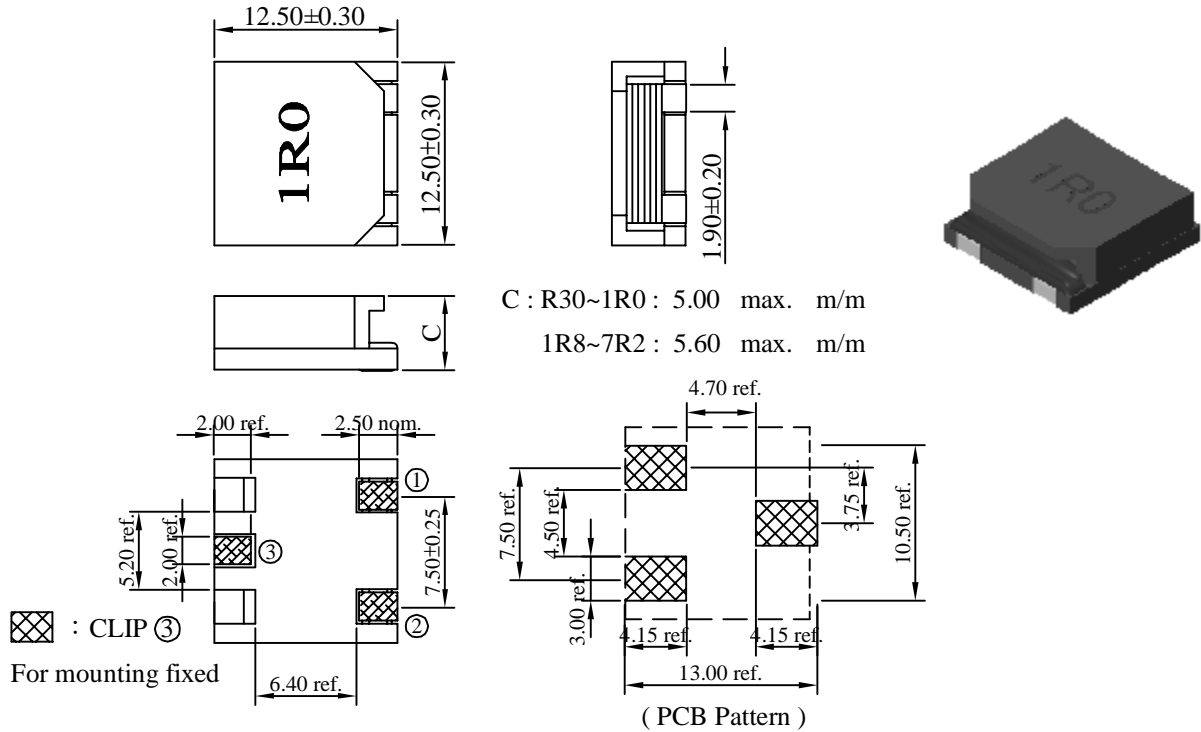


# SPECIFICATION FOR APPROVAL

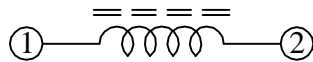
REF. :

PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	SP1205□□□□L□-□□□		
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**I . Configuration and dimensions :**



**II . Schematic diagram :**

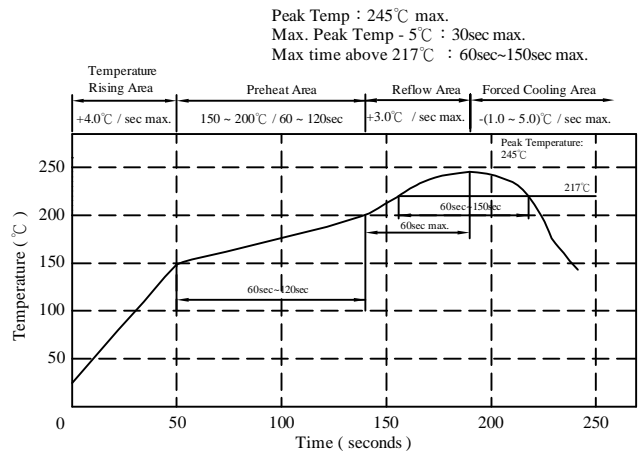


**III . Description :**

- a . Ferrite ER core construction.
- b . Magnetically shielded.
- c . Enamelled copper wire : F class
- d . Product weight : 3.0 g ( ref. )
- e . Moisture sensitivity Level 1
- f . Products comply with RoHS' requirements
- g . Halogen free available

**IV . General specification :**

- a . Storage temp. : -40°C ----+125°C
- b . Operating temp. : -40°C ----+125°C  
(Temp. rise included)
- c . Resistance to solder heat : 245°C .10 secs.



