

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:

33.0uH / 0.06ohm / 6.5A MAX.

Semitel'S MODEL NO. :

DPI-1580SDM-330

VERSION:

C

DATE:

2018/7/4

Attachments:

- Product specification
- Sample Qty.:
- Test data

Prepared By	Checked By	Approved By
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Product Specification

1. GENERAL PREFERENCE

The reinspection & reapproval is required to change the structure, quality, progress of this Specification.

2. ABSOLUTE REGULARITY

- 1) Keep Temperature : -45°C ~ 125°C
- 2) Keep Humidity: 20% ~ 95%
- 3) Use Temperature : -45°C ~ 125°C
- 4) Use Humidity : 20°C RH85%

3. MECHANICAL CHARACTERISTIC

1) TERMINAL TENSION INTENSITY

After fix the body, The Terminal Shall withstand for 30 seconds without losing when a static load of 1.0Kg is applied to drawing direction of the Terminal.

2) TERMINAL BEND INTENSITY

The Terminal shall withstand without breakage and bend when it returns after bend 1 time to the left side and 1 time right side with a static load.

3) VIBRATION TEST

After fix a body of the vibration board, The terminal shall withstand without losing and bend when it operates vibration test of 3 directions(X,Y,Z) for 2hours.

4. ELECTRICAL CHARACTERISTIC

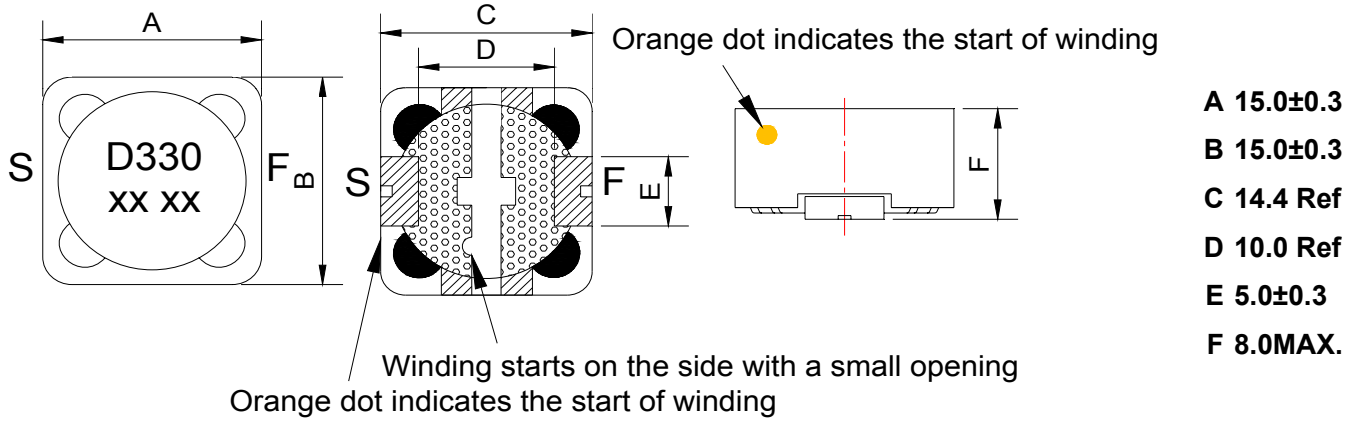
1) INSULATION RESISTANCE

* COIL TO CORE : Shall be more than 100MΩ when measured with DC 500V

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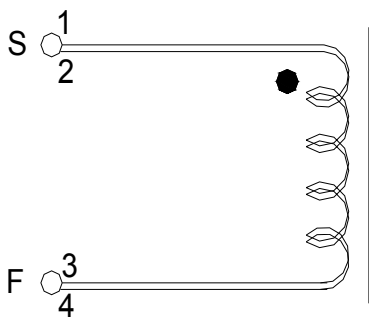
5. Physical Dimensions (Unit:mm)



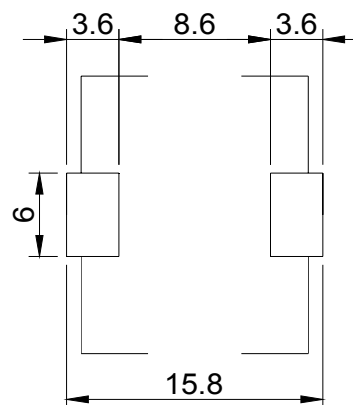
Notes:

*Marking type is laser printing.

