SMD Power Inductor

RoHS Compliant

Electrical Characteristics: (at 25°C)

Test Condition		
100kHz 0.25V	L	39μH ± 15%
at 25°C	DCR	0.32mΩ (Max.)
100kHz 0.25V I_{RMS} = 0.8A	ΔT	Temperature rise 40°C (Max.)
Operating temperature	-55°C to +130°C	

Material List:

No.	Item	Material Description
1	Core	R5A CDR5.8 × 4.5(ST) B2.4 F2.3
2	Wire	Φ0.2mm × 1P 2UEWF 155°C
3	Solder(Lead Free)	Sn99.3% / Cu0.7%

Reliability Test:

Test Items	Specifications	Test Method and Remarks
Operating temperature range	–55°C to +130°C	Including temperature rise due to self generated heat
Storage Condition	Ambient Temp. : 0°C to 40°C Humidity : Below 70%RH	To maintain the solderability of terminal electrodes, care must be taken to control temperature and humidity in the storage area.
Moisture Sensitivity	Appearance : No abnormality No Damage DCR change : within ±20% Inductance change : within ±20%	According to J-STD-020B level 3 Test condition : 60°C 60%RH Test duration : 40hrs Recovery : 1 to 2hrs of recovery under the standard condition after the removal from the test chamber.
Solderability	All termination shall exhibit a continuous solder coating free from defects for a minimum of 90% of the surface area of any individual lead.	According to J-STD-002B Steam aging category : 97°C 98%RH Steam aging duration : 8hrs Solder : Lead-free solder Solder temperature : 260 ±5°C Dip time : 5 +0/-0.5 seconds

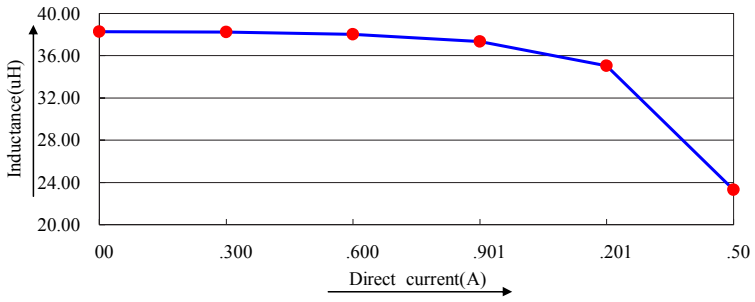
Test Data for Mechanical:

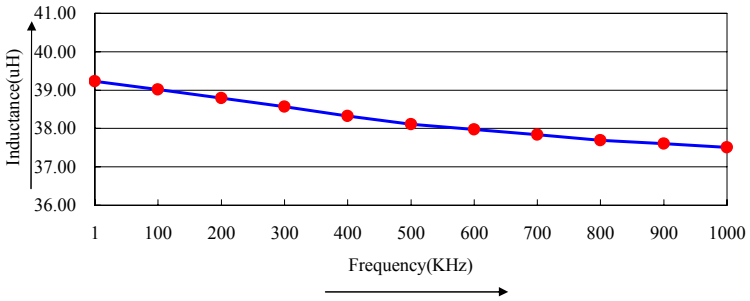
Test Item	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
Spec	5.2 ±0.3	5.8 ±0.3	4.5 ±0.35	2 (Ref)	5.8 ±0.5
1	5.3	5.96	4.56	2.06	5.78
2	5.32	5.88	4.58	2.1	5.8
3	5.28	5.84	4.6	2.18	5.67
4	5.24	5.9	4.59	2.07	5.76
5	5.25	5.92	4.52	2.06	5.73
Average	5.28	5.9	4.57	2.09	5.75

Test Data for Electrical:

Test Item	L μH	DCR Ω	ΔT
Condition	100kHz 0.25V	at 25°C	100kHz 0.25V I_{RMS} = 0.8A
Spec	39 ±15%	0.32 (Max.)	Temperature rise 40°C (Max.)
1	36.68	0.217	OK
2	37.26	0.213	
3	39.32	0.218	
4	37.14	0.219	
5	39.62	0.214	
Average	38	0.22	OK

Electrical Characteristics:





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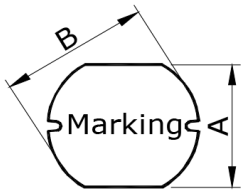
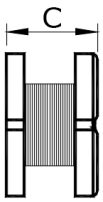
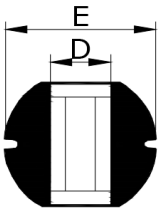
Configurations & Dimensions:



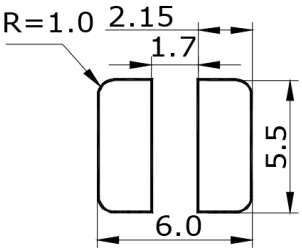
TOP VIEW



SIDE VIEW



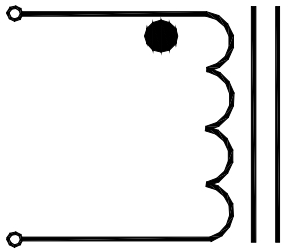
BOTTOM VIEW



Suggest PCB Layout

A	5.2 ±0.3mm
B	5.8 ±0.3mm
C	4.5 ±0.35mm
D	2 (REF)mm
E	5.8 ±0.5mm

Schematic Diagram:



Note: 1.Wire Φ0.2mm × 1P 2UEWF 155°C
2. 36.5TS(REF)

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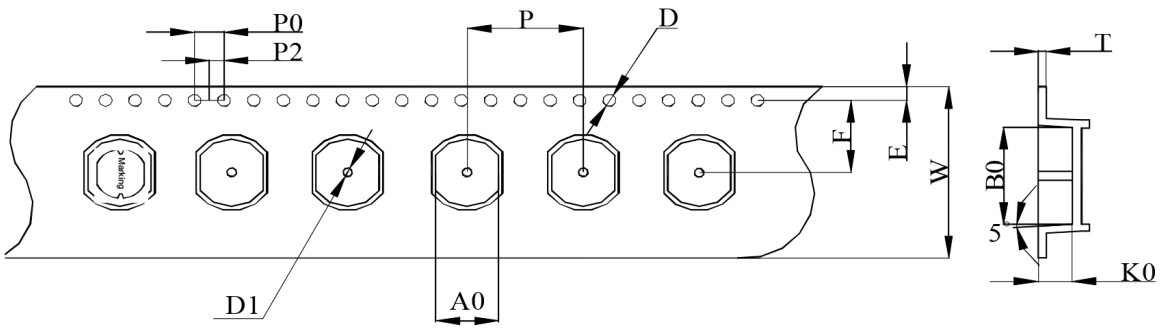
Package Specification:

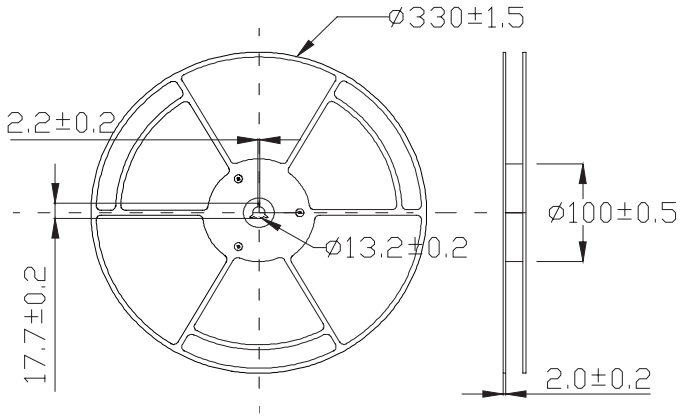
Encapsulation Mode



P	P0	P2	D	D1	E	F	W	B0	K0	A0	T
8 ±1	4 ±0.1	2 ±0.1	1.5 +0.15/-0	1.5 (min)	1.75 ±0.1	7.5 ±0.1	16 +0.3/-0.1	6.4 ±0.1	5.1 ±0.1	5.5 ±0.1	0.5 ±0.05

Dimensions : Millimetres

Reel Size:



Dimensions : Millimetres

Part Number Table

Description	Part Number
SMD Power Inductor, 39µH, ±15%	MCSD54-390LU