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# SPECIFICATION FOR APPROVAL

REF. :

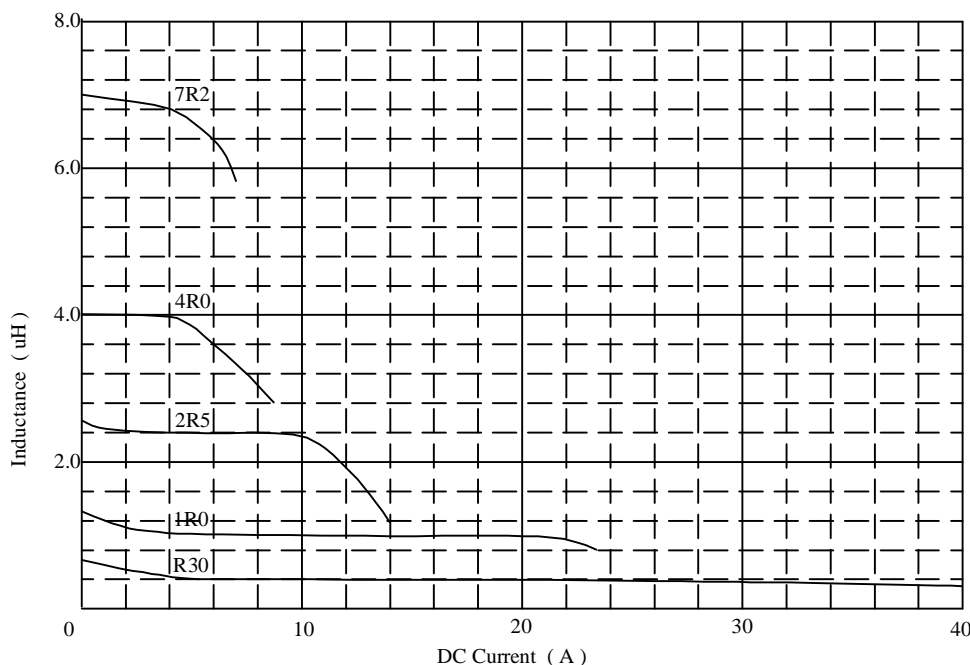
PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	SP1205□□□□L□-□□□		
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V . Electrical characteristics :

DWG No.	Initial Inductance L0 ( uH )	Inductance at flat point L1 ( uH )	Flat point ref. ( A )	Irms ( A )	Isat ( A )	DC Resistance ( mΩ )	
						max.	typ.
SP1205R30YL□-□□□	0.54±25%	0.30±25%	5.00	38.0	35.0	1.8	0.8
SP1205R60YL□-□□□	0.85±25%	0.60±25%	5.00	28.0	27.0	2.5	1.5
SP12051R0YL□-□□□	1.25±25%	1.00±25%	5.00	23.0	22.0	3.4	2.8
SP12051R8YL□-□□□	2.00±25%	1.80±25%	2.00	20.0	16.0	3.4	2.5
SP12052R5YL□-□□□	2.70±25%	2.50±25%	2.00	18.0	12.0	3.4	2.5
SP12053R3YL□-□□□	3.50±25%	3.30±25%	2.00	16.0	11.8	5.4	4.3
SP12054R0YL□-□□□	4.20±25%	4.00±25%	3.00	15.0	8.3	5.4	4.3
SP12055R6YL□-□□□	5.80±25%	5.60±25%	2.00	12.0	8.0	11.4	9.2
SP12057R2YL□-□□□	7.40±25%	7.20±25%	2.00	10.0	7.5	13.5	10.5

- 1). □ : Packaging information : □ Code
- 2). "- □□□" : Reference code
- 3). Electrical specifications at 25°C
- 4). Inductance Test Freq. : 100KHz / 1V
- 5). Irms base on Temp. rise 40°C max.
- 6). Isat base on inductance drop 20% typ. of L1 value

