

# Power Inductor for Critical Applications ST512PJB



- Shielded construction
- Low DCR; high current
- Perfect for backlight applications

**Core material** Ferrite

**Terminations** Matte tin over nickel over silver

**Weight** 460 – 480 mg

**Ambient temperature** –40°C to +85°C with (40°C rise) Irms current.

**Maximum part temperature** +125°C (ambient + temp rise).

**Storage temperature** Component: –40°C to +125°C.

Tape and reel packaging: –40°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
ST512PJB682MRZ	6.8	0.075	39	55	2.6	2.7	2.8	1.30	1.90
ST512PJB822MRZ	8.2	0.095	34	48	2.5	2.6	2.7	1.30	1.85
ST512PJB103MRZ	10	0.100	26	37	2.3	2.4	2.5	1.28	1.80
ST512PJB123MRZ	12	0.110	20	29	1.9	2.2	2.3	1.25	1.75
ST512PJB153MRZ	15	0.125	18	25	1.9	2.0	2.0	1.22	1.70
ST512PJB183MRZ	18	0.140	17	24	1.7	1.8	1.9	1.20	1.65
ST512PJB223MRZ	22	0.145	17	24	1.6	1.7	1.7	1.10	1.60
ST512PJB333MRZ	33	0.180	11	16	1.3	1.4	1.5	1.00	1.30
ST512PJB473MRZ	47	0.245	9.1	13	1.1	1.2	1.2	0.80	1.15
ST512PJB563MRZ	56	0.280	8.4	12	1.0	1.0	1.1	0.75	1.07
ST512PJB683MRZ	68	0.345	7.6	10.8	0.90	0.94	0.96	0.73	1.00
ST512PJB823MRZ	82	0.315	7.0	10.0	0.46	0.52	0.55	0.72	0.95
ST512PJB104MRZ	100	0.375	6.3	9.0	0.46	0.52	0.54	0.70	0.90
ST512PJB124MRZ	120	0.435	5.8	8.3	0.44	0.48	0.51	0.60	0.80
ST512PJB154MRZ	150	0.535	5.1	7.3	0.37	0.43	0.45	0.53	0.73
ST512PJB224MRZ	220	0.820	3.9	5.6	0.31	0.36	0.37	0.45	0.64
ST512PJB334MRZ	330	1.20	3.1	4.4	0.26	0.29	0.30	0.40	0.50
ST512PJB474MRZ	470	1.60	2.5	3.6	0.22	0.25	0.26	0.32	0.43
ST512PJB564MRZ	560	2.00	2.2	3.1	0.20	0.22	0.23	0.29	0.38
ST512PJB684MRZ	680	2.20	2.0	2.8	0.17	0.19	0.21	0.28	0.37
ST512PJB824MRZ	820	2.70	1.8	2.5	0.16	0.18	0.19	0.26	0.33
ST512PJB105MRZ	1000	3.40	1.5	2.2	0.14	0.17	0.18	0.24	0.30
ST512PJB155MRZ	1500	4.60	1.3	1.9	0.12	0.13	0.14	0.19	0.26
ST512PJB185MRZ	1800	5.42	1.2	1.7	0.11	0.12	0.13	0.18	0.23
ST512PJB225MRZ	2200	6.70	1.1	1.5	0.090	0.11	0.11	0.16	0.22
ST512PJB335MRZ	3300	9.50	0.77	1.1	0.080	0.090	0.10	0.14	0.180
ST512PJB475MRZ	4700	14.5	0.66	0.94	0.070	0.077	0.084	0.11	0.150
ST512PJB565MRZ	5600	16.4	0.60	0.86	0.060	0.070	0.080	0.10	0.130
ST512PJB685MRZ	6800	21.4	0.56	0.80	0.057	0.065	0.069	0.090	0.120
ST512PJB825MRZ	8200	24.5	0.49	0.70	0.052	0.060	0.067	0.085	0.115
ST512PJB106MRZ	10000	29.5	0.43	0.61	0.050	0.055	0.060	0.075	0.095

