

# Power Inductors for Critical Applications ST558PTA



- High current, low DCR shielded power inductors
- 10.2 × 11 mm base; only 5.2 mm tall
- Magnetic shielding allows high density mounting
- Materials allow for -55°C storage

**Core material** Ferrite

**Terminations** Tin-silver over tin over nickel over phos bronze (pins 1 and 2); matte tin over nickel over phos bronze (pin 3).

**Weight** 1.6 g

**Ambient temperature** -40°C to +85°C with I<sub>max</sub> current

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

**Storage temperature** Component: -55°C to +125°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)

**Packaging** 200/7" reel Plastic tape: 24 mm wide, 0.4 mm thick, 16 mm pocket spacing, 5.45 mm pocket depth

Part number <sup>1</sup>	Inductance <sup>2</sup> ±20% (µH)	DCR max <sup>3</sup> (mOhm)	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
ST558PTA301MLZ	0.30	4.0	119	170	29.5	30.0	30.5	12.5	16.3
ST558PTA801MLZ	0.80	4.0	70.0	100	24.9	25.2	25.6	12.5	16.3
ST558PTA102MLZ	1.0	4.0	66.5	95.0	16.5	17.0	17.5	12.5	16.3
ST558PTA122MLZ	1.2	6.0	63.7	91.0	20.5	21.0	21.3	11.0	15.0
ST558PTA132MLZ	1.3	4.0	56.7	81.0	12.9	16.8	17.2	12.5	16.3
ST558PTA152MLZ	1.5	4.0	52.5	75.0	13.5	14.0	14.5	11.0	15.0
ST558PTA182MLZ	1.8	6.0	49.0	70.0	13.3	13.8	14.3	11.0	15.0
ST558PTA202MLZ	2.0	9.0	45.5	65.0	15.3	15.8	16.2	8.5	11.5
ST558PTA222MLZ	2.2	4.0	40.6	58.0	8.9	9.6	10.0	12.5	16.3
ST558PTA252MLZ	2.5	7.5	38.5	55.0	11.4	11.8	12.1	9.0	12.0
ST558PTA322MLZ	3.2	6.0	37.1	53.0	7.3	7.8	8.5	11.0	15.0
ST558PTA402MLZ	4.0	9.0	32.9	47.0	8.3	8.5	8.8	8.5	11.5
ST558PTA432MLZ	4.3	7.5	30.8	44.0	6.4	6.8	7.0	9.0	12.0
ST558PTA572MLZ	5.7	9.0	24.5	35.0	5.4	5.8	6.0	8.5	11.5

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

**ST558PTA572MLZ**

**Testing:** Z = Unscreened

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

S = Tin-lead (63/37) over tin over nickel over phos bronze.

All screening performed to the document's latest revision

Custom screening also available

2. Inductance measured at 100 kHz, 0.1 V<sub>rms</sub>, 0 Adc on an Agilent/HP 4284A or equivalent.

3. DCR measured on a micro-ohmmeter.

4. SRF measured using an Agilent/HP 8753D network analyzer.

5. Typical DC current at which the inductance drops the specified amount from its value without current.

6. Typical current that causes the specified temperature rise from 25°C ambient.

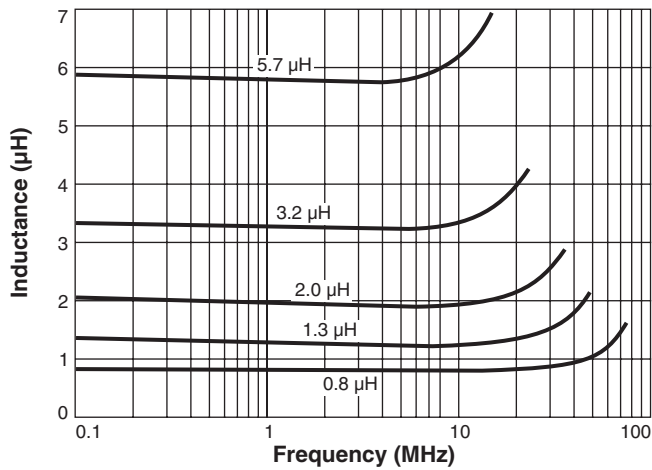
7. Electrical specifications at 25°C.

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

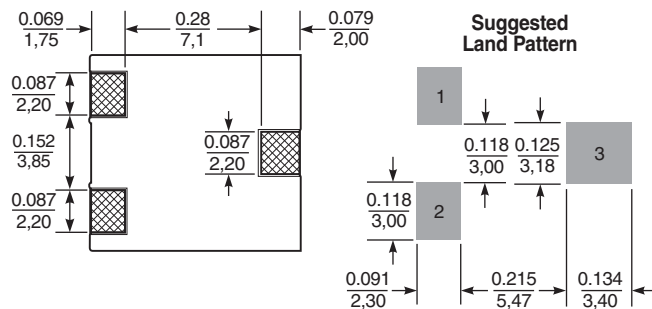
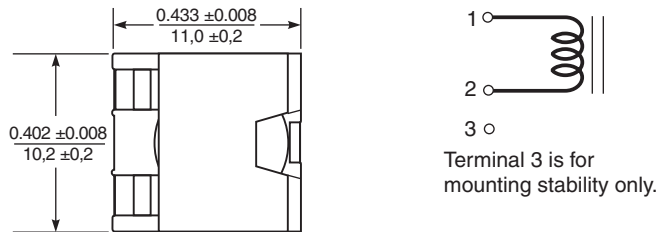
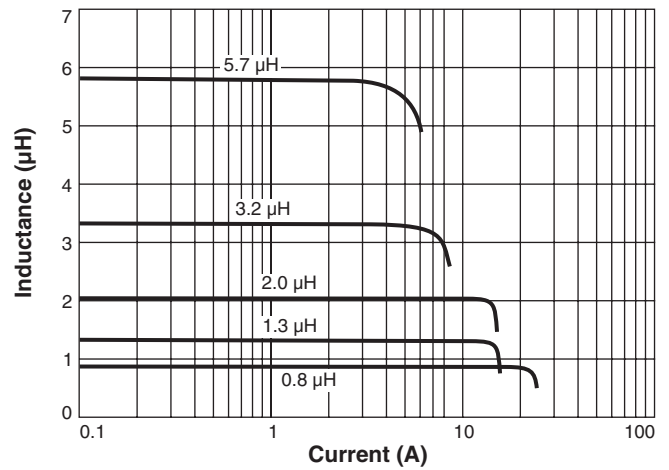


# ST558PTA Series

## Typical L vs Frequency



## Typical L vs Current



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