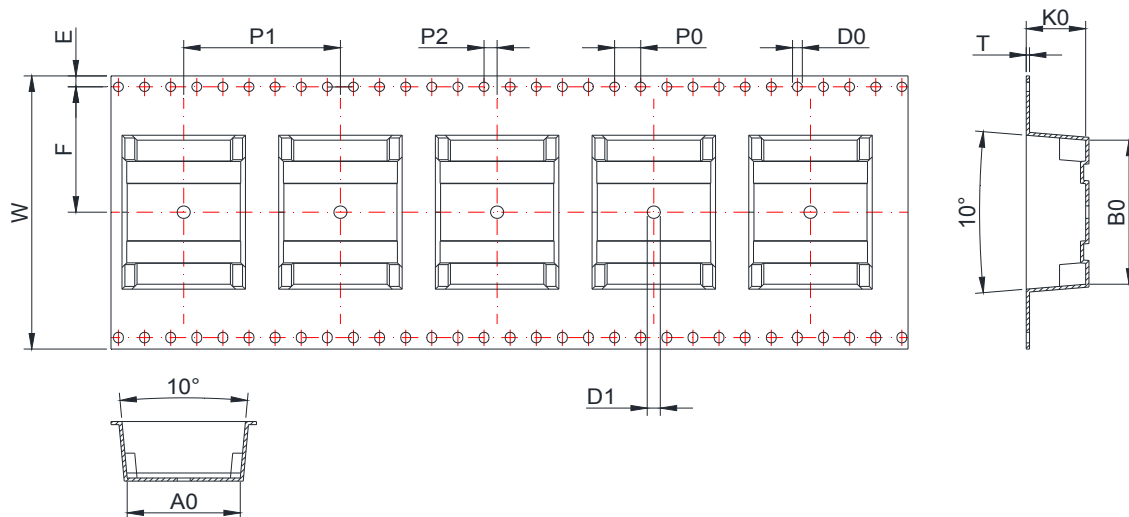
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7.Recommended Temperature Conditions of Air Reflow Soldering

Test Solderability Temperature Profile



8.Tape Dimensions (Unit:mm)



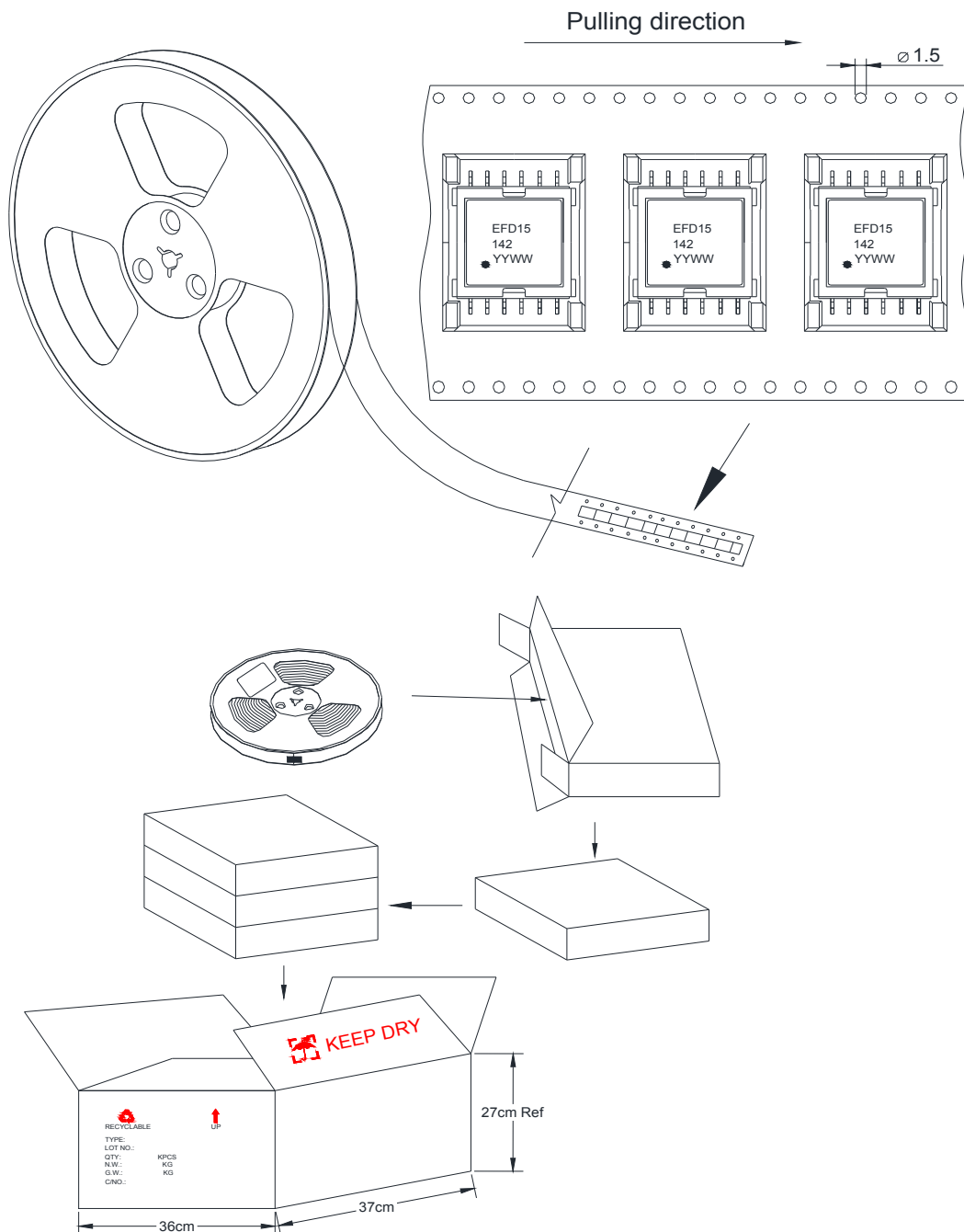
Symbol	A0	B0	K0	P0	P1	P2
Spec	17.30±0.3	23.50±0.3	9.3±0.2	4.0±0.1	24.0±0.1	2.0±0.1
Symbol	W	T	E	F	D0	D1
Spec	44.0±0.3	0.5±0.05	1.75±0.1	20.2±0.1	$\phi 1.5^{+0.1}_0$	$\phi 2.0^{+0.1}_0$

