SMD POWER INDUCTORS

SDC1205 SERIES

1. PART NO. EXPRESSION :

S D C 1 2 0 5 - 1 R 3 Y F

(a) (b) (c) (d)(e)

(a) Series code

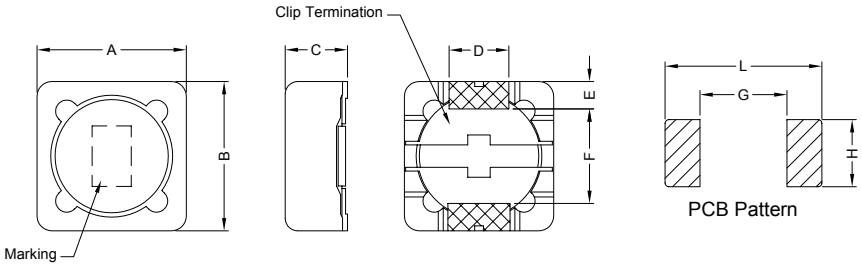
(b) Dimension code

(c) Inductance code : 1R3 = 1.3uH

(d) Tolerance code : M = ±20%, Y = ±30%

(e) F : RoHS Compliant

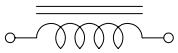
2. CONFIGURATION & DIMENSIONS :



Unit:m/m

A	B	C	D	E	F	G	H	L
12.8 Max.	12.8 Max.	6.0 Max.	5.0 Ref.	2.2 Ref.	7.6 Ref.	7.0 Ref.	5.4 Ref.	12.6 Ref.

3. SCHEMATIC :



4. GENERAL SPECIFICATION :

a) Temp. rise : 40°C Typ.

b) Rated current : Base on temp. rise & ΔL/L0A = 35%

c) Operating temp. : -40°C to +85°C

d) Storage temp. : -40°C to +85°C

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5. ELECTRICAL CHARACTERISTICS :

Part No.	Inductance (µH)	Test Frequency (Hz)	DCR (Ω) Max.	IDC (A) Max.
SDC1205-1R3YF	1.3 ±30%	1V / 100K	0.012	8.00
SDC1205-2R1YF	2.1 ±30%	1V / 100K	0.014	7.00
SDC1205-3R1YF	3.1 ±30%	1V / 100K	0.017	6.00
SDC1205-4R4YF	4.4 ±30%	1V / 100K	0.020	5.00
SDC1205-5R8YF	5.8 ±30%	1V / 100K	0.021	4.40
SDC1205-7R5YF	7.5 ±30%	1V / 100K	0.024	4.20
SDC1205-100MF	10 ±20%	1V / 1K	0.025	4.00
SDC1205-120MF	12 ±20%	1V / 1K	0.027	3.50
SDC1205-150MF	15 ±20%	1V / 1K	0.030	3.30
SDC1205-180MF	18 ±20%	1V / 1K	0.034	3.00
SDC1205-220MF	22 ±20%	1V / 1K	0.036	2.80
SDC1205-270MF	27 ±20%	1V / 1K	0.051	2.30
SDC1205-330MF	33 ±20%	1V / 1K	0.057	2.10
SDC1205-390MF	39 ±20%	1V / 1K	0.068	2.00
SDC1205-470MF	47 ±20%	1V / 1K	0.075	1.80
SDC1205-560MF	56 ±20%	1V / 1K	0.110	1.70
SDC1205-680MF	68 ±20%	1V / 1K	0.120	1.50
SDC1205-820MF	82 ±20%	1V / 1K	0.140	1.40
SDC1205-101MF	100 ±20%	1V / 1K	0.160	1.30
SDC1205-121MF	120 ±20%	1V / 1K	0.170	1.10
SDC1205-151MF	150 ±20%	1V / 1K	0.230	1.00
SDC1205-181MF	180 ±20%	1V / 1K	0.290	0.90
SDC1205-221MF	220 ±20%	1V / 1K	0.400	0.80
SDC1205-271MF	270 ±20%	1V / 1K	0.460	0.75
SDC1205-331MF	330 ±20%	1V / 1K	0.510	0.68
SDC1205-391MF	390 ±20%	1V / 1K	0.690	0.65
SDC1205-471MF	470 ±20%	1V / 1K	0.770	0.58
SDC1205-561MF	560 ±20%	1V / 1K	0.860	0.54
SDC1205-681MF	680 ±20%	1V / 1K	1.200	0.48
SDC1205-821MF	820 ±20%	1V / 1K	1.340	0.43
SDC1205-102MF	1000 ±20%	1V / 1K	1.530	0.40

