

# Outgassing Compliant Power Inductors AE512PJB



- High temperature materials allow operation in ambient temperatures up to 155°C.
- Passes NASA low outgassing specifications
- 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

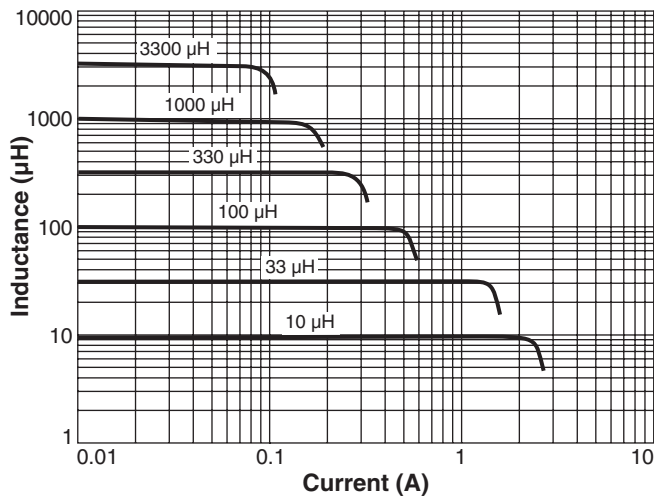
**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

**Enhanced crush-resistant packaging** 350/7" reel

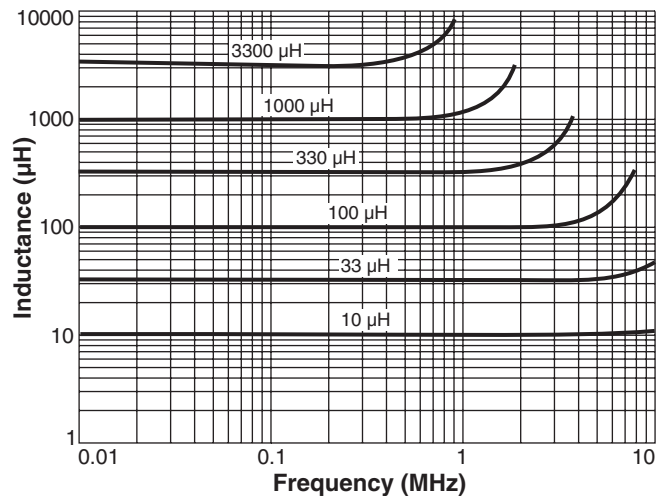
Plastic tape: 12 mm wide, 0.3 mm thick, 8 mm pocket spacing, 3.68 mm pocket depth

