

# High-Reliability Power Inductors MS512PJB



- 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** 395 – 544 mg

**Ambient temperature** –55°C to +105°C with Irms current

**Maximum part temperature** +155°C (ambient + temp rise)

**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** 350/7" reel

Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing,

3.68 mm pocket depth

**Recommended pick and place nozzle** OD: 6.2 mm; ID: ≤ 3.1 mm

Part number <sup>1</sup>	Inductance <sup>2</sup> ±20% (µH)	DCR <sup>3</sup> max (Ohms)	SRF (MHz) <sup>4</sup>		Isat (A) <sup>5</sup>			Irms (A) <sup>6</sup>	
			min	typ	10% drop	20% drop	30% drop	20°C rise	40°C rise
MS512PJB682MSZ	6.8	0.075	39	55	2.6	2.7	2.8	1.0	1.5
MS512PJB822MSZ	8.2	0.095	34	48	2.5	2.6	2.7	1.0	1.5
MS512PJB103MSZ	10.0	0.100	26	37	2.3	2.4	2.5	1.0	1.4
MS512PJB123MSZ	12.0	0.110	20	29	1.9	2.2	2.3	1.0	1.4
MS512PJB153MSZ	15.0	0.125	18	25	1.9	2.0	2.0	0.97	1.4
MS512PJB183MSZ	18.0	0.140	17	24	1.7	1.8	1.9	0.96	1.3
MS512PJB223MSZ	22.0	0.145	17	24	1.6	1.7	1.7	0.88	1.3
MS512PJB333MSZ	33.0	0.180	11	16	1.3	1.4	1.5	0.80	1.0
MS512PJB473MSZ	47.0	0.245	9.0	13	1.1	1.2	1.2	0.64	0.92
MS512PJB563MSZ	56.0	0.280	8.4	12	1.0	1.0	1.1	0.60	0.86
MS512PJB683MSZ	68.0	0.345	7.6	10.8	0.90	0.94	0.96	0.58	0.80
MS512PJB823MSZ	82.0	0.315	7.0	10.0	0.46	0.52	0.55	0.58	0.76
MS512PJB104MSZ	100.0	0.375	6.3	9.0	0.46	0.52	0.54	0.56	0.72
MS512PJB124MSZ	120.0	0.435	5.8	8.3	0.44	0.48	0.51	0.48	0.64
MS512PJB154MSZ	150.0	0.535	5.1	7.3	0.37	0.43	0.45	0.42	0.58
MS512PJB224MSZ	220.0	0.72	4.0	5.6	0.31	0.36	0.37	0.36	0.51
MS512PJB334MSZ	330.0	1.02	3.0	4.4	0.26	0.29	0.30	0.32	0.44
MS512PJB474MSZ	470.0	1.58	2.5	3.6	0.22	0.25	0.26	0.29	0.40
MS512PJB564MSZ	560.0	1.75	2.2	3.1	0.20	0.22	0.23	0.26	0.37
MS512PJB684MSZ	680.0	1.97	2.0	2.8	0.17	0.19	0.21	0.22	0.32
MS512PJB824MSZ	820.0	2.70	1.8	2.5	0.16	0.18	0.19	0.21	0.26
MS512PJB105MSZ	1000.0	3.20	1.5	2.2	0.14	0.17	0.18	0.19	0.24
MS512PJB155MSZ	1500.0	4.60	1.3	1.9	0.12	0.13	0.14	0.15	0.21
MS512PJB185MSZ	1800.0	5.42	1.2	1.7	0.11	0.12	0.13	0.14	0.18
MS512PJB225MSZ	2200.0	6.40	1.0	1.5	0.090	0.11	0.11	0.13	0.18
MS512PJB335MSZ	3300.0	8.90	0.8	1.1	0.080	0.090	0.10	0.11	0.14
MS512PJB475MSZ	4700.0	14.0	0.66	0.94	0.070	0.077	0.084	0.095	0.12
MS512PJB565MSZ	5600.0	16.4	0.6	0.86	0.070	0.080	0.085	0.080	0.10
MS512PJB685MSZ	6800.0	21.4	0.56	0.80	0.070	0.075	0.080	0.070	0.095
MS512PJB825MSZ	8200.0	24.0	0.49	0.70	0.062	0.070	0.078	0.065	0.090
MS512PJB106MSZ	10000.0	29.0	0.43	0.61	0.059	0.067	0.074	0.060	0.075

1. When ordering, please specify screening code:

- MS512PJB106MSZ  
↓
- Screening:** Z = Unscreened  
H = Coilcraft CP-SA-10001 Group A  
1/2/3 = EEE-INST-002 (Family 1) Level 1/2/3  
4/5 = MIL-STD-981 (Family 04) Class B=4, Class S=5  
F = ESCC3201 (F4 operational life performed at 105°C)
- Screening performed to the document's latest revision.
  - Lot qualification (Group B) available.
  - Testing T and U have been replaced with more detailed codes 4, 5, and 1, 2, 3, respectively. Codes T and U can still be used, if necessary. Custom testing also available.
  - Country of origin restrictions available; prefix options G or F.

