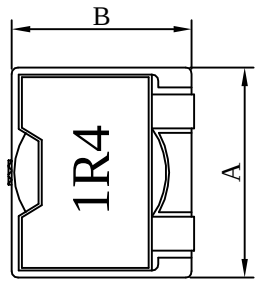
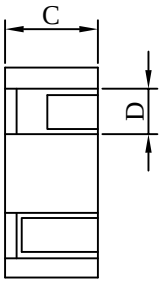
SPECIFICATION FOR APPROVAL

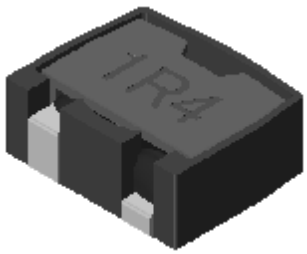
REF. :

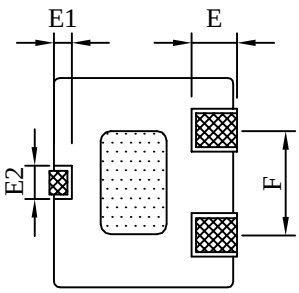
PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	SP1045□□□□L□-□□□		
		REV.	20130503-B	PAGE	1

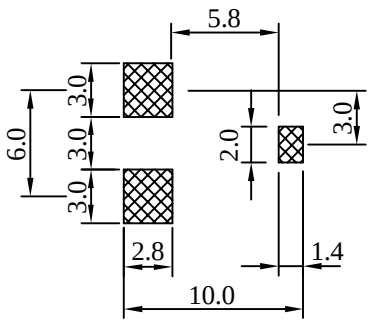
Ⅰ．Configuration and dimensions：.







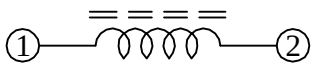




Unit：m/m

A	B	C	D	E	E1	E2	F
11.00 ±0.3	9.35 ±0.3	4.50 ±0.3	2.10 typ.	2.00 typ.	1.00 typ.	1.50 typ.	6.00 typ.

Ⅱ．Schematic diagram：



Ⅲ．Description：

a．Ferrite ER core construction.

b．Magnetically shielded.

c．Enamelled copper wire：F class

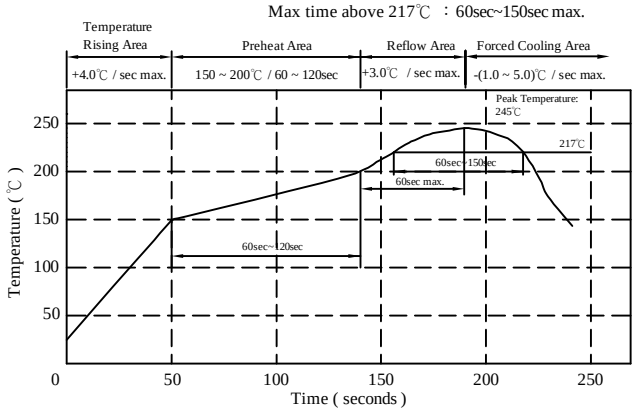
d．Product weight： 1.30 g（ref.）

e．Moisture sensitivity Level 1

f．Products comply with RoHS' requirements

g．Halogen free available

Peak Temp：245℃ max.
Max. Peak Temp - 5℃：30sec max.
Max time above 217℃ ：60sec~150sec max.



Ⅳ．General specification：

a．Storage temp.：-55℃ ~ +135℃

b．Operating temp .：-55℃ ~ +135℃
(Temp. rise included)

c．Resistance to solder heat：245℃. 10 secs.

