High-Reliability Power Inductors MS414PJB



- High temperature material allows 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 44.1 – 46.5 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. Tape and reel 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, 0.3 mm thick, 8 mm pocket spacing, 1.52 mm pocket depth

Recommended pick and place nozzle OD: 3.3 mm; ID: ≤ 1.65 mm

Part number[1]	Inductance ±20%[2] (µH)	DCR max[3] (Ohms)	SRF (MHz)[4] min	SRF (MHz)[4] typ	Isat (A)[5] 10% drop	Isat (A)[5] 20% drop	Isat (A)[5] 30% drop	Irms (A)[6] 20°C rise	Irms (A)[6] 40°C rise
MS414PJB102MSZ	1.0	0.055	150	215	1.8	1.9	1.9	1.3	1.7
MS414PJB222MSZ	2.2	0.100	98.0	140	1.1	1.4	1.5	0.96	1.3
MS414PJB332MSZ	3.3	0.145	80.5	115	0.98	1.2	1.3	0.80	1.1
MS414PJB472MSZ	4.7	0.175	60.2	86	0.97	0.99	1.0	0.72	1.0
MS414PJB562MSZ	5.6	0.220	51.8	74	0.92	0.95	0.98	0.66	0.88
MS414PJB682MSZ	6.8	0.240	50.4	72	0.82	0.83	0.86	0.66	0.88
MS414PJB822MSZ	8.2	0.270	42.0	60	0.58	0.75	0.78	0.56	0.80
MS414PJB103MSZ	10	0.330	38.5	55	0.56	0.66	0.70	0.52	0.70
MS414PJB153MSZ	15	0.440	31.5	45	0.46	0.56	0.59	0.50	0.66
MS414PJB183MSZ	18	0.575	25.9	37	0.44	0.51	0.54	0.42	0.54
MS414PJB223MSZ	22	0.720	23.8	34	0.44	0.48	0.49	0.36	0.48
MS414PJB333MSZ	33	0.920	18.9	27	0.30	0.38	0.40	0.34	0.46
MS414PJB473MSZ	47	1.40	15.4	22	0.28	0.33	0.34	0.28	0.38
MS414PJB563MSZ	56	1.55	13.3	19	0.26	0.30	0.31	0.26	0.34
MS414PJB683MSZ	68	1.80	11.9	17	0.22	0.26	0.29	0.24	0.32
MS414PJB823MSZ	82	2.00	9.8	14	0.20	0.24	0.26	0.23	0.31
MS414PJB104MSZ	100	2.75	9.1	13	0.19	0.23	0.24	0.21	0.30
MS414PJB124MSZ	120	3.45	7.7	11	0.19	0.21	0.22	0.18	0.24
MS414PJB154MSZ	150	4.10	7.0	10	0.16	0.19	0.20	0.16	0.22
MS414PJB184MSZ	180	4.80	6.3	9.0	0.14	0.17	0.18	0.15	0.20
MS414PJB224MSZ	220	6.00	4.90	7.0	0.14	0.16	0.17	0.13	0.18
MS414PJB334MSZ	330	9.30	4.20	6.0	0.11	0.12	0.13	0.10	0.14
MS414PJB474MSZ	470	12.0	3.15	4.5	0.080	0.11	0.11	0.10	0.13
MS414PJB564MSZ	560	14.0	3.15	4.5	0.095	0.105	0.11	0.090	0.12
MS414PJB684MSZ	680	18.5	2.80	4.0	0.092	0.100	0.105	0.080	0.10
MS414PJB824MSZ	820	24.0	2.59	3.7	0.086	0.099	0.100	0.070	0.090
MS414PJB105MSZ	1000	31.0	2.10	3.0	0.090	0.099	0.100	0.065	0.080
MS414PJB155MSZ	1500	44.0	1.89	2.7	0.080	0.086	0.090	0.050	0.060

1. When ordering, please specify **testing** code:
   MS414PJB105MSZ
   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.

