

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: _____
EP13

Semitel'S MODEL NO. : _____
EP13-521

VERSION: _____
B

DATE: _____
2019/3/13

- Attachments:**
- Product Specification
 - Sample Qty. :
 - Test Data

Prepared By	Checked By	Approved By
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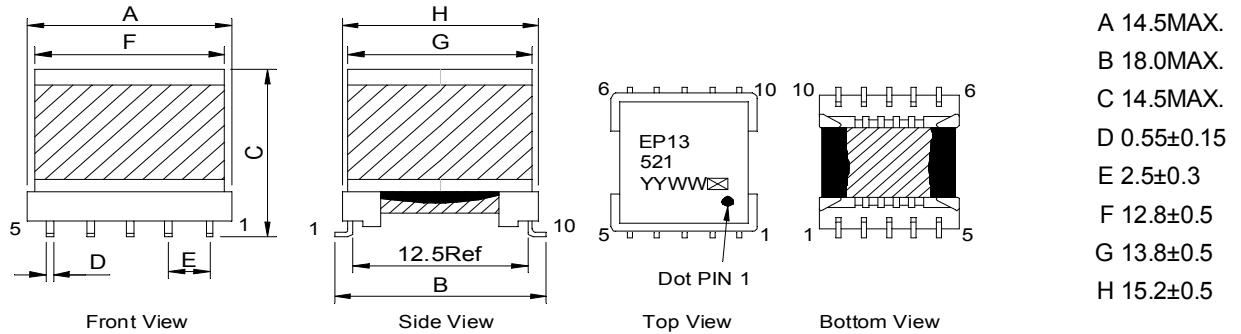
Revision Record

Version	Revision Date	Revision For Items	Revision For Items
A	2018/12/14	New Revision	-
B	2019/3/13	DCR(1-2) change from 100mΩ Max to 125mΩ Max	Change according to the measured sample data

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Product Specification

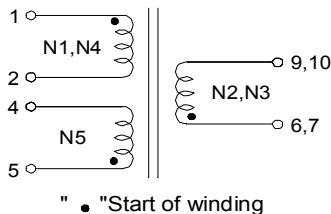
1.Physical Dimensions (Unit:mm)



Notes:

- *Marking type is laser printing, Dot indicates the location of pin#1.
- *YY: Year Code; WW: Week Code
- * :When making samples, S is used to represent the product is a sample.
- * :Use different letters or numbers to represent the products are produced from different production lines .
- *Terminals should be measured excluding the length of the soldered point.
- *Coplanarity Requirement: Less than 0.15mm

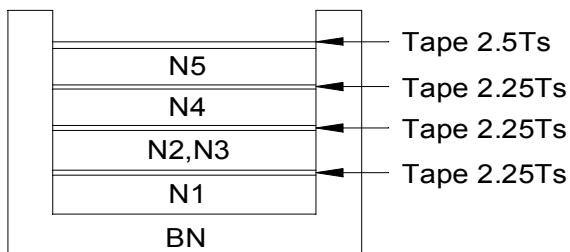
2.Connection



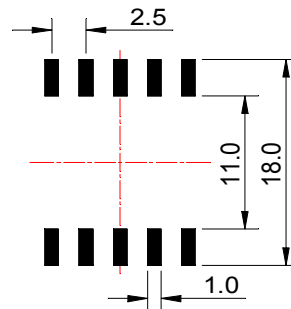
" • "Start of winding

- *Customer to tie terminals 6&7 and 9&10 on PC board.
- *Application of the transformer allows for the leadwires between terminals 6&7 and 9&10 to solder bridge.

4.Structure of Products



3.Recommended Pad Layout (Unit:mm)



5.No of Turns & Wire Spec

No	No of Pin	Truns	Wire Spec
N1	1 - 2	23 Ts	ø0.25mm*1P P180
N2	6 - 9	13 Ts	ø0.23mm*2P P180
N3	7 - 10	13 Ts	ø0.23mm*2P P180
N4	1 - 2	23 Ts	ø0.25mm*1P P180
N5	5 - 4	12 Ts	ø0.20mm*1P P180

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6. Electrical Characteristics

*Electrical specifications @ 25°C unless otherwise noted:

*Operating temperature range: -40°C to +125°C .

Item	Winding	Specifications	Test Conditions
Inductance	L(1-2)	100.5uH±10%	at 100kHz,0.2Vrms
LK-Inductance	LK(1-2) Tie other	0.9uH MAX.	at 100kHz,0.2Vrms
DCR	R(1-2)	125mΩ MAX.	at 25°C
	R(6,7-9,10)	40mΩ MAX.	
	R(5-4)	561mΩ MAX.	
Turns Ratio	(1-2):(6-10):(7-9):(5-4)	23:13:13:12;±3%	at 100kHz,0.2Vrms
Hi-Pot	Pri. To Sec.	1500VAC	1mA,60Sec
	Pri.& Sec.To Core	500VAC	1mA,60Sec

