

High-Reliability Power Inductors MS412PJB



- High temperature materials allow operation in ambient temperatures up to 155°C
- Special construction allows it to pass vibration testing to 80 G and shock testing to 1000 G.
- Tin-lead (Sn-Pb) termination for the best possible board adhesion

Core material Ferrite

Terminations Tin-lead (63/37) over tin over nickel.

Weight 40 – 45 mg

Ambient temperature –55°C to +105°C with Irms current, +105°C to +155°C with derated current

Storage temperature Component: –55°C to +155°C.
Packaging: –55°C to +80°C

Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Enhanced crush-resistant packaging 1000/7" reel

Plastic tape: 12 mm wide, 0.26 mm thick, 8 mm pocket spacing, 1.65 mm pocket depth

Recommended pick and place nozzle OD: 3 mm; ID: ≤1.5 mm

Part number ¹	Inductance ² ±20% (µH)	DCR max ³ (Ohms)	SRF (MHz) ⁴		Isat (A) ⁵			Irms (A) ⁶	
			min	typ	10% drop	20% drop	30% drop	20°C rise	40°C rise
MS412PJB102MSZ	1.0	0.075	133	190	1.8	2.0	2.1	1.1	1.6
MS412PJB152MSZ	1.5	0.100	98.0	140	1.8	2.1	2.2	1.0	1.4
MS412PJB182MSZ	1.8	0.100	94.5	135	1.5	1.7	2.1	0.88	1.1
MS412PJB222MSZ	2.2	0.110	77.0	110	2.0	2.0	2.1	0.88	1.1
MS412PJB332MSZ	3.3	0.130	63.0	90	1.4	1.5	1.5	0.80	1.1
MS412PJB472MSZ	4.7	0.200	55.3	79	1.1	1.2	1.2	0.72	1.0
MS412PJB682MSZ	6.8	0.300	40.6	58	0.83	0.86	0.89	0.54	0.72
MS412PJB103MSZ	10	0.440	33.6	48	0.60	0.69	0.73	0.44	0.60
MS412PJB153MSZ	15	0.700	24.5	35	0.58	0.61	0.62	0.35	0.47
MS412PJB183MSZ	18	0.750	23.1	33	0.56	0.58	0.59	0.34	0.46
MS412PJB223MSZ	22	0.825	21.0	30	0.48	0.49	0.50	0.34	0.46
MS412PJB333MSZ	33	1.30	16.1	23	0.39	0.41	0.42	0.28	0.38
MS412PJB473MSZ	47	1.55	11.9	17	0.36	0.38	0.39	0.24	0.32
MS412PJB683MSZ	68	2.25	9.80	14	0.30	0.31	0.32	0.20	0.26
MS412PJB104MSZ	100	3.40	7.70	11	0.24	0.25	0.26	0.15	0.21
MS412PJB124MSZ	120	4.60	6.30	9.0	0.21	0.22	0.23	0.14	0.18
MS412PJB154MSZ	150	6.10	5.60	8.0	0.19	0.20	0.20	0.12	0.16
MS412PJB184MSZ	180	8.60	5.25	7.5	0.16	0.17	0.17	0.10	0.14
MS412PJB224MSZ	220	9.50	4.20	6.0	0.15	0.16	0.16	0.090	0.12
MS412PJB334MSZ	330	23.0	3.50	5.0	0.10	0.11	0.11	0.060	0.080

1. When ordering, please specify **testing** code:

MS412PJB333MSZ

Testing: Z = COTS

H = Screening per Coilcraft CP-SA-10001

N = Screening per Coilcraft CP-SA-10004

2. Inductance tested at 100 kHz, 0.1 Vrms using an Agilent/HP 4192A.
Inductance at 1 MHz is the same for parts with SRF ≥10 MHz.

3. DCR measured on a micro-ohmmeter.

4. SRF measured using Agilent/HP 8753ES or equivalent.

5. DC current that causes the specified inductance drop from its value without current.

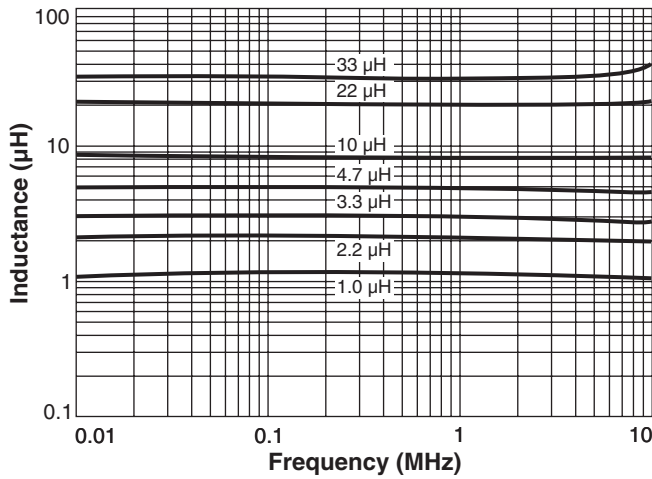
6. Current that causes the specified temperature rise from 25°C ambient.