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

ST512PJB106MRZ

**Testing:** Z = Unscreened

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

T = Screening per MIL-STD-981

U = Screening per EEE-INST-002

F = Screening per ESCC 3201

All screening performed to the document's latest revision

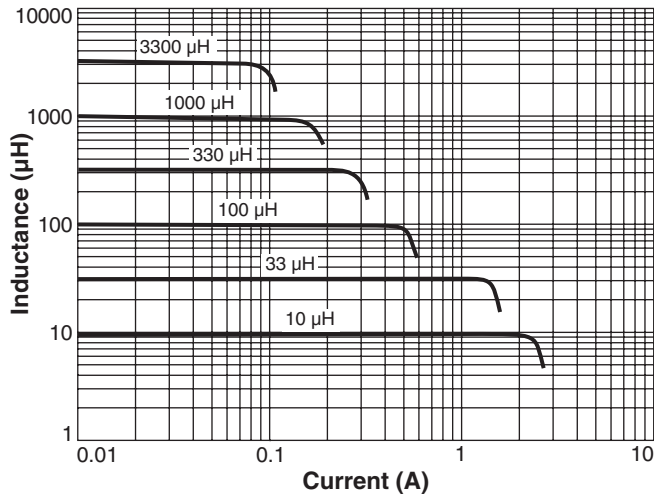
Custom screening also available

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

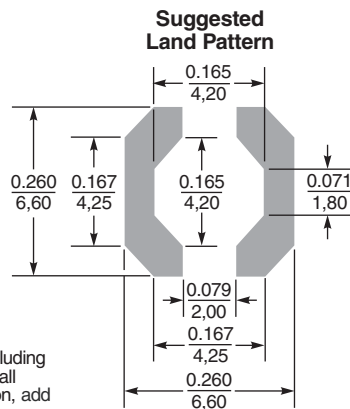
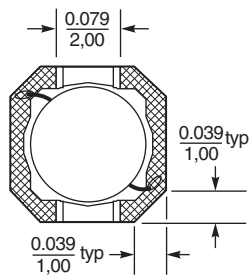
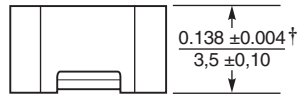
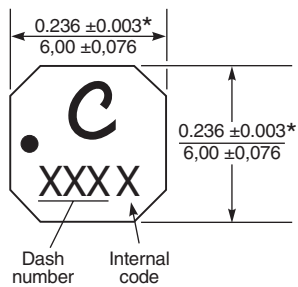
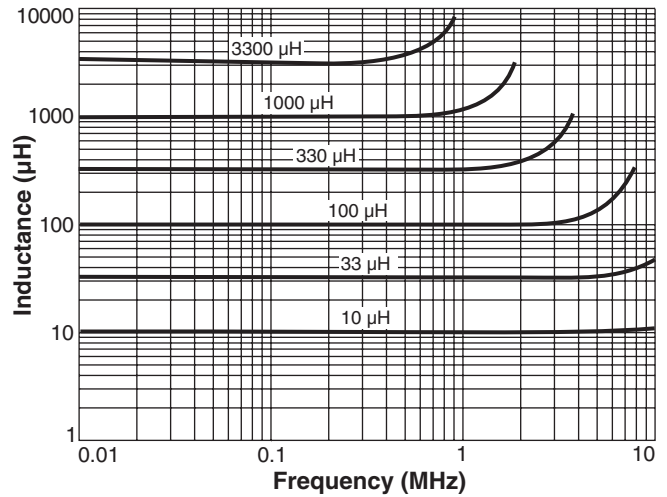
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CRITICAL PRODUCTS & SERVICES

# ST512PJB 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.

† For optional tin-lead and tin-silver copper terminations, height dimension is after mounting. For maximum height dimension before mounting, add 0.006 in / 0,152 mm.

Dimensions are in inches / mm

**Packaging** 350/7" reel; 1500/13" reel Plastic tape: 16 mm wide, 0.3 mm thick, 12 mm pocket spacing, 3.68 mm pocket depth

**NOTE PART ORIENTATION** Parts are rotated 90° in the packaging tape compared to other versions of 512PJB.