6. Connection



7. Recommended pad layout (Unit:mm)



8. Winding Specification

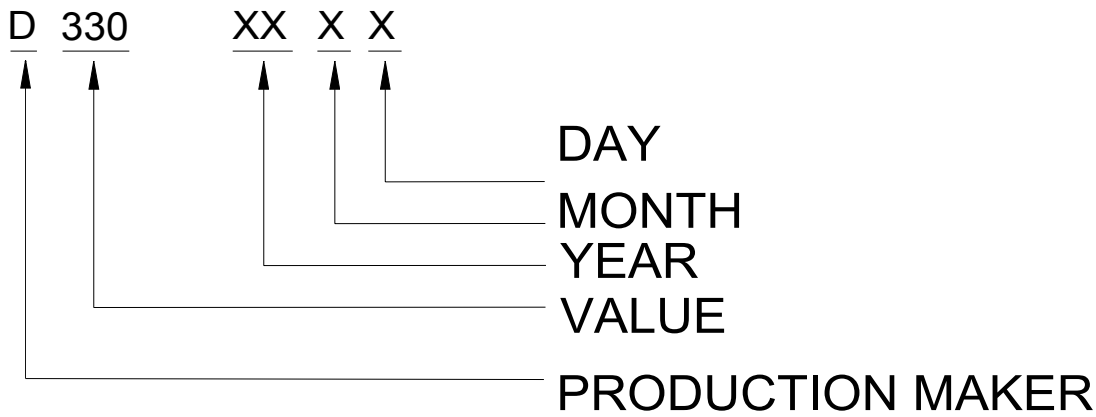
NO	Terminal	Wire	No of Turns	Winding Method
P1	S-F	2UEWHE 0.40mm*2P	18.5Ts±2Ts	Solenoid Winding

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9. Marking Specification

*Marking (laser printing)



Marking Spec		
D	Semitel International Ltd.	
12	Year	2012: 12 2013: 13
1	Month	January:1 Feberuary:2
A	DATE	Refer to Date table

Month table						
MONTH	1	2	3	4	5	6
MARK	1	2	3	4	5	6
MONTH	7	8	9	10	11	12
MARK	7	8	9	A	B	C

Date Table("I"and"O" is ruled out)								
DATE	1	2	3	4	5	6	7	8
MARK	1	2	3	4	5	6	7	8
DATE	9	10	11	12	13	14	15	16
MARK	9	A	B	C	D	E	F	G
DATE	17	18	19	20	21	22	23	24
MARK	H	J	K	L	M	N	P	Q
DATE	25	26	27	28	29	30	31	
MARK	R	S	T	U	V	W	X	

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10. Electrical Characteristics

Items	Winding	Specifications	Test Conditions
Inductance	S-F	33.0uH±20% Within	at 100kHz,0.1Vrms
D.C.R.	S-F	0.06Ω MAX.	at 25°C
Rated Current	S-F	6.5A MAX.	at 100kHz,0.1Vrms
Q	S-F	19.0 MIN.	at 100kHz,0.1Vrms
Insulation Resistion	COIL-CORE	100MΩ MIN. at DC 500V	MEGAOHM METER

Inductance drop= 20% drop MAX. at rated current.