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ABC ELECTRONICS GROUP

SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	SP1045□□□□L□-□□□		
		REV.	20130503-B	PAGE	2

Ⅴ．Electrical characteristics：

DWG No.	Inductance L (μH)	Isat (A)	Irms (A)	RDC (mΩ)	
				max.	typ.
SP1045R36YL□-□□□	0.36 ± 30 %	28.0	28.5	1.7	1.3
SP1045R80ML□-□□□	0.80 ± 20 %	18.0	17.0	3.9	3.0
SP10451R4ML□-□□□	1.40 ± 20 %	13.5	13.5	4.4	3.4
SP10452R2ML□-□□□	2.20 ± 20 %	11.5	10.0	8.7	6.7
SP10453R2ML□-□□□	3.20 ± 20 %	9.0	9.0	10.4	8.0

1). □：Packaging information： □Code

2). "-□□□"：Reference code

3). Electrical specifications at 25℃

4). Inductance Test Freq.：100KHz / 1V

5). Irms base on Temp. rise 40℃ max.

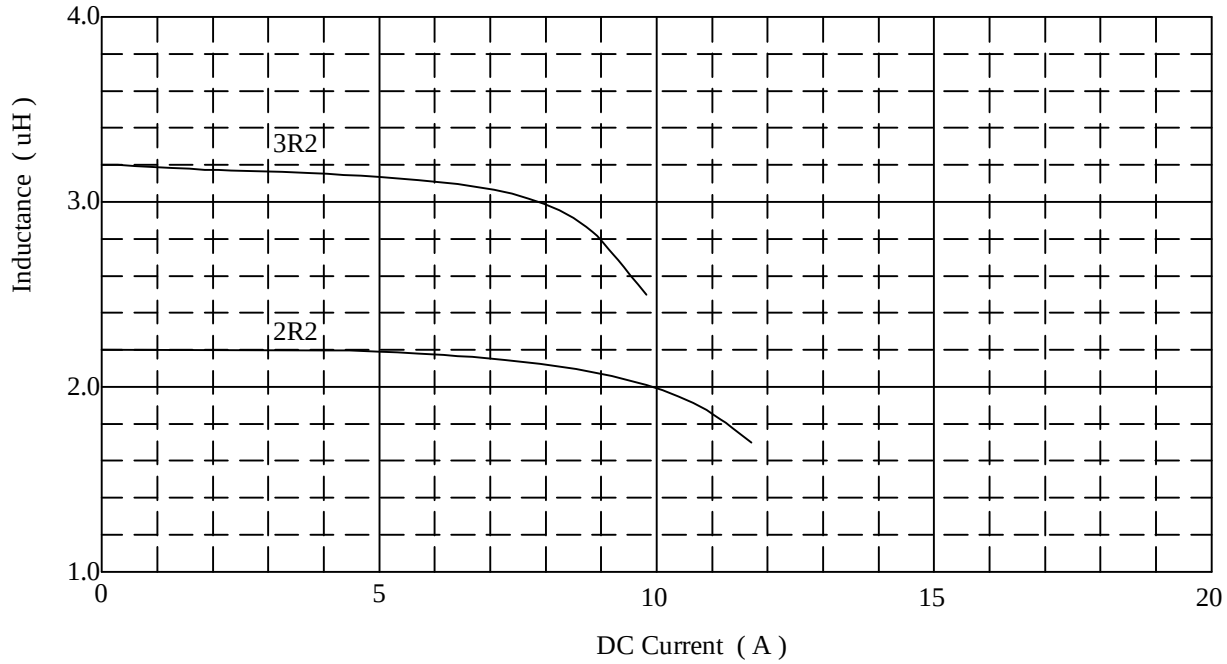
6). Isat base on inductance drop 25% typ. of L value at 20℃

