

SMD Wire Wound Power Inductors **multicomp**PRO

**RoHS
Compliant**



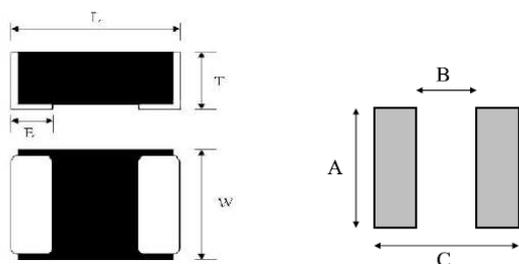
Applications

- Smart phone, PAD
- Thin-type power supply module
- DC-DC Converters

Features

- High saturation current realized by material properties and structure design
- Low DC resistance to achieve high conversion efficiency and lower temperature rising
- Magnetically shielded structure to accomplish high resolution in EMC protection
- Halogen free, Lead Free, RoHS Compliance

Dimensions



Unit: mm

Type	Size (Inch)	L	W	T	E	A	B	C
MP002787	0806	2±0.2	1.6±0.2	1 max	0.5±0.3	1.6	0.9	2
MP002788					0.6±0.3			
MP002789	1004	2.5±0.2	2±0.2		1.2 max	0.6±0.2	2	
MP002790				0.6±0.2				
MP002791	1008	2.5±0.2	2±0.2	1.2 max	0.6±0.2	2	1.2	2.8
MP002792								

Standard Electrical Specifications

Operating Temperature range : -40°C to +125°C

Wire Wound Type Power Inductor

Part No	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ) max.	Isat (A) max.	Irms (A) max.
MP002787	1.5	±20%	1MHz, 1V	137	2.25	1.65
MP002788	2.2			150	1.71	1.50
MP002789	1			54	3.15	2.70
MP002790	2.2			119	2.16	2.07
MP002791	0.47			25	4.95	4.18
MP002792	2.2			98	2.73	2.06

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High Current Electrical Specifications

Operating Temperature range : -40°C to +125°C

Wire Wound Type Power Inductor

Part No	Inductance (uH)	Tolerance	Test Condition	DCR (mΩ) max.	Isat (A) max.	Irms (A) max.
MP002787	1.5	±20%	1MHz, 1V	99	3.1	2.2
MP002788	2.2			140	2.45	2
MP002789	1			52	4	3.1
MP002790	2.2			110	3	2.1
MP002791	0.47			22	6.2	4.9
MP002792	2.2			89	3.2	2.2

Environmental Characteristics

Electrical Performance Test

Item	Requirement	Test Method
Inductance	Refer to standard electrical characteristic spec.	HP4285A
DC Resistance RDC		micro-ohm meter
Isat		DC current will cause a 30% inductance reduction form initial value
Irms		DC current will cause coil temp. rising to 40°C whichever is smaller

Mechanical Performance Test

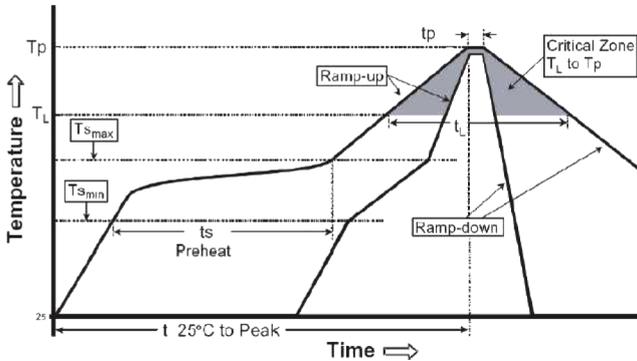
Item	Requirement	Test Method
Resistance to Soldering Heat	Appearance: No damage More than 95% of the terminal. Electrode should be covered with solder. Inductance: within ±20% of initial value	Flux: Rosin Solder Temperature: 260±5°C Immersion Time: 10±1 sec.
Adhesive Test	No mechanical damage Soldering the products on PCB after the pulling test force>5N	Reflow temperature: 245°C it shall be soldered on the substrate Applying direction parallel to the substrate Apply force(F) : 5 N Test time : 10 sec
Temperature Cycle	No mechanical damage Inductance: within ±20% of initial value	Temperature: -50°C to 125°C for 30 minutes each Cycle: 500 cycles Measurement: at ambient temperature 24 hours after test completion
Dry Heat Test		Temperature: 85±2°C Testing time: 500 hrs Applied current: full rated current Measurement: at ambient temperature 24 hours after test completion
Humidity Test		Temperature: 60±2°C, Humidity: 90% RH to 95% RH Testing time: 500 hrs Applied current: full rated current Measurement: at ambient temperature 24 hours after test completion