11. Bill of Material

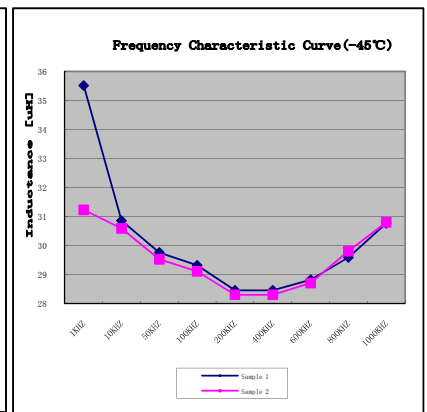
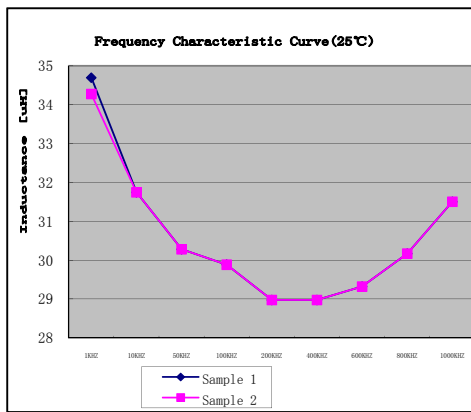
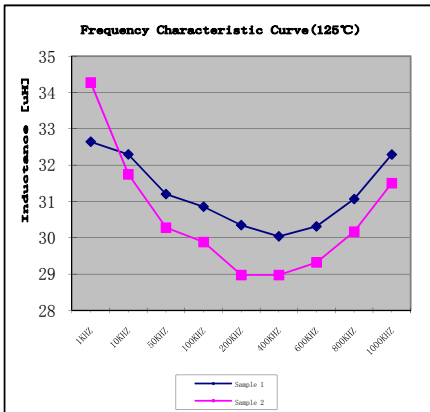
No	Item	Material Name	Manufacturer	UL File No	SGS File No
1	Core	T2 DR11.7*6.8C B=6.8 F=4.8	TAK or Equivalent	NIL	CANEC1418851816
2	Core	DL5 SRI15*12.8*6.8	TAK or Equivalent	NIL	CANEC1504366405
3	BASE	C-1400-1 P2 C1100	SANPIN or Equivalent	NIL	CANEC1511771601
4	Copper Wire	Polyurethane wire UEWHE	TAI-I or Equivalent	E234896	CANEC1412047005
5	EPOXY	EP-600-SL(HF)	SAMTONG or Equivalent	NIL	CANEC1416971801
6	EPOXY	TH320(HF)	TIANHUAN or Equivalent	E257593	CANEC1417094801
7	Solder	Lead free solder	HONGTAIZHOU or Equivalent	NIL	CANEC1510999213
8	Flux	SLS65C Flux	ALPHA or Equivalent	NIL	SCL01H015491001

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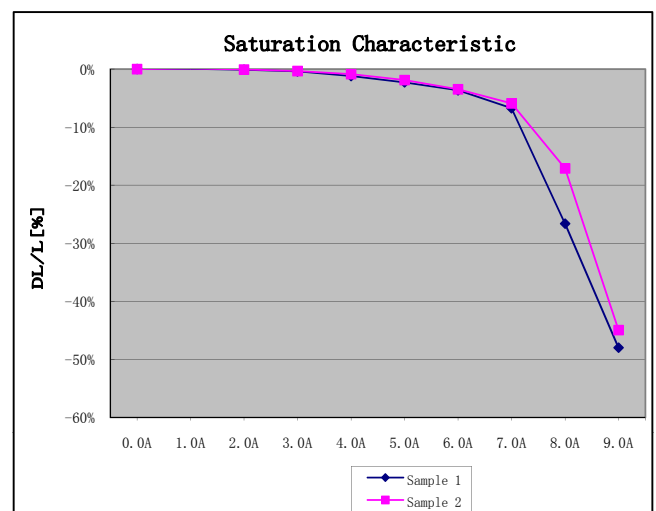
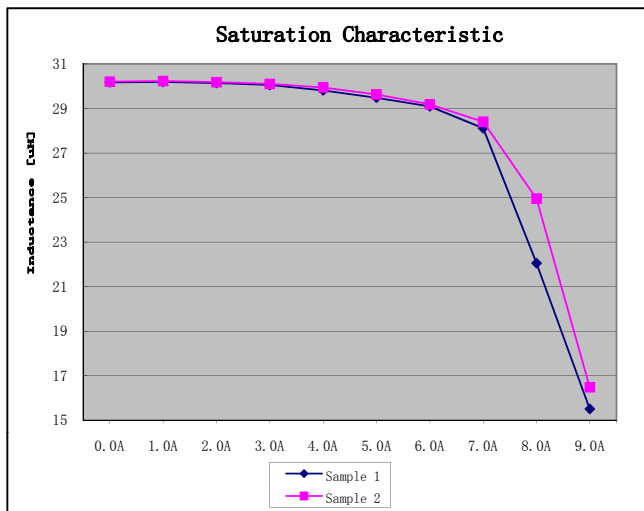
12. Frequency Characteristic