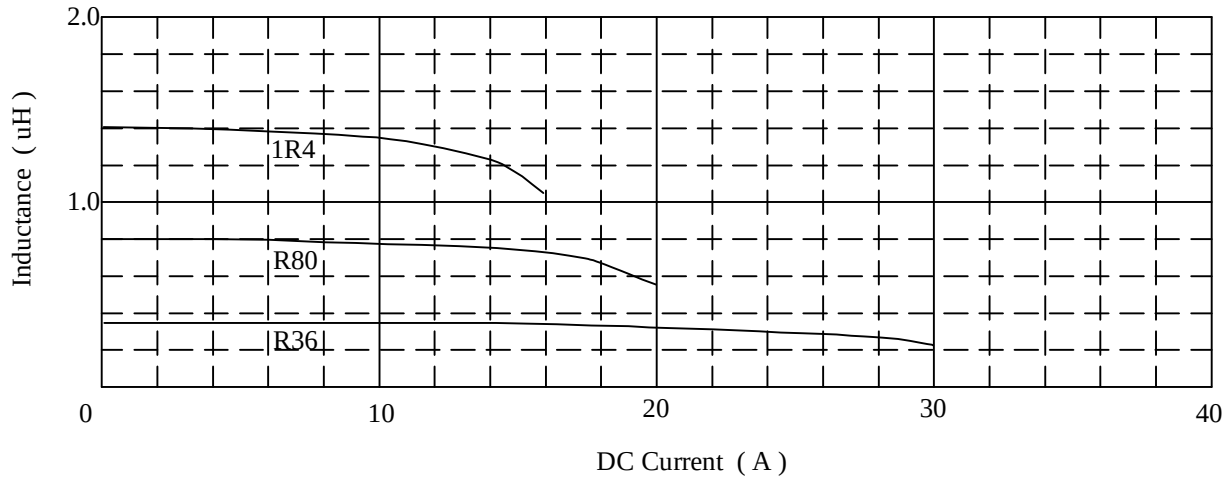
SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	SP1045□□□□L□-□□□		
		REV.	20130503-B	PAGE	3

@ Inductance VS. DC Superposition characteristics





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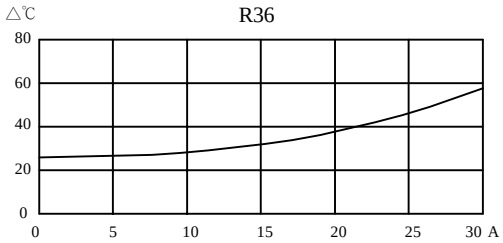
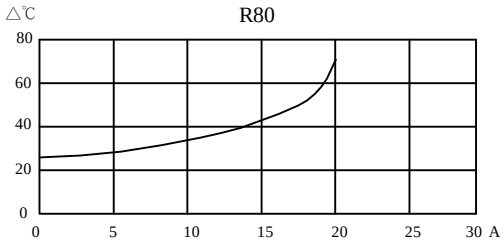
SPECIFICATION FOR APPROVAL

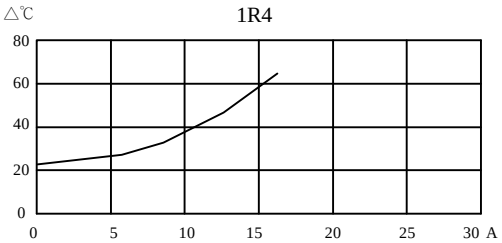
REF. :

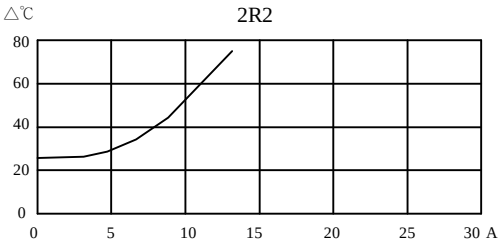
PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	SP1045□□□□L□-□□□		
		REV.	20130503-B	PAGE	4