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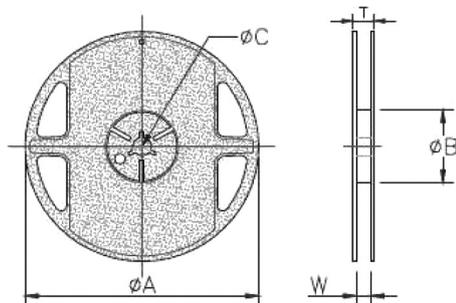
Recommendable Reflow Soldering



Profile Feature	PB free Assembly
Average Ramp Rate (Ts max to Tp)	3°C/Second max
Preheat Temperature Min (Ts_min) Temperature Min (Ts_min) Time (ts_min to ts_min)	150°C 200°C 60 to 180 seconds
Time maintained above: Temperature (TL) Time (tL)	217°C 60 to 150 seconds
Peak Temperature (Tp)	260°C +0/-5°C
Time within 2°C of actual Peak Temperature (Tp)	20 to 40 seconds
Ramp-Down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max

Packaging

Reel Specifications



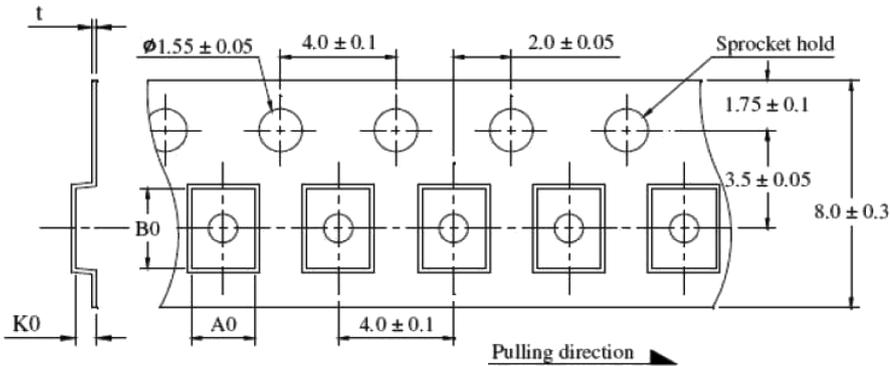
Type	A	B	C	W	T	Quantity (EA)
MP002787	178±1	60±0.5	13±0.2	9±0.5	12±0.15	3,000
MP002788						
MP002789						
MP002790						
MP002791						
MP002792						

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Tape Specifications



Unit: mm

Type	A0	B0	K0	t
MP002787	1.8±0.1	2.2±0.1	1.15±0.1	0.22±0.05
MP002788	1.82±0.05	2.23±0.05	1.15±0.05	0.22±0.05
MP002789	2.5±0.1	3±0.1	1.6±0.1	0.25±0.05
MP002790	2.25±0.05	2.8±0.1	1.35±0.1	0.22±0.05
MP002791	2.5±0.1	3±0.1	1.6±0.1	0.25±0.05
MP002792	2.25±0.05	2.8±0.1	1.35±0.1	0.22±0.05

Part Number Table

Description	Part Number
Wire Wound Power Inductor, 20%, 1.5uH, 0806	MP002787
Wire Wound Power Inductor, 20%, 2.2uH, 0806	MP002788
Wire Wound Power Inductor, 20%, 1uH, 1004	MP002789
Wire Wound Power Inductor, 20%, 2.2uH, 1004	MP002790
Wire Wound Power Inductor, 20%, 0.47uH, 1008	MP002791
Wire Wound Power Inductor, 20%, 2.2uH, 1008	MP002792

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