7. Bill of Material

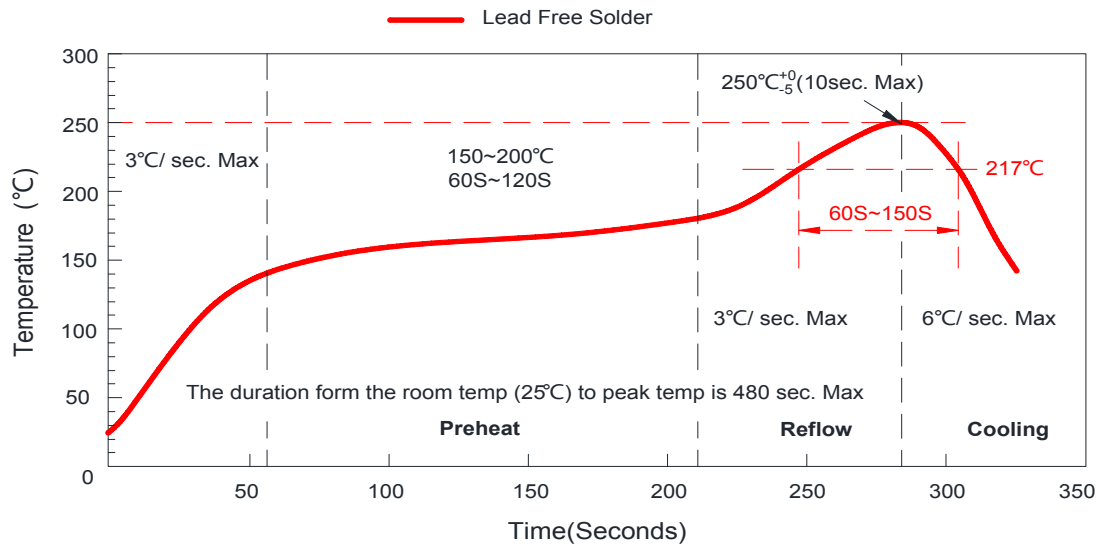
No	Items	Material Name	Manufacturer	UL File No	SGS File No
1	Core	FERRITE CORE JCP-40	FCRI or Equivalent	NIL	CANEC1813462601
2	Bobbin	PM-9630	SUMITOMO (SumiDurez) or Equivalent	E41429	SHAEC1804919410
3	Copper Wire	Polyurethane bare wire (Cu) Polysol 180	ELEKTRISOLA or Equivalent	E258243	CE/2018/40393
4	Polyimide Tape	Brown adhesive plastic HN NC 0.025mm V-0	RUNSEA (RAYITEK) or Equivalent	E339977	CANML1808714601
5	EPOXY	EB-360	CHANGFENG or Equivalent	NIL	SHAEC1826217301
6	EPOXY	TH320	TIANHUAN or Equivalent	E257593	CANEC1821553805
7	Varnish	ZS-NJ-D938 XX	ZHAOSHUN or Equivalent	E329120	CANEC1804050604
8	Solder	Lead free solder	HONGTAIZHOU or Equivalent	NIL	CANEC1812220901

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8.Recommended Temperature Conditions of Air Reflow Soldering