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9.Packing Request

- (1), Every roll of the carrier tape can contain 250pcs products.
- (2), Every small packing box contains one rolls of carrier tape. Total quantity: 250pcs.
- (3), Every carton box contains 3 small packing boxes. Total quantity: 750pcs.



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Test Report

Test Instruments													
HP4284A		HP4284A		DCR METER 131				HP4284A			CS2670A		
Inductance		LK-Inductance		DCR				Turns Ratio			Hi-Pot		
NO	at 100kHz,0.1Vrms	at 100kHz,0.1Vrms @ 1.2A	at 100kHz,0.1Vrms		at 25°C	at 25°C	at 25°C	at 25°C	at 100kHz,0.1Vrms			1mA.3 SEC.	
	L(3-5)	L(3-5)	LK(3-5) Tie secondary and drive	LK(8-7) Tie secondary	R(3-5)	R(11,12-9,10)	R(8-7)	R(2-1)	Pri:Sec	Pri:drive	Pri:Bias	Pri. TO Sec.	Bias TO Sec.
	150uH ±10%	120uH MIN.	2.0uH MAX.	0.4uH MAX.	0.52Ω MAX.	0.0275mΩ MAX.	0.525mΩ MAX.	0.77mΩ MAX.	5.0:1±2%	3.2:1±2%	2.25:1±2%	1500VAC	1500VAC
1	145.80	130.60	1.49	0.24	0.50	0.0175	0.412	0.61	Passed	Passed	Passed	Passed	Passed
2	147.00	131.80	1.45	0.21	0.49	0.0190	0.419	0.60	Passed	Passed	Passed	Passed	Passed
3	154.20	137.60	1.69	0.19	0.49	0.0169	0.408	0.61	Passed	Passed	Passed	Passed	Passed
4	158.20	137.40	1.42	0.25	0.51	0.0167	0.410	0.60	Passed	Passed	Passed	Passed	Passed
5	151.30	135.20	1.44	0.31	0.50	0.0175	0.410	0.60	Passed	Passed	Passed	Passed	Passed
MIN.	145.80	130.60	1.42	0.19	0.49	0.0167	0.408	0.60					
MAX.	158.20	137.60	1.69	0.31	0.51	0.0190	0.419	0.61					
AVG.	151.30	134.52	1.50	0.24	0.50	0.0175	0.412	0.60					
Result	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed
Overall Dimensions Test													
Measurement Tools: Caliper (Unit:mm)													
NO	A1	A2	A3	A4	A5								
	17.20MAX.	21.97MAX.	9.50MAX.	2.5±0.2	0.70±0.1								
1	17.03	21.35	8.53	2.46	0.69								
2	17.05	21.38	8.57	2.48	0.69								
3	17.03	21.41	8.54	2.41	0.69								
4	17.04	21.36	8.56	2.46	0.70								
5	17.05	21.37	8.57	2.48	0.70								
MIN.	17.03	21.35	8.53	2.41	0.69								
MAX.	17.05	21.41	8.57	2.48	0.70								
AVG.	17.04	21.37	8.55	2.46	0.69								
Result	Passed	Passed	Passed	Passed	Passed								
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