

# Outgassing Compliant Power Inductors AE558PTA



- High temperature materials allow operation in ambient temperatures up to 155°C.
- Passes NASA low outgassing specifications
- Tin-lead (Sn-Pb) termination for the best possible board adhesion
- Excellent current handling; very low DCR

**Core material** Ferrite

**Terminations** Tin-lead over gold over nickel over phos bronze

**Weight** 1.4 – 1.8 g

**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.

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** 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 |
| AE558PTA331MSZ           | 0.33                                 | 4.0                            | 119                    | 170  | 29.5                  | 30.0     | 30.5     | 12.5                