Test Solderability Temperature Profile



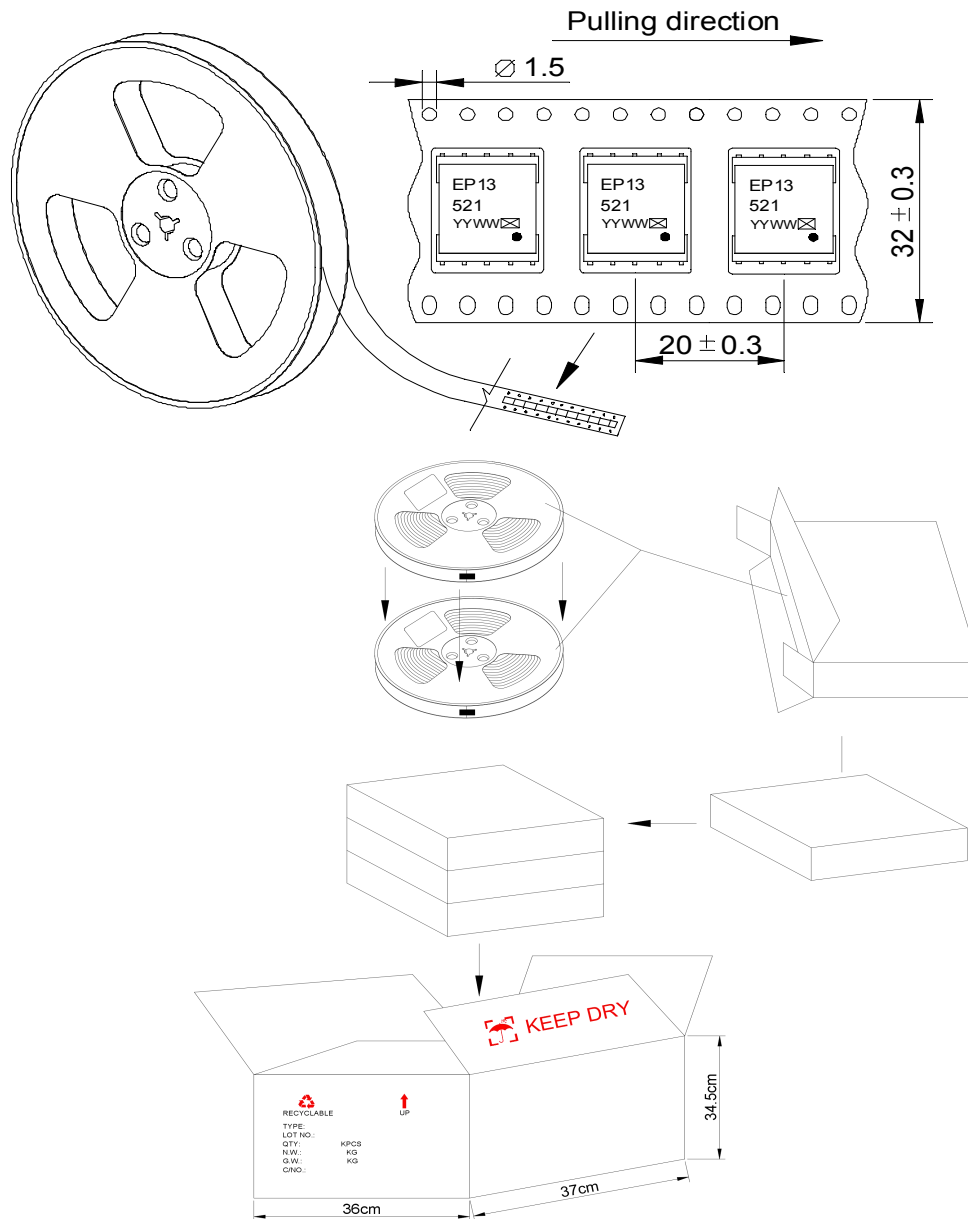
Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate ($T_{s_{max}}$ to T_p)	3°C/Second Max.
Preheat -Temperature Min($T_{s_{min}}$) -Temperature Max($T_{s_{max}}$) -Time($t_{s_{min}}$ to $t_{s_{max}}$)	150°C 200°C 60-180 Seconds
Time maintained above: -Temperature(T_L) -Time(t_L)	217°C 60-150 Seconds
Peak/Classification Temperature(T_p)	250°C
Time within 5°C of actual Peak Temperature(t_p)	10 Seconds Max
Ramp-Down Rate	6°C/Second Max.
Time 25°C to Peak Temperature	8 Minutes Max.

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9.Packing Request

- *Every roll of the carrier tape can contain 200 pcs products.
- *Every small packing box contains two rolls of carrier tape. Total quantity: 400 pcs.
- *Every cartoon box contains 3 small packing boxes. Total quantity: 1200 pcs.



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Test Report

NO	Test Instruments							
	HP4284A	HP4284A	DCR METER 131			HP4284A	CS2670A	
	Inductance	LK-Inductance	DCR	DCR	DCR	Turns Ratio	Hi-Pot	
	at 100kHz,0.2Vrms	at 100kHz,0.2Vrms	at 25°C	at 25°C	at 25°C	at 100kHz,0.2Vrms	1mA,60Sec	
	L(1-2)	LK(1-2) Tie other	R(1-2)	R(6,7-9,10)	R(5-4)	(1-2):(6-10):(7-9):(5-4)	Pri. To Sec.	Pri.& Sec.To Core
	100.5uH±10%	0.9uH MAX.	125mΩ MAX.	40mΩ MAX.	561mΩ MAX.	23:13:13:12;±3%	1500VAC	500VAC
1	118.20	0.30	94.27	34.00	242.90	PASS	PASS	PASS
2	106.40	0.31	93.40	33.50	240.90	PASS	PASS	PASS
3								
4								
5								
MIN.	106.40	0.30	93.40	33.50	240.90			
MAX.	118.20	0.31	94.27	34.00	242.90			
AVG.	112.30	0.30	93.84	33.75	241.90			
Result	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed

Overall Dimensions Test

Measurement Tools: Caliper (Unit:mm)

NO	A	B	C	D	E	F	G	H
		14.5MAX.	18.0MAX.	14.5MAX.	0.55±0.15	2.5±0.3	12.8±0.5	13.8±0.5
1	13.52	17.04	13.46	0.53	2.47	12.82	13.65	15.14
2	13.52	16.92	13.24	0.54	2.49	12.86	13.65	15.04
3								
4								
5								
MIN.	13.52	16.92	13.24	0.53	2.47	12.82	13.65	15.04
MAX.	13.52	17.04	13.46	0.54	2.49	12.86	13.65	15.14
AVG.	13.52	16.98	13.35	0.54	2.48	12.84	13.65	15.09
Result	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed

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