

# High-Reliability Power Inductors MS378PJB



- 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** 25 – 32 mg

**Ambient temperature** –55°C to +105°C with (40°C) Irms current

**Maximum part temperature** +155°C (Ambient + temperature rise)

**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, 0.23 mm thick, 8 mm pocket spacing, 1.4 mm pocket depth

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

Part number <sup>1</sup>	Inductance <sup>2</sup> ±20% (µH)	DCR max <sup>3</sup> (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
MS378PJB471MSZ	0.47	0.070	259	370	2.3	2.4	2.4	1.4	1.8
MS378PJB681MSZ	0.68	0.080	189	270	1.8	1.9	1.9	1.2	1.6
MS378PJB102MSZ	1.0	0.085	161	230	1.6	1.7	1.7	1.0	1.4
MS378PJB152MSZ	1.5	0.120	115	165	1.3	1.3	1.4	0.96	1.3
MS378PJB182MSZ	1.8	0.150	105	150	1.2	1.2	1.3	0.80	1.1
MS378PJB222MSZ	2.2	0.220	91.0	130	1.3	1.4	1.4	0.72	0.88
MS378PJB332MSZ	3.3	0.220	77.0	110	0.83	0.88	0.90	0.68	0.88
MS378PJB472MSZ	4.7	0.300	64.4	92	0.72	0.75	0.77	0.56	0.76
MS378PJB562MSZ	5.6	0.400	56.0	80	0.67	0.69	0.71	0.48	0.62
MS378PJB682MSZ	6.8	0.450	49.0	70	0.61	0.63	0.64	0.45	0.59
MS378PJB822MSZ	8.2	0.500	43.4	62	0.56	0.59	0.60	0.42	0.57
MS378PJB103MSZ	10	0.540	40.6	58	0.50	0.53	0.55	0.38	0.51
MS378PJB123MSZ	12	0.700	32.9	47	0.46	0.49	0.50	0.35	0.46
MS378PJB153MSZ	15	0.950	30.1	43	0.41	0.43	0.44	0.30	0.42
MS378PJB183MSZ	18	1.00	27.0	40	0.38	0.40	0.41	0.26	0.38
MS378PJB223MSZ	22	1.20	25.2	36	0.32	0.35	0.36	0.24	0.33
MS378PJB333MSZ	33	2.00	18.9	27	0.25	0.27	0.28	0.21	0.28
MS378PJB473MSZ	47	3.20	14.7	21	0.23	0.24	0.25	0.18	0.25
MS378PJB683MSZ	68	3.50	14.7	21	0.20	0.21	0.22	0.16	0.22
MS378PJB104MSZ	100	5.25	9.8	14	0.14	0.16	0.17	0.14	0.19
MS378PJB124MSZ	120	6.10	8.4	12	0.13	0.15	0.15	0.12	0.16
MS378PJB154MSZ	150	9.15	7.7	11	0.13	0.14	0.14	0.10	0.14
MS378PJB184MSZ	180	10.1	6.3	9	0.11	0.12	0.13	0.090	0.12
MS378PJB224MSZ	220	12.5	5.6	8	0.10	0.11	0.12	0.080	0.10
MS378PJB334MSZ	330	18.5	4.9	7	0.10	0.105	0.115	0.070	0.090

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

**MS378PJB334MSZ**

**Testing:**

**Z** = Unscreened

**H** = Group A screening per Coilcraft CP-SA-10001

**T** = Screening per MIL-STD-981

**U** = Screening per IEEE-INST-002

**F** = Screening per ESCC 3201

All screening performed to the document's latest revision

Custom screening also available

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 an 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. 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.

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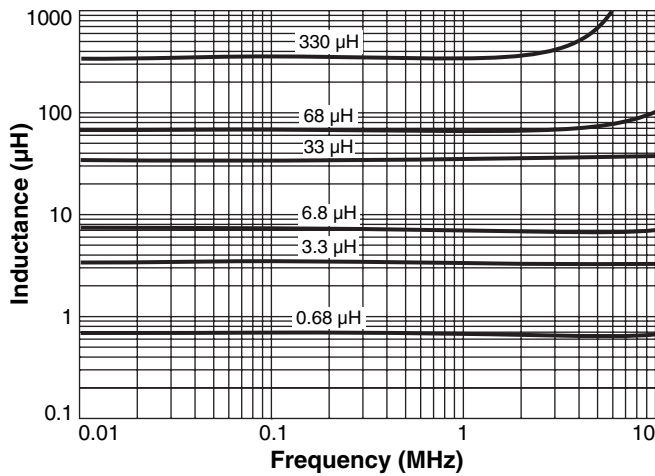
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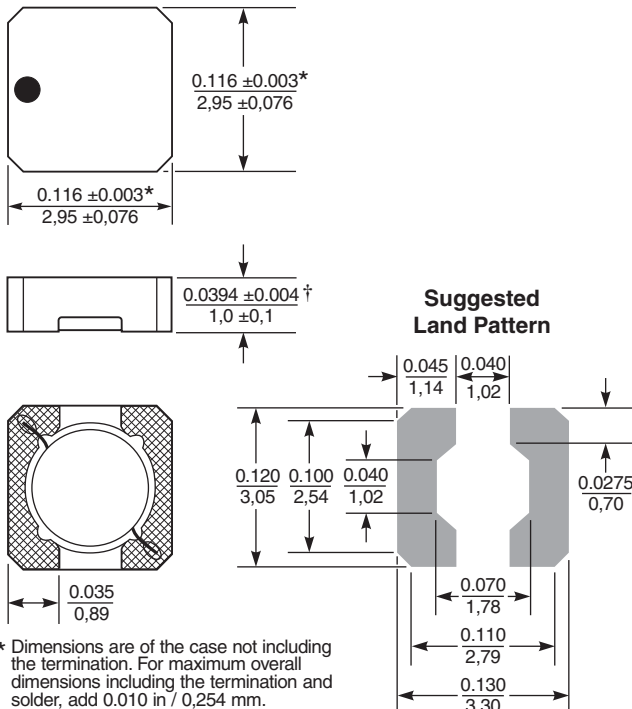
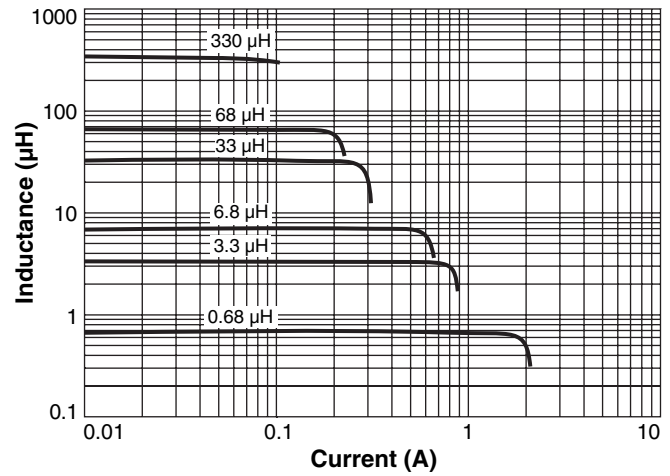
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# MS378PJB Series (3010)

## Typical L vs Frequency



## Typical L vs Current



\* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination and solder, add 0.010 in / 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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