@ Inductance VS. DC Superposition Characteristics



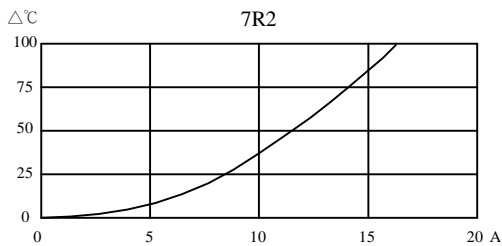
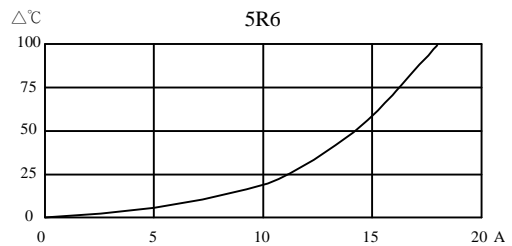
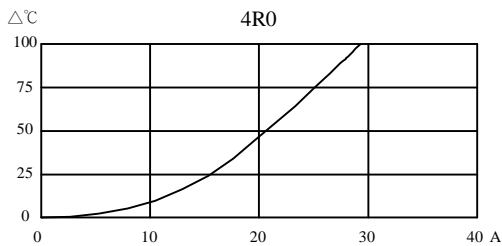
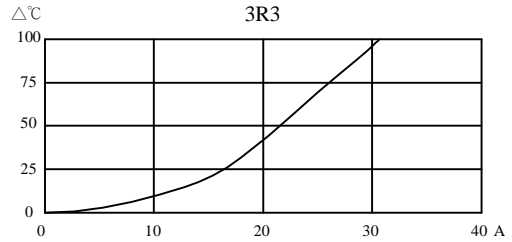
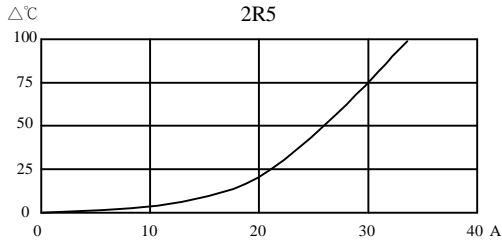
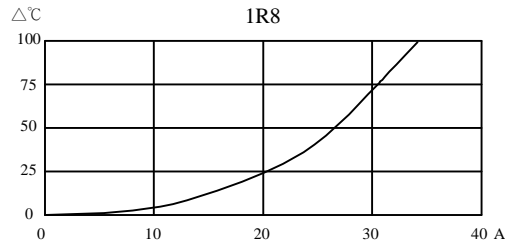
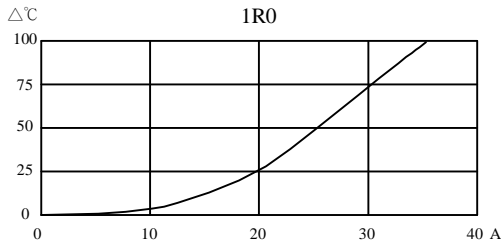
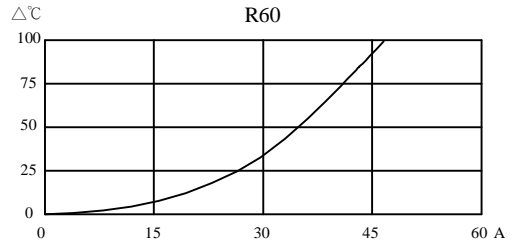
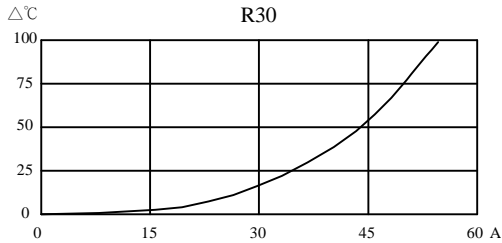
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@ DC Current VS Temperature Rise