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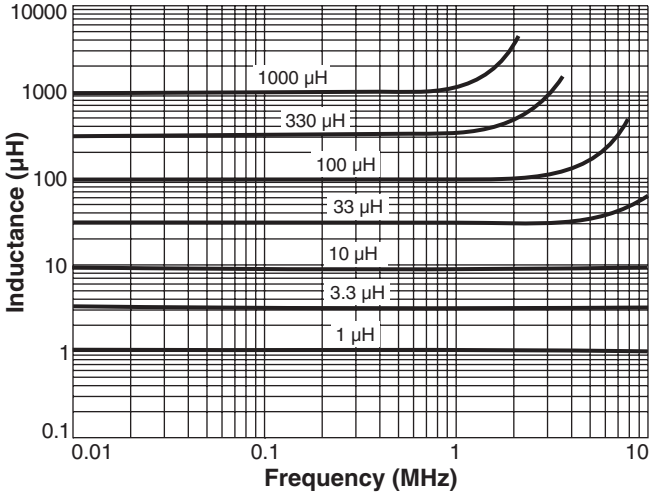
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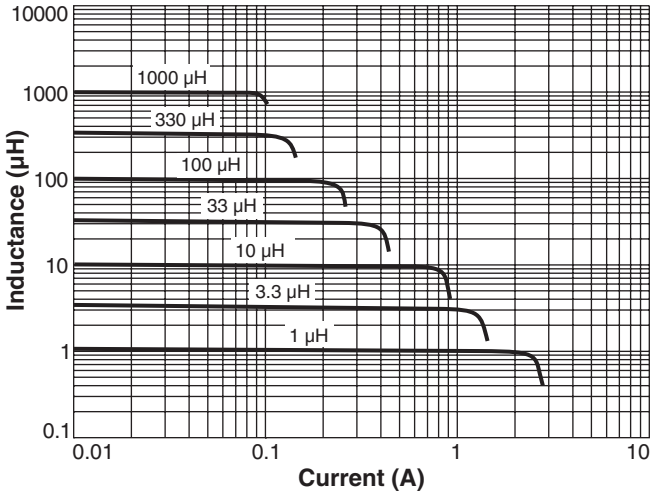
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MS414PJB Series (3315)

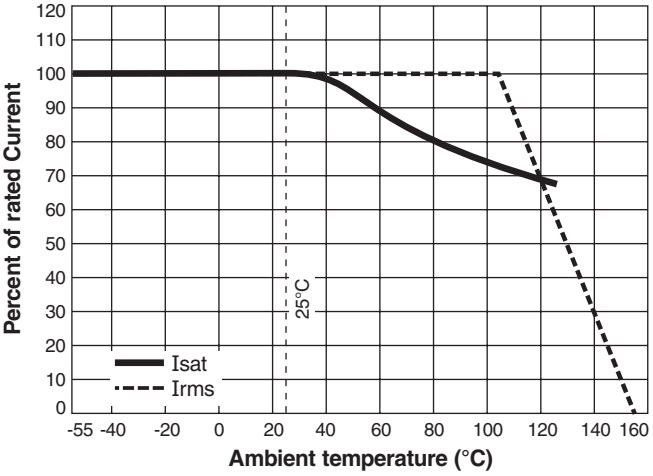
Typical L vs Frequency

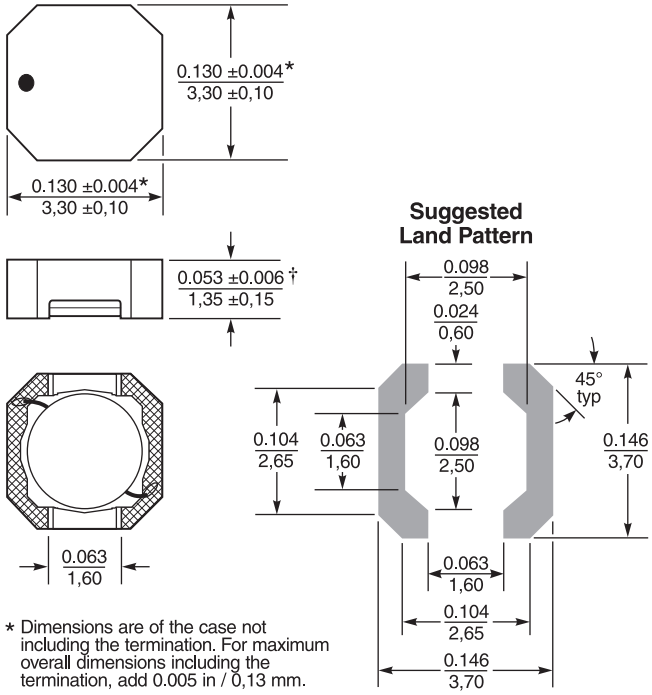


Typical L vs Current



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 inches / mm

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