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Electronic Materials Components

Multilayer Power Inductor

- JCP Series



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JCP Series

Multilayer Power Inductor



1 What is Multilayer Power Inductor?

Power Inductor means inductor that can be applied in power line. Normally it is used in output line of DC-DC Converter with capacitor. It converts switching wave form to DC.

Normally, wire wound type power inductor that was formed by copper wire and ferrite core has been used in there before, but we developed small size and high performance power inductor that can be used in high current line using by our material, producing and CAE technology. It can be replaced wire wound type power inductor.

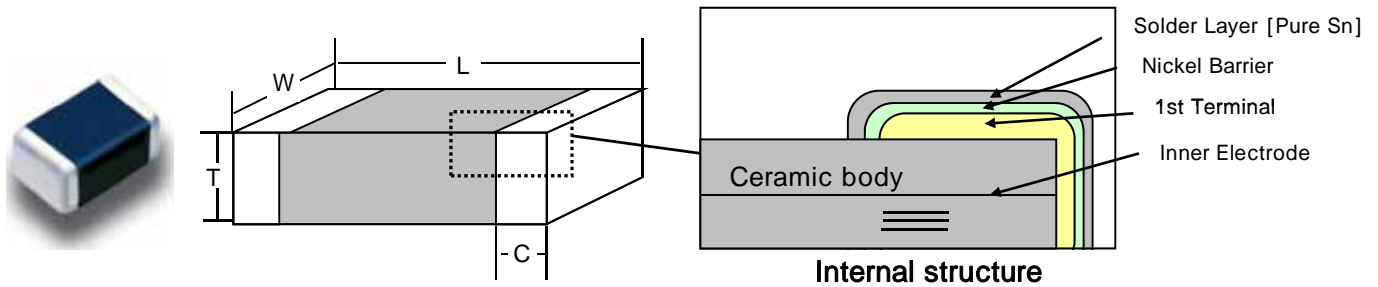
2 Applications of JCP Series

1. Output Line of DC-DC Converter
2. Power Line of mobile electronics

3 Feature of JCP Series

1. Represent high reliability in SMT process by monolithic SMD structure.
2. Show high power efficiency by low resistance and high quality factor.
3. When it is used in electronics, it can reduce temperature effects cause by low temperature rising ratio.
4. Closed magnetic circuit avoids crosstalk and radiation EMI noise. So it is suitable for high density printed circuit boards.
5. Excellent solder ability and high heat resistance for either flow or reflow soldering.

4 Shape and Dimension



Unit : mm (inch)

Series	Length(L)	Width(W)	Thickness(t)	C
1608 (0603)	1.6±0.15	0.8±0.15	Max. 0.8	0.2~0.6
2012 (0805)	2.0±0.2	1.25±0.2	Max. 1.0	0.2~0.8
2016 (0806)	2.0±0.2	1.6±0.2	Max. 1.0	0.2~0.8
2520 (1008)	2.5±0.2	2.0±0.2	Max. 1.0 (10uH :1.2)	0.2~0.8

5 Part Number



Series	Multilayer Chip Power Inductor
Type	Type of multilayer Chip Power Inductor (N:Normal, H:High Current)
Size	Refer to Shape & Dimension
Material	Type of material
Inductance	Number means value, letter means decimal and unit (R:uH, N:nH) (Example : 1R0 means 1.0uH, 1N0 means 1.0nH)
Tolerance	Variation of inductance (K: ±10%, M: ±20%)
User code	This code will be lettered due to customer
Packing	T : Taping, B : Bulk

6 Specification

Part Number	Inductance (μH)	Normal Tolerance	DC Resistance (Ω)	Rated Current (mA) Max.
JCPN1608FR47MNT	0.47	±20%	0.15±20%	1100
JCPN1608F1R0MNT	1.0	±20%	0.20±20%	950
JCPN1608F1R5MNT	1.5	±20%	0.25±20%	800
JCPN1608F2R2MNT	2.2	±20%	0.30±20%	750
JCPN1608F3R3MNT	3.3	±20%	0.45±20%	700
JCPN1608F4R7MNT	4.7	±20%	0.50±20%	620
JCPN2012F1R0MNT	1.0	±20%	0.11±20%	1200
JCPN2012F1R5MNT	1.5	±20%	0.14±20%	1100
JCPN2012F2R2MNT	2.2	±20%	0.17±20%	1000
JCPN2012F3R3MNT	3.3	±20%	0.23±20%	900
JCPN2012F4R7MNT	4.7	±20%	0.26±20%	800
JCPN2016F1R0MNT	1.0	±20%	0.09±30%	1600
JCPN2016F1R5MNT	1.5	±20%	0.11±30%	1500
JCPN2016F2R2MNT	2.2	±20%	0.12±30%	1400
JCPN2016F3R3MNT	3.3	±20%	0.15±30%	1300
JCPN2016F4R7MNT	4.7	±20%	0.18±30%	1200
JCPN2520F1R0MNT	1.0	±20%	0.07±30%	1700
JCPN2520F1R5MNT	1.5	±20%	0.10±30%	1600
JCPN2520F2R2MNT	2.2	±20%	0.11±30%	1500
JCPN2520F3R3MNT	3.3	±20%	0.13±30%	1400
JCPN2520F4R7MNT	4.7	±20%	0.16±30%	1300
JCPN2520F6R8MNT	6.8	±20%	0.20±30%	1200
JCPN2520F100MNT	10.0	±20%	0.30±30%	1100

1. Inductance/Q : Tested at 1 MHz and test equipment is High Accuracy RF Impedance / Material Analyzer - HP4291B

2. DC Resistance : Test equipment is High Accuracy Milliohm Meter HP4338B

3. Rated Current :

1) Test equipment: Electric Power, Electric current meter, Thermometer.

2) Definition of Rated Current (IDC): IDC is direct electric current as initial surface temperature of component increase to 40°C