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

## Typical L vs Current



## Typical L vs Frequency



# AE512PJB Series (6235)

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
AE512PJB682MSZ	6.8	0.075	39	55	2.6	2.7	2.8	1.0	1.5
AE512PJB822MSZ	8.2	0.095	34	48	2.5	2.6	2.7	1.0	1.5
AE512PJB103MSZ	10.0	0.100	26	37	2.3	2.4	2.5	1.0	1.4
AE512PJB123MSZ	12.0	0.110	20	29	1.9	2.2	2.3	1.0	1.4
AE512PJB153MSZ	15.0	0.125	18	25	1.9	2.0	2.0	0.97	1.4
AE512PJB183MSZ	18.0	0.140	17	24	1.7	1.8	1.9	0.96	1.3
AE512PJB223MSZ	22.0	0.145	17	24	1.6	1.7	1.7	0.88	1.3
AE512PJB333MSZ	33.0	0.180	11	16	1.3	1.4	1.5	0.80	1.0
AE512PJB473MSZ	47.0	0.245	9.0	13	1.1	1.2	1.2	0.64	0.92
AE512PJB563MSZ	56.0	0.280	8.4	12	1.0	1.0	1.1	0.60	0.86
AE512PJB683MSZ	68.0	0.345	7.6	10.8	0.90	0.94	0.96	0.58	0.80
AE512PJB823MSZ	82.0	0.315	7.0	10.0	0.46	0.52	0.55	0.58	0.76
AE512PJB104MSZ	100.0	0.375	6.3	9.0	0.46	0.52	0.54	0.56	0.72
AE512PJB124MSZ	120.0	0.435	5.8	8.3	0.44	0.48	0.51	0.48	0.64
AE512PJB154MSZ	150.0	0.535	5.1	7.3	0.37	0.43	0.45	0.42	0.58
AE512PJB224MSZ	220.0	0.720	4.0	5.6	0.31	0.36	0.37	0.36	0.51
AE512PJB334MSZ	330.0	1.02	3.0	4.4	0.26	0.29	0.30	0.32	0.44
AE512PJB474MSZ	470.0	1.58	2.5	3.6	0.22	0.25	0.26	0.29	0.40
AE512PJB564MSZ	560.0	1.75	2.2	3.1	0.20	0.22	0.23	0.26	0.37
AE512PJB684MSZ	680.0	1.97	2.0	2.8	0.17	0.19	0.21	0.22	0.32
AE512PJB824MSZ	820.0	2.70	1.8	2.5	0.16	0.18	0.19	0.21	0.26
AE512PJB105MSZ	1000.0	3.20	1.5	2.2	0.14	0.17	0.18	0.19	0.24
AE512PJB155MSZ	1500.0	4.60	1.3	1.9	0.12	0.13	0.14	0.15	0.21
AE512PJB185MSZ	1800.0	5.42	1.2	1.7	0.11	0.12	0.13	0.14	0.18
AE512PJB225MSZ	2200.0	6.40	1.0	1.5	0.090	0.11	0.11	0.13	0.18
AE512PJB335MSZ	3300.0	8.90	0.8	1.1	0.080	0.090	0.10	0.11	0.14
AE512PJB475MSZ	4700.0	14.0	0.66	0.94	0.070	0.077	0.084	0.095	0.12
AE512PJB565MSZ	5600.0	16.4	0.6	0.86	0.070	0.080	0.085	0.080	0.10
AE512PJB685MSZ	6800.0	21.4	0.56	0.80	0.070	0.075	0.080	0.070	0.095
AE512PJB825MSZ	8200.0	24.0	0.49	0.70	0.062	0.070	0.078	0.065	0.090
AE512PJB106MSZ	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:

**AE512PJB106MSZ**

**Screening:** Z = Unscreened

H = Coilcraft CP-SA-10001 Group A

G = Coilcraft CP-SA-10001 Group A (SLDC Option A)

D = Coilcraft CP-SA-10001 Group A (SLDC Option B)

1 = EEE-INST-002 (Family 1) Level 1

2 = EEE-INST-002 (Family 1) Level 2

3 = EEE-INST-002 (Family 1) Level 3

4 = MIL-STD-981 (Family 04) Class B

5 = MIL-STD-981 (Family 04) Class S

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.

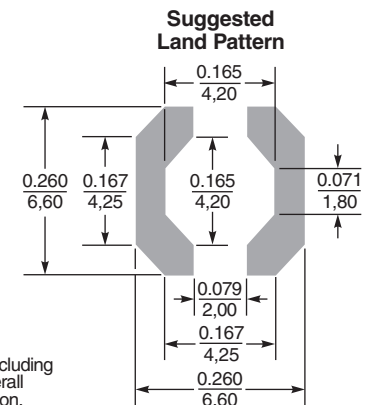
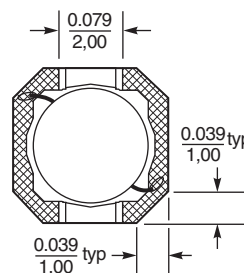
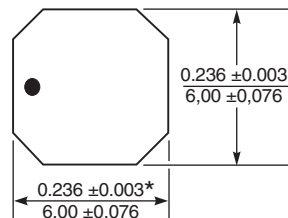
4. SRF measured using an Agilent/HP 8753ES or equivalent.

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.



\* 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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