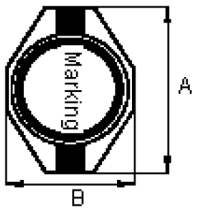
Inductor

multicomp PRO

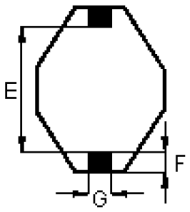
RoHS Compliant

Marking: 3R3

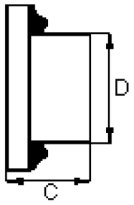
Configurations and Dimensions



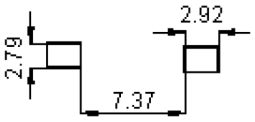
Top View



Bottom View

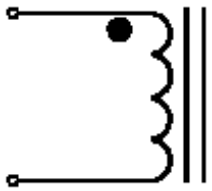


Side View



Suggest PCB Layout

Schematic Diagram



Note:
(1) Wire Ø0.33mm × 1P 2UEWF 155°C
(2) 11.5TS (Reference)

Test Data for Mechanical

Test Item	A mm	B mm	C mm	D mm	E mm	F mm	G mm
Specification	12.95 (Max.)	9.5 (Max.)	5.2 (Max.)	8.4 ±0.3	7.62 (Ref.)	2.54 (Ref.)	2.54 (Ref.)
1	12.75	9.21	4.78	8.5	7.62	2.52	2.53
2	12.73	9.22	4.8	8.48	7.6	2.51	2.52
3	12.78	9.2	4.81	8.51	7.61	2.53	2.53
4	12.8	9.18	4.8	8.52	7.62	2.5	2.51
5	12.74	9.2	4.79	8.49	7.59	2.52	2.52
Average	**12.76**	**9.2**	**4.8**	**8.5**	**7.61**	**2.52**	**2.52**

Dimensions : Millimetres

Electrical Characteristics

Test Condition		
1kHz 1V	L	3.3μH ±20%
T_A = 25°C	DCR	36mΩ (Max)
1kHz 0.1V Irms = 4.87A	ΔT	Temperature rise 40°C (Max.)

Operating temperature : -55°C to +130°C
Note : Irms : Temperature rise 40°C

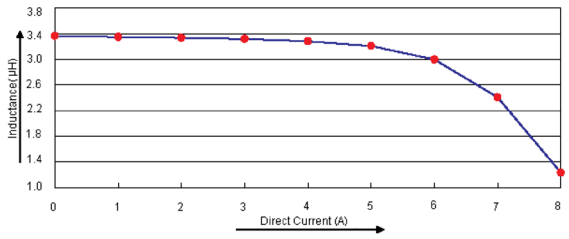
Material List

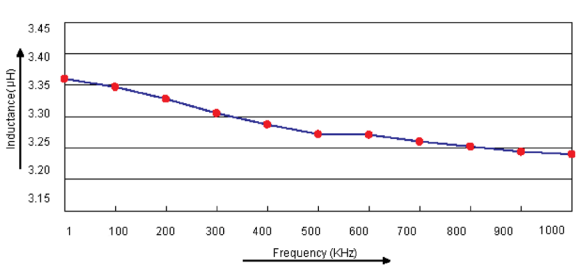
No.	Item	Material Description
1	Core	R5A DR4.8 × 4; R5A RI 8.4 × 4.1 × 6.85
2	Wire	Ø0.33 mm × 1P 2UEWF (155°C)
3	Solder (Lead Free)	Sn99.3% / Cu0.7%
4	Glue	TH320D / TH320-3
5	Base	SN-BS019.01 LCP

Reliability Test

Test Item	Specifications	Test Method and Remarks
Solderability	The electrodes shall be at least 90% covered with new solder coating.	According to IEC68-2-20 Soldering temperature : 245 ±5°C Solder : Sn99.3% / Cu0.7% Flux : Rosin Immersion time : 5 ±1s
Soldering heat resistance	Appearance : No damage Inductance change : Within ±10% of initial value	Preheat temperature 150°C Preheat time : 1 min Solder temperature : 260 ±5°C Dipping time : 10 ±1 s Measured at room temperature after placing for 24 hours.
Vibration (Out LAB)	Appearance : No damage All electrical and mechanical parameters within tolerance.	According to MIL-STD202 Method 204 Frequency : 10 to 55 Hz Amplitude : 1.52 mm Direction and time X Y and Z direction for 2 hours each.
Humidity resistance test	Appearance : No damage All electrical and mechanical parameters within tolerance.	According to IEC68-2-1 Method Ca Temperature : 40 ±2°C Humidity : 90%-95% RH Test time : 500 ±2 hrs The component should be stabilized at normal condition for 24 hours before test.
High temperature resistance test	Appearance : No damage All electrical and mechanical parameters within tolerance.	According to IEC68-2-2 Temperature : 85 ±3°C Test time : 500 +24 hrs The component should be stabilized at normal condition for 24 hours before test.
Low temperature resistance test	Appearance : No damage All electrical and mechanical parameters within tolerance.	According to IEC68-2-1 Method A (Ad) Temperature : -40 ±3°C Test time : 500 +24 hrs The component should be stabilized at normal condition for 24 hours before test.
Temperature cycles test	Appearance : No damage All electrical and mechanical parameters within tolerance.	According to IEC68-2-14 Method N (Nb) High-temperature : 85 ±3°C duration 30 mins Room-temperature : 25 ±2°C duration 3 hrs Low-temperature : -40 ±3°C duration 30 mins Room-temperature : 25 ±2°C duration 3 hrs Number of cycle : 10 cycles The component should be stabilized at normal condition for 24 hours before test.

Electric Characteristics





Test Data for Electrical

Test Item	L µH	DCR Ω	ΔT
Condition	100kHz 0.1V	at 25°C	100kHz 0.1V Irms = 4.87A
Specification	3.3 ±20%	36 (Maximum)	Temperature rise 40°C (Max.)
1	3.33	30.52	OK
2	3.39	30.8	
3	3.35	29.86	
4	3.32	29.58	
5	3.21	30.24	
Average	**3.32**	**30.2**	**OK**

Part Number Table

Description	Part Number
Inductor, 3.3µH, 20%, 4.5A	MCBFS5220-3R3MU