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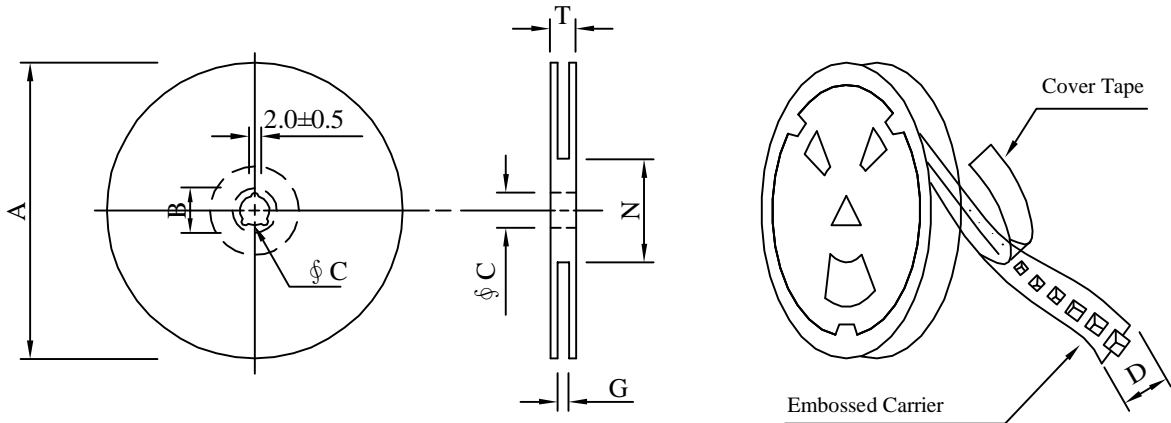
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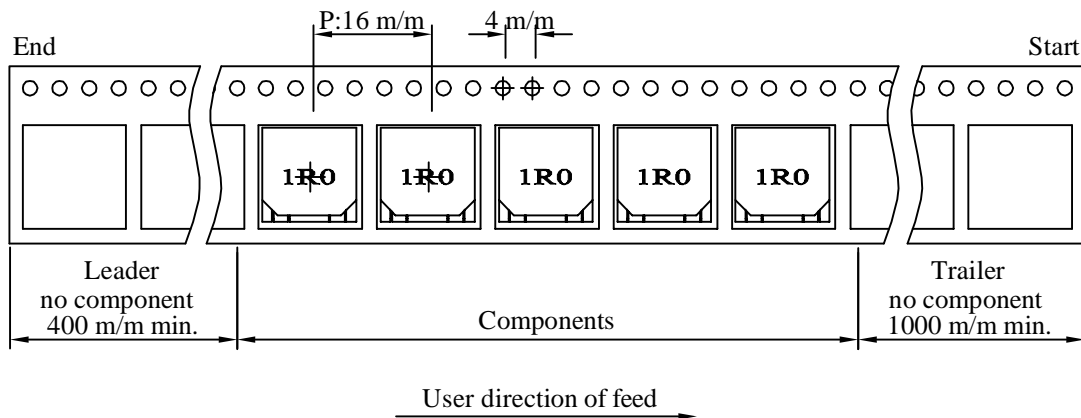
PROD. NAME	Shielded SMD Power Inductor	ABC'S DWG NO.	SP1205□□□□L□-□□□		
		REV.	20130503-A	PAGE	4

**VI . Packaging information :**

(1) Configuration



※Carrier Tape Width : D



(2) Dimensions

Unit:m/m

Style	A	B	C	D	G	N	T
13 - 24	330	21±0.8	13±0.5	24	26 <sup>+0</sup>	60 <sup>-0</sup>	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	2,150	13 - 24	2,400	11.30	38 x 37 x 22

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# SPECIFICATION FOR APPROVAL

REF. :

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## VII . Reliability test :

Item	Reference documents	Test Condition	Test Specification
1.High Temperature Exposure	MIL-STD-202 Method 108	1.Temperature: 125℃ 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: -40℃ ~ 125℃ 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: 125℃ 2.Time:96 hours. 3.Apply rated current.	1.No mechanical and electrical damage. 2.Inductance shall not change more than ±25%.
5.External 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 their cycles.	1.No body change in appearance. 2.No marking blurred. 3.Inductance shall not change more than ±25%.
8.Vibration Test	MIL-STD-202 Method 204	1.Frequency and Amplitude : 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 Characterization	User Spec.	1.Operating temperature : -40℃~125℃ 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.

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