

# 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><br>±20% (µH) | DCR max <sup>3</sup><br>(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 **screening** code:

**ST558PTA572MLZ**

**Screening:** Z = Unscreened  
Y = Unscreened (SLDC Option A)  
W = Unscreened (SLDC Option B)  
H = Group A screening per Coilcraft CP-SA-10001  
G = Coilcraft CP-SA-10001 Group A (SLDC Option A)  
D = Coilcraft CP-SA-10001 Group A (SLDC Option B)  
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 A<sub>dc</sub> 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.



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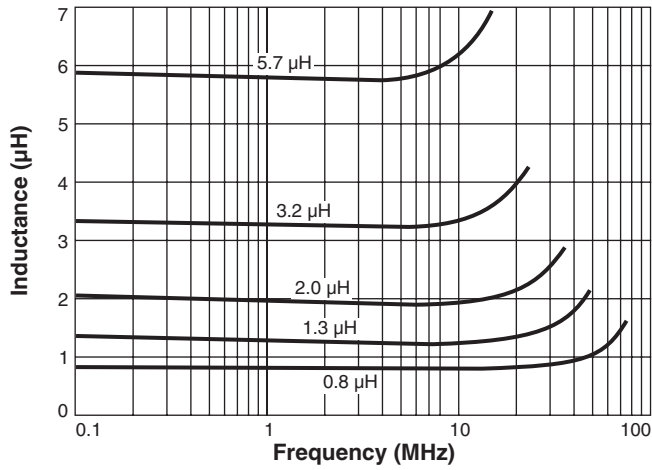
Fax 847-639-1508  
Email cps@coilcraft.com  
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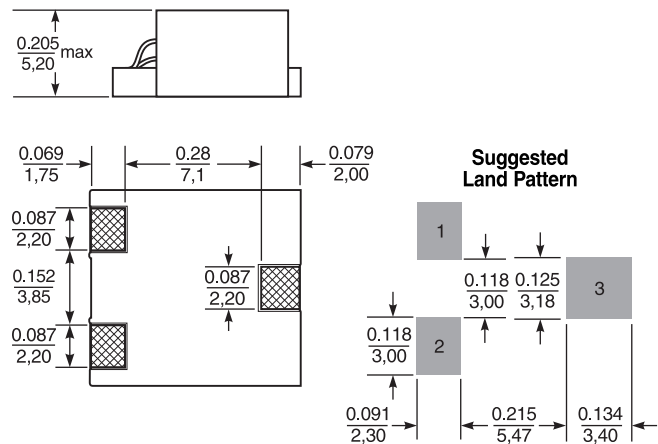
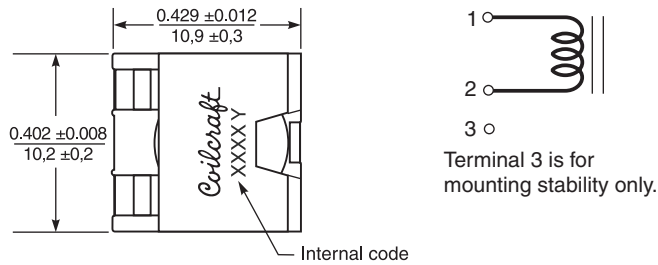
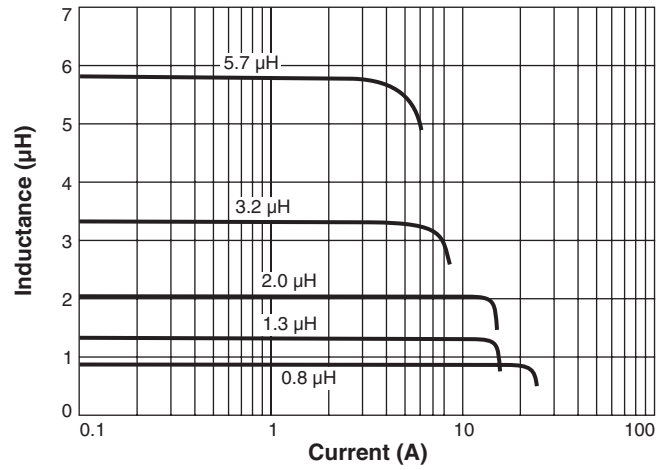
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

# ST558PTA Series

## Typical L vs Frequency



## Typical L vs Current



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