	TEMP.	1KHZ	10KHZ	50KHZ	100KHZ	200KHZ	400KHZ	600KHZ	800KHZ	1000KHZ
	°C	uH	uH	uH	uH	uH	uH	uH	uH	uH
1	125	32.642	32.294	31.202	30.854	30.347	30.037	30.313	31.067	32.292
	25	34.696	31.747	30.279	29.882	28.974	28.974	29.320	30.167	31.504
	-45	35.511	30.858	29.757	29.317	28.456	28.456	28.818	29.587	30.762
2	125	34.275	31.747	30.279	29.882	28.974	28.974	29.320	30.167	31.504
	25	34.275	31.747	30.279	29.882	28.974	28.974	29.320	30.167	31.504
	-45	31.228	30.586	29.524	29.109	28.302	28.302	28.706	29.806	30.797



13. Saturation Characteristic

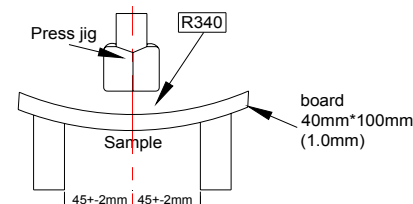
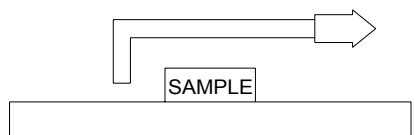
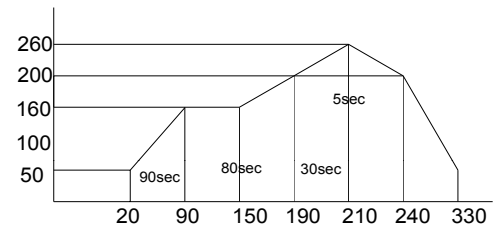
	0.0A	1.0A	2.0A	3.0A	4.0A	5.0A	6.0A	7.0A	8.0A	9.0A
	uH	uH	uH	uH	uH	uH	uH	uH	uH	uH
1	30.17	30.19	30.14	30.05	29.81	29.48	29.09	28.11	22.05	15.50
DL/L[%]	0.0%	0.07%	-0.1%	-0.4%	-1.2%	-2.3%	-3.6%	-6.7%	-26.6%	-48.0%
2	30.20	30.23	30.18	30.10	29.94	29.63	29.18	28.40	24.95	16.48
DL/L[%]	0.0%	0.10%	-0.1%	-0.3%	-0.9%	-1.9%	-3.5%	-5.9%	-17.1%	-45.0%



