

SMD Power Inductor



**RoHS
Compliant**



Electrical Characteristics: (at 25°C)

Test Condition		
100kHz 0.25V	L	0.33μH ± 20%
at 25°C	DCR	8mΩ (Max.)
100kHz 0.25V I _{RMS} = 12A	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) B3.5 F2.3
2	Wire	Φ0.45mm × 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



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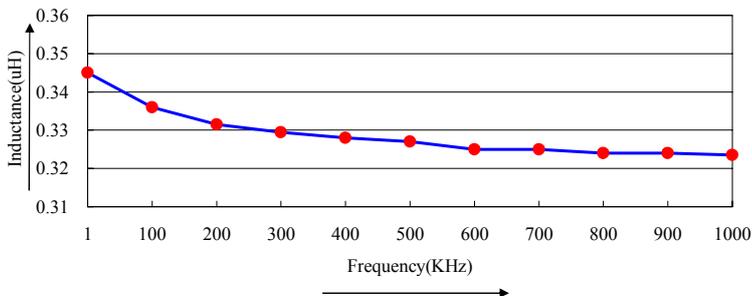
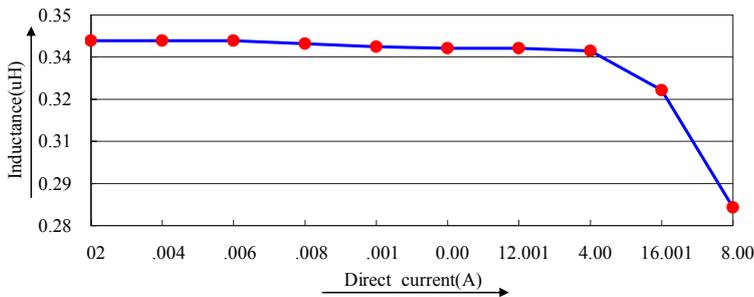
Test Data for Mechanical:

Test Item	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
Spec	5.2 ±0.3	5.8 ±0.3	4.5 ±0.4	2 (Ref)	5.8 ±0.5
1	5.26	5.87	4.52	2.02	5.85
2	5.28	5.88	4.54	2.03	5.83
3	5.24	5.85	4.55	1.96	5.85
4	5.26	5.86	4.51	1.98	5.91
5	5.27	5.84	4.52	2.01	5.87
Average	5.26	5.86	4.53	2	5.86

Test Data for Electrical:

Test Item	L μH	DCR mΩ	ΔT
Condition	100kHz 0.25V	at 25°C	100kHz 0.25V I _{RMS} = 12A
Spec	0.33 ±20%	8 (Max.)	Temperature rise 40°C (Max.)
1	0.322	6.09	OK
2	0.32	6.27	
3	0.327	6.13	
4	0.329	6.15	
5	0.321	6.07	
Average	0.32	6.14	OK

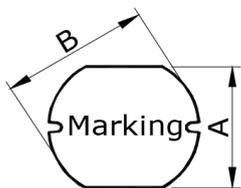
Electrical Characteristics:



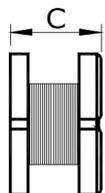
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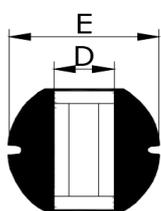
Configurations & Dimensions:



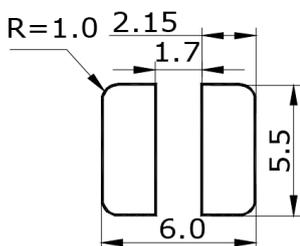
TOP VIEW



SIDE VIEW



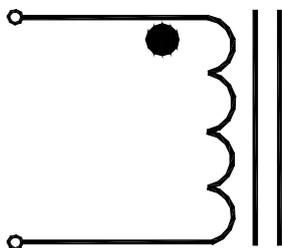
BOTTOM VIEW



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:



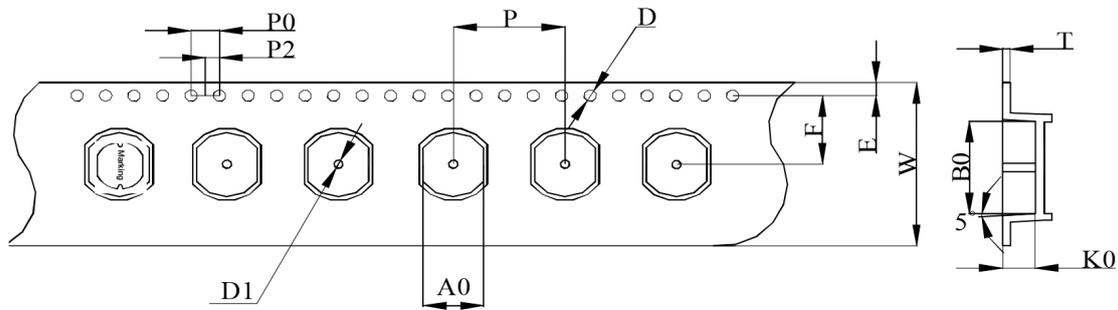
Note: 1. Wire $\Phi 0.45\text{mm} \times 1\text{P } 2\text{UEWF } 155^\circ\text{C}$
 2. 3.5TS(REF)

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Package Specification:

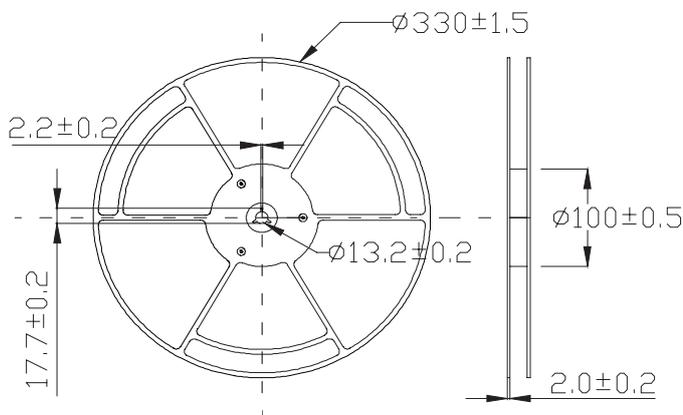
Encapsulation Mode



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, 0.33µH, ±20%	MCSD54-R33MU

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