7. Electrical specifications at 25°C.

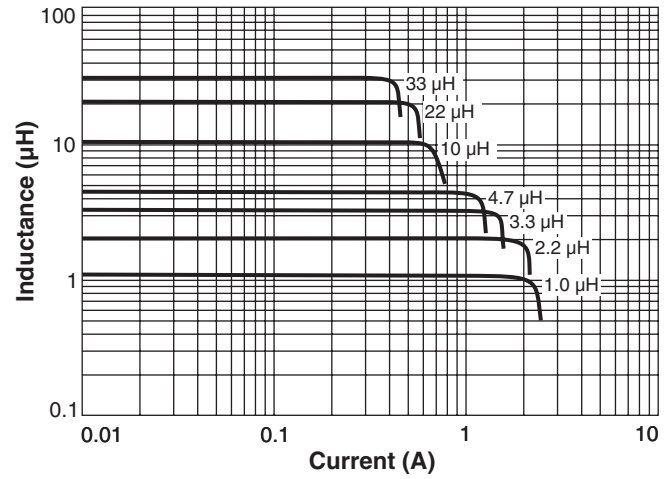
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

MS412PJB Series (3015)

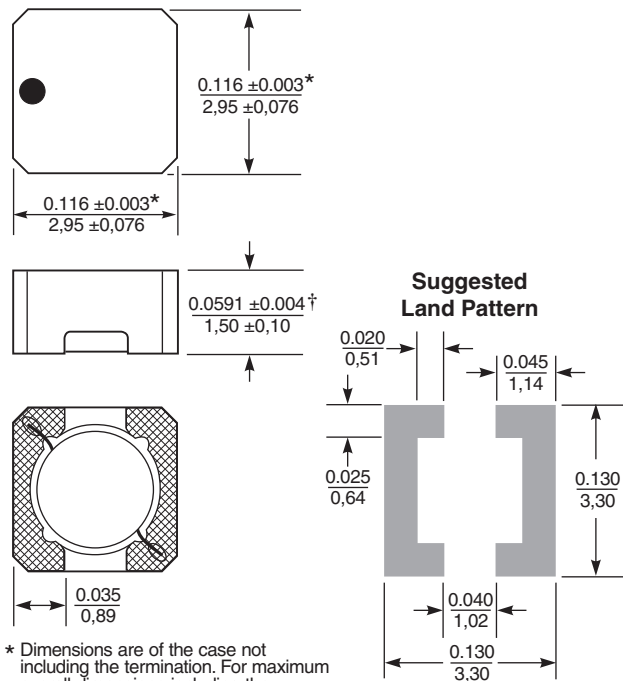
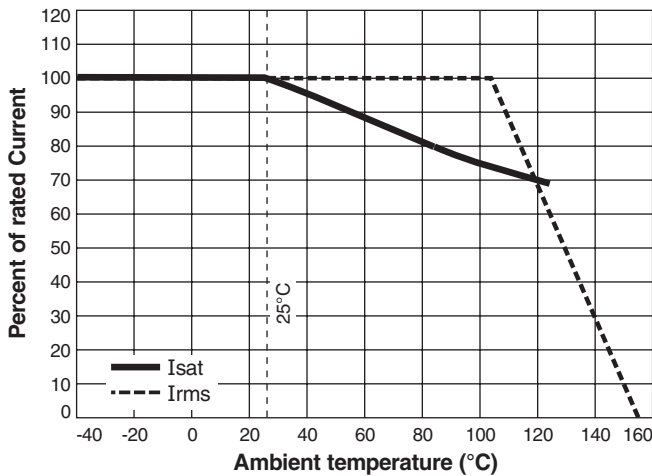
Typical L vs Frequency



Typical L vs Current



Current Derating



* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.005 in / 0.13 mm.

† Height dimension is after mounting. For maximum height dimension before mounting, add 0.006 in / 0.152 mm.

Dimensions are in $\frac{\text{inches}}{\text{mm}}$