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14. Reliability Test

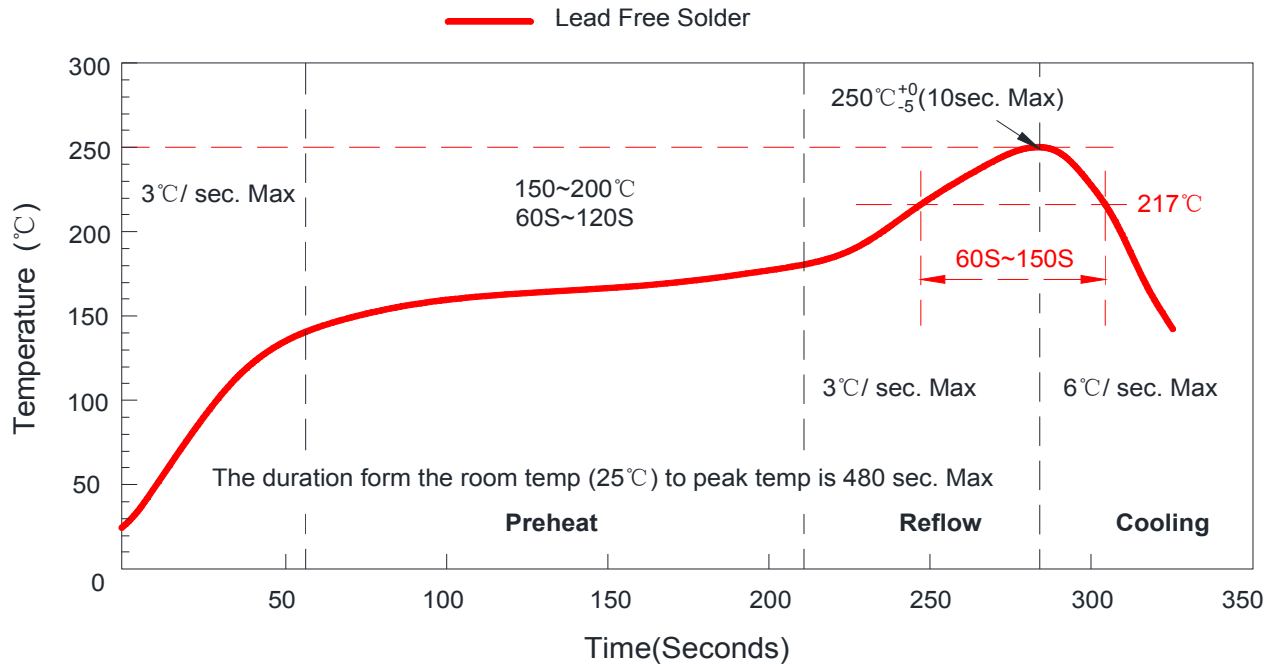
Test item	Specification	Condition
High temperature	Change from an initial value L : within $\pm 10\%$	The specimen shall be stored at a temperature $125\pm 3^{\circ}\text{C}$ for $500\text{hr}\pm 12\text{hr}$. Then it shall be stabilized under standard atmospheric for 1hr before measurement Measurement shall be made within 1hr.
Low temperature	Change from an initial value L : within $\pm 10\%$	The specimen shall be stored at a temperature $-45\pm 3^{\circ}\text{C}$ for $500\text{hr}\pm 12\text{hr}$. Then it shall be stabilized under standard atmospheric for 1hr before measurement Measurement shall be made within 1hr.
Humidity test	Change from an initial value L : within $\pm 10\%$	Samples shall be subjected to $105\pm 3^{\circ}\text{C}$ and 20%~95% relative humidity for 100hr. Measure after 1 to 2 hour exposure at room temperature and humidity.
Thermal shock	Change from an initial value L : within $\pm 10\%$	The specimen shall be subjected to 100 continuous cycles of temperature change of -45°C for 15min and 125°C for 15min with the transit period of 2min or less.
Solderability	New solder shall cover 90% minimum of the surface	Terminals shall be immersed for 5 to 10 seconds in flux at room temperature. Dip sample into solder bath containing molten solder at $245\pm 5^{\circ}\text{C}$ for $3\pm 0.5\text{seconds}$
Dielectric strength	Without damage	500V AC shall be applied for 60 sec between the terminal and the core.
Bending test	Change from an initial value L : within $\pm 10\%$	Apply pressure gradually in the direction of the arrow at a rate of about 0.5mm/sec until bent depth reaches 2mm and hold for $30\pm 0.5\text{sec}$. 
Terminal strength	30N/min (X,Y Direction :SDM Side Direction->"X"Direction)	The test samples shall be soldered to the test board by the reflow 
PCT	Change from an initial value L : within $\pm 10\%$	121°C , 2 Atmospheric pressure, Humidity 100%-->8hr
Bending test	Change from an initial value L : within $\pm 10\%$	REFLOW-3Time PICK Atmospheric pressure : $250^{\circ}\text{C}+5^{\circ}\text{C}/-0(30\pm 10\text{sec})$ 

