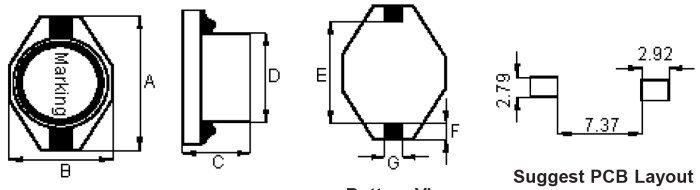
Power Inductor
SMD

multicomp PRO

RoHS Compliant

Configurations and Dimensions

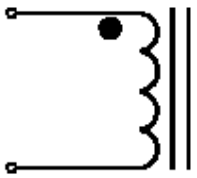


Top View | Side View | Bottom View | Suggest PCB Layout

Marking: 150

Dimensions : Millimetres

Schematic Diagram



Note:
1. Wire Ø0.24mm × 1P 2UEWF 155°C
2. 24.5TS (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	12.79	9.23	4.78	8.48	7.62	2.52	2.53
2	12.74	9.22	4.79		7.61	2.51	2.52
3	12.78	9.2	4.8	8.5	7.62		2.53
4	12.79	9.19	4.82	8.51	7.6	2.5	2.51
5	12.74	9.2	4.78	8.49	7.59	2.52	2.52
Average	**12.77**	**9.21**	**4.79**	**8.49**	**7.61**	**2.51**	**2.52**

Electrical Characteristics

Test Condition		
100kHz 0.25V	L	15µH ±20%
at = 25°C	DCR	140mΩ (Max.)
1kHz 0.1 V Irms = 2.28A	L at Irms	ΔT 40°C (Max.)

Operating temperature : -55°C to +130°C

Note: Irms : Temperature rise 40°C

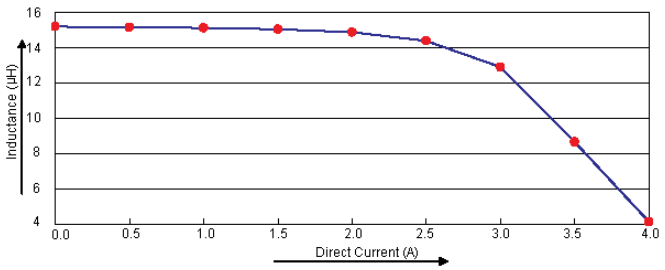
Material List

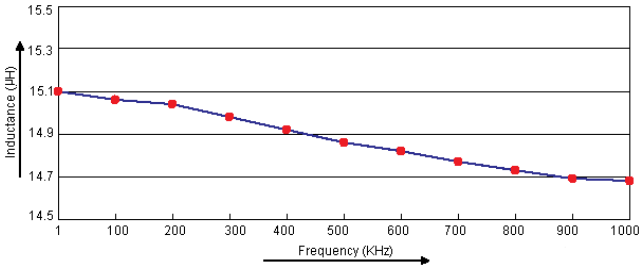
No.	Item	Material Description
1	Core	R5A DR4.8 × 4 R5A RI 8.4 × 4.1 × 6.85
2	Wire	Ø0.35 mm × 1P 2UEWF (155°C)
3	Solder (Lead-free)	Sn99.3% / Cu0.7%
4	Glue	TH320D / TH320-3
5	Base	SN-BS019.01 LCP

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 ±1 s
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 = 2.28A
Specification	15 ±20%	140 (Max.)	ΔT 40°C (Max.)
1	15.04	114.3	OK
2	15.33	113.25	
3	15.25	114.15	
4	15.46	114.26	
5	15.21	113.89	
Average	**15.26**	**113.97**	**OK**

Part Number Table

Description	Part Number
Power Inductor (SMD), 15μH, 20%, 2.2A	MCBFS5220-150MU