2. Inductance tested at 100 kHz, 0.1 Vrms using an Agilent/HP 4192A.

3. DCR measured on a micro-ohmmeter.

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

5. DC current at 25°C that causes the specified inductance drop from its value without current.

6. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

7. Electrical specifications at 25°C.

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

Document MS587-1 Revised 03/29/21

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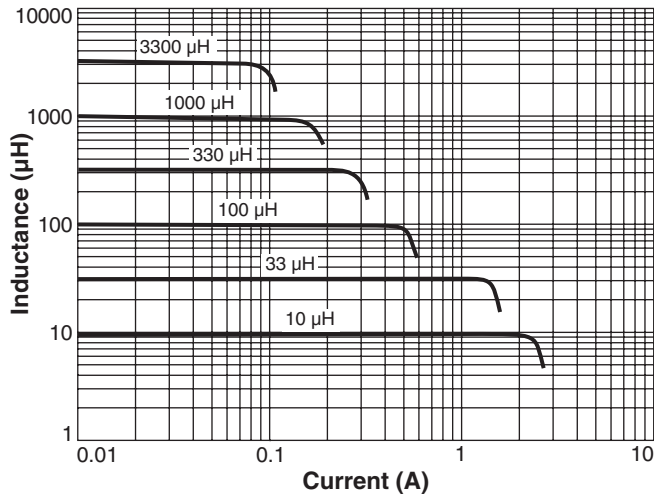
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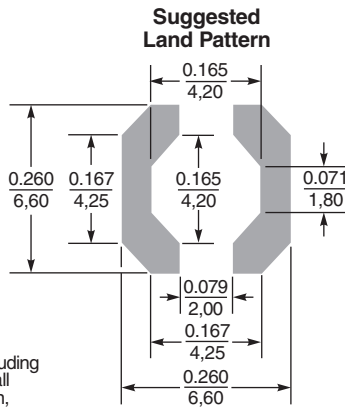
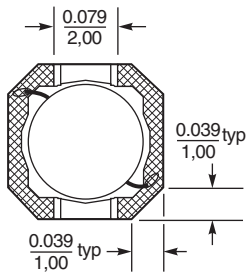
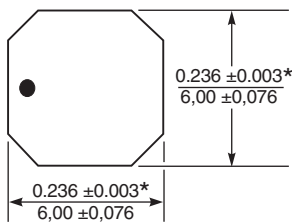
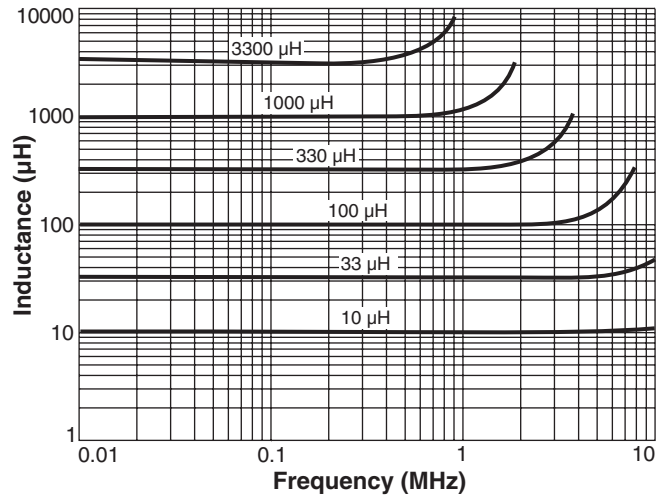
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# MS512PJB Series (6235)

## Typical L vs Current



## Typical L vs Frequency



\* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination, add 0.010 inches / 0,254 mm.

† Height dimension is after mounting. For maximum height dimension before mounting, add 0.006 in / 0,152 mm.

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



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Document MS587-1 Revised 03/29/21

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