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15.Recommended Temperature Conditions of Air Reflow Soldering

Test Solderability Temperature Profile



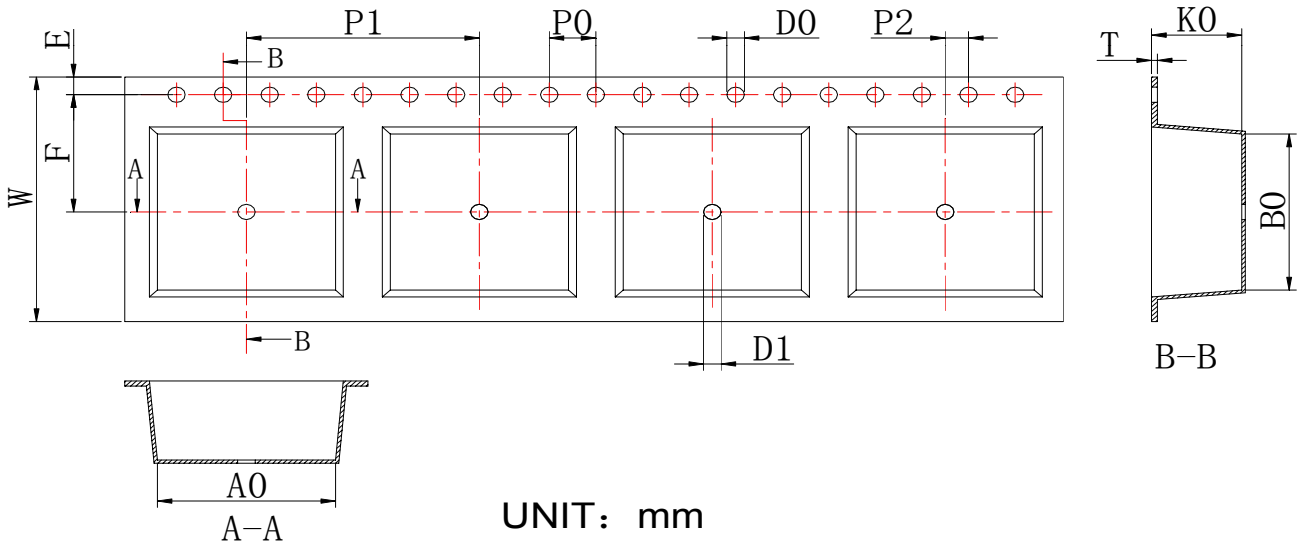
Profile Feature	
Average Ramp-Up Rate (T _{max} to T _p)	3°C/Second Max.
Preheat	
-Temperature Min. (T _{min})	150°C
-Temperature Max. (T _{max})	200°C
-Time (T _{min} to T _{max})	60-120 Seconds
Time maintained above:	
-Temperature (TL)	217°C
-Time (TL)	60-150 Seconds
Peak/Classification Temperature (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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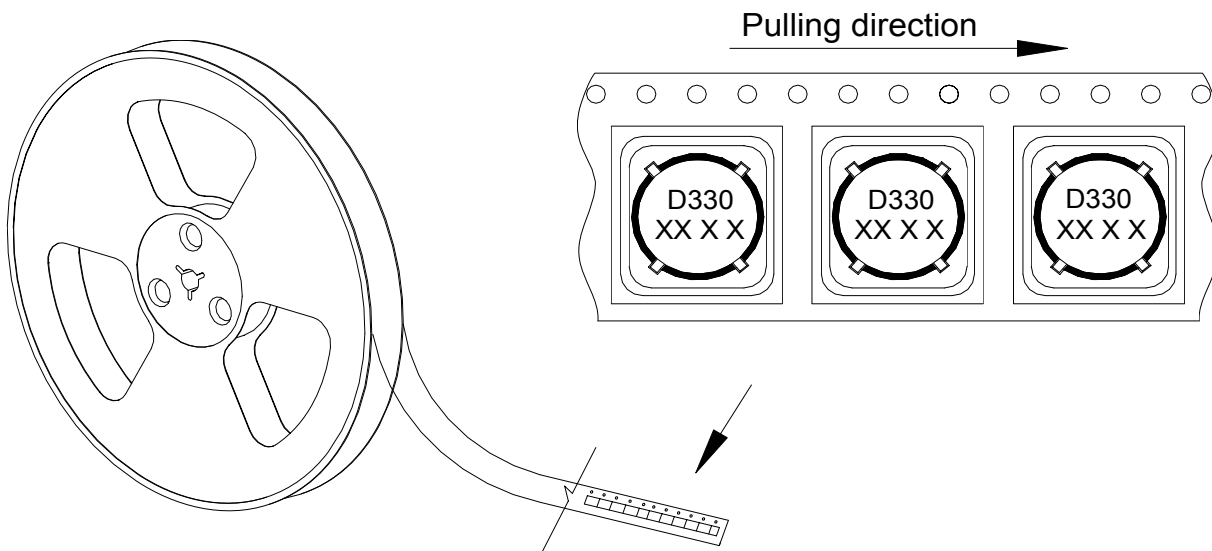
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16. Packing Specification