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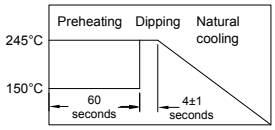
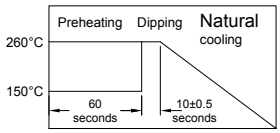
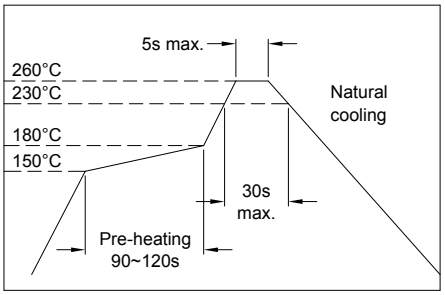
6. RELIABILITY AND TEST CONDITIONS :

ITEM	PERFORMANCE	TEST CONDITION
Mechanical Performance Test		
Solderability Test	More than 90% of the terminal electrode should be covered with solder. 	Preheat : 150°C, 60sec. Solder : Sn-Ag3.0-Cu0.5 Solder Temperature : 245±5°C Flux for lead free : rosin Dip Time : 4±1sec.
Solder Heat Resistance	1. Appearance : No significant abnormality 2. Inductance change : Within ±20% 	Preheat : 150°C, 60sec. Solder : Sn-Ag3.0-Cu0.5 Solder Temperature : 260±5°C Flux for lead free : rosin Dip Time : 10±0.5sec.
Reliability Test		
High Temperature Life Test	1. Appearance : No damage 2. Inductance : Within ±20% of initial value.	Temperature : 85±2°C Time : 500 hours Applied current : rated current
Thermal Shock		Conditions of 1 cycle. Step / Temperature (°C) / Times (min.) 1 / -25±2 / 30±3 2 / Room Temperature / 15 3 / +85±2 / 30±3 4 / Room Temperature / 15 Total : 50 cycles
Humidity Resistance	1. Appearance : No damage 2. Inductance : Within ±20% of initial value.	Temperature : 40±2°C Humidity : 90% to 95% Applied Current : Rated Current Time : 500 hours
Random Vibration Test	Appearance : Cracking, chipping & any other defects harmful to the characteristics should not be allowed.	Frequency : 10-55-10Hz for 1 min. Amplitude : 1.52mm Directions & times : X, Y, Z directions for 2 hours. A period of 2 hours in each of 3 mutually perpendicular directions (Total 6 hours).



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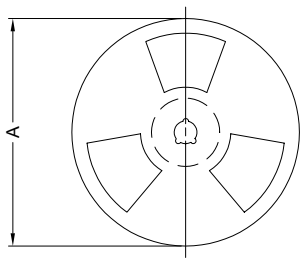
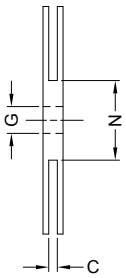
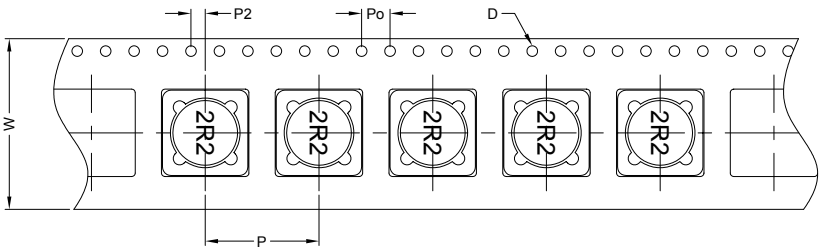
7. PACKAGING INFORMATION :

7-1. Tape and Reel Dimension





Type	A(mm)	C(mm)	G(mm)	N(mm)
13" x 24mm	330	24.5±0.5	13.5±0.5	100±1



W(mm)	P(mm)	P2(mm)	D(mm)	Po(mm)	Quantity (pcs)
24.0±0.3	16±0.1	2±0.1	1.5+0.25	4±0.1	600

Application Notice

1. Storage Conditions :
   To maintain the solderabililty of terminal electrodes :
   a) Temperature and humidity conditions : Less than 40°C and 70% RH.
   b) Recommended products should be used within 6 months from the time of delivery.
   c) The packaging material should be kept where no chlorine or sulfur exists in the air.

2. Transportation :
   a) Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
   b) The use of tweezers or vacuum pick up is strongly recommended for individual components.
   c) Bulk handling should ensure that abrasion and mechanical shock are minimized.

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