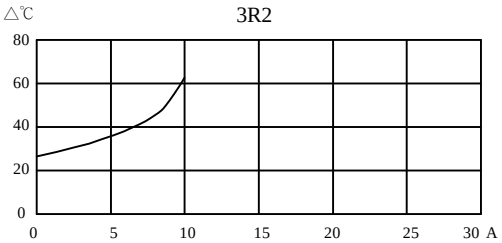
@ DC Current VS Temperature Rise











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ABC ELECTRONICS GROUP

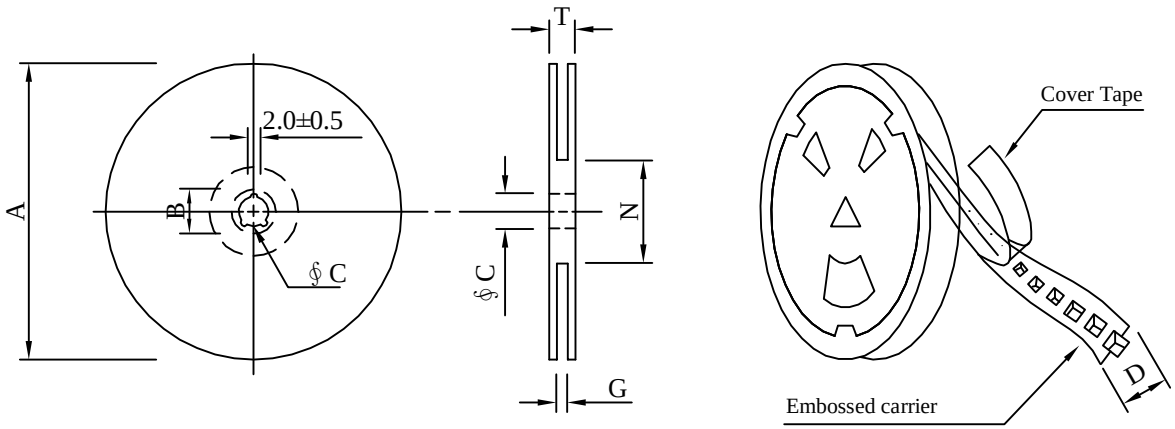
SPECIFICATION FOR APPROVAL

REF. :

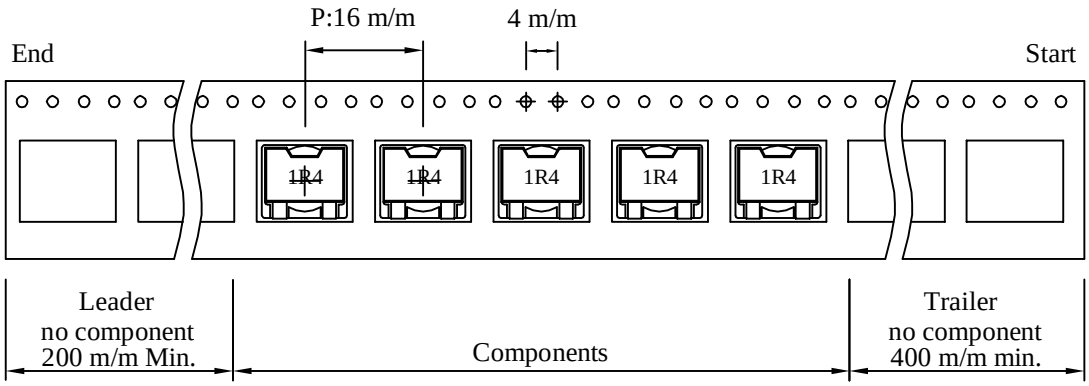
PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	SP1045□□□□L□-□□□		
		REV.	20130503-B	PAGE	5

Ⅵ．Packaging information：

(1) Configuration



※Carrier tape width : D



User direction of feed

(2) Dimensions

Unit:m/m

Style	A	B	C	D	G	N	T
13 - 24	330	21±0.8	13±0.5	24	26^{+0}	60^{-0}	30.4

(3) Q'TY & G.W. Per package

Code	Inner : Reel			Outer : Carton		
	Q'TY (pcs)	G.W. (gw)	Style	Q'TY (pcs)	G.W. (Kg)	Size (cm)
B	600	700	13 - 24	2,400	6.50	38 x 37 x 22

SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	SP1045□□□□L□-□□□		
		REV.	20130503-B	PAGE	6

Ⅶ．Reliability test：

Item	Reference documents	Test Condition	Test Specification
1.High Temperature Exposure	MIL-STD-202 Method 108	1.Temperature: 135℃ 2.Time:96 hours.	1.No mechanical and electrical damage. 2.Inductance shall not change more than ±25%.
2.Temperature Cycling	JESD22 Method JA-104	1.Temperature: -55℃ ~ 135℃ 2.Number of cycle:96 cycle 3.Dwell time:30 minutes	1.No mechanical and electrical damage. 2.Inductance shall not change more than ±25%.
3.Biased Humidity Test	MIL-STD-202 Method 103	1.Temperature: 85±5 ℃ 2.Time:96 Hours 3.Humidity: 85±5% RH.	1.No mechanical and electrical damage. 2.Inductance shall not change more than ±25%.
4.Operational Life	MIL-PRF-27	1.Temperature: 135℃ 2.Time:96 hours. 3.Apply rated current.	1.No mechanical and electrical damage. 2.Inductance shall not change more than ±25%.
5.Exeternal Visual	MIL-STD-883 Method 2009	Inspect product constructions, marking and workmanship.	1.No pollution on the surface of products. 2.Clear marking. 3.No crack.
6.Physical Dimensions	JESD22 Method JB-100	Verify physical dimensions to the applicable product detail specification.	Per product specification standard
7.Resistance to solvents	MIL-STD-202 Method 215	Immerse into solvent for 3±0.5 minutes & brush 10 times for therr cycles.	1.No body change in apperarance. 2.No marking blurred. 3.Inductance shall not change more than ±25%.
8.Vibration Test	MIL-STD-202 Method 204	1.Frequency and Amplitued : 10-2000-10 Hz, 1.5 mm. 2.Direction:X, Y, Z 3.Test duration:2 hours for each direction, 6 hours in total.	1.No mechanical and electrical damage. 2.Inductance shall not change more than ±25%.
9.Resistance To Soldering Heat Test	MIL-STD-202 Method 210	1.Highest temperature：245±5℃ 2.Time（temp.≧ 217℃）：60~150 Second. 3.IR reflow times：3 times.	1.No mechanical and electrical damage. 2.Inductance shall not change more than ±25%.
10.Rated current	MIL-STD-202 Method 330	Apply rated current for 5 second.	1.No mechanical and electrical damage. 2.Inductance shall not change more than ±25%.
11.Temperature rise	MIL-PRF-27	Apply rated current for 10 minutes.	1.No mechanical and electrical damage. 2.Inductance shall not change more than ±25%.
12.Over load	MIL-PRF-27	Apply twice as rated current for 5 minutes. (It's not application to some special design)	1.No mechanical and electrical damage. 2.Inductance shall not change more than ±25%.
13.Solderability Test	J-STD-002	1.Baking in pre-testing：155±5℃ / 16Hours±30 min. 2.Peak temperature：240±5℃ 3.Time（temp.≧217℃）：60~150 second. 4.IR reflow times：1 times.	The terminal shall be at least 95% covered with fresh solder.
14.Electrical Characteriazation	User Spec.	1.Operating temperature：-55℃~135℃ 2.Room temperature：25℃.	1.No mechanical and electrical damage. 2.Inductance shall not change more than ±25%.
15.Withstanding Voltage Test	MIL-STD-202 Method 201	1.DV:500V 2.Time:1minutes	1.During the test no breakdown. 2.The characteristic is normal after test.
16.Drop	JESD22-B111	Packaged & Drop down from 1m.In 1 angle 1ridges & 2 surfaces orientation.	1.No case deformation or change in appearance. 2.Inductance shall not change more than ±25%.
17.Terminal Strength Test	JIS-C-6429	1.Apply push force to samples mounted on PCB. 2.Force of 1.8 kg for 60±1 seconds.	After test, inductors shall be no mechanical damage.