*Every roll of the carrier tape can contain 400 pcs products. The whole packing includes the carrier tape, circular plastic disc and the cover tape.



ITEM	A0	B0	K0	P0	P1	P2
DIM	15.3±0.1	15.3±0.1	7.75±0.1	4.0±0.1	20.0±0.1	2.0±0.1
ITEM	W	T	E	F	D0	D1
DIM	24.0±0.3	0.5±0.05	1.75±0.1	11.5±0.1	∅1.5±0.05	∅1.5±0.05

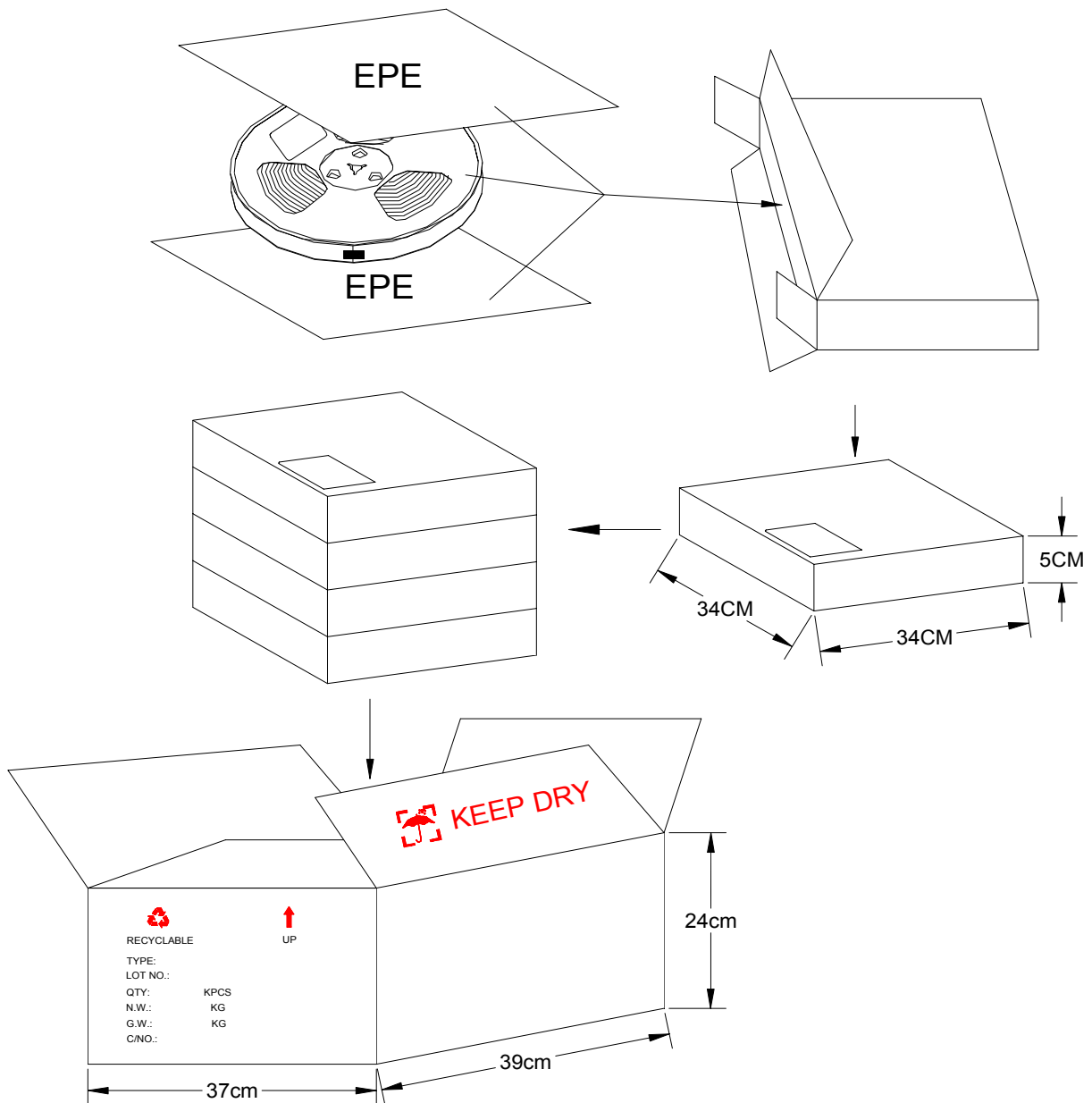


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*Every small packing box contains one rolls of carrier tape. Total quantity: 400 pcs.

*Every carton box contains 4 small packing boxes. Total quantity: 1600 pcs.



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Test Report

NO	Inductance	D.C.R.	Q	Rated Current	Insulation Resistance	
	at 100kHz,0.1Vrms	at 25°C	at 100kHz,0.1Vrms		MEGAOHM METER	
	33.0uH±20% Within	0.06Ω MAX.	19.0 MIN.	6.5A MAX.	100MΩ MIN. at DC 500V	
1	30.19	52.16	25.98	Passed	Passed	
2	32.38	51.90	25.50	Passed	Passed	
3	32.59	51.27	25.51	Passed	Passed	
4	34.56	52.37	24.53	Passed	Passed	
5	28.80	52.85	24.86	Passed	Passed	
MIN.	28.80	51.27	24.53			
MAX.	34.56	52.85	25.98			
AVG.	31.70	52.11	25.28			
Result	Passed	Passed	Passed	Passed	Passed	

Overall Dimensions Test

Measurement Tools: Caliper (Unit:mm)

NO	A	B	C	D	E	F	
	15.0±0.3	15.0±0.3	14.4 Ref	10.0 Ref	5.0±0.3	8.0MAX.	
1	15.04	15.14	14.75	9.69	4.93	7.41	
2	15.02	15.08	14.77	9.85	4.96	7.42	
3	15.06	15.12	14.72	9.72	4.92	7.40	
4	15.02	15.13	14.71	9.65	4.95	7.45	
5	15.03	15.10	14.75	9.80	4.98	7.42	
MIN.	15.02	15.08	14.71	9.65	4.92	7.40	
MAX.	15.06	15.14	14.77	9.85	4.98	7.45	
AVG.	15.03	15.11	14.74	9.74	4.95	7.42	
Result	Passed	Passed	Passed	Passed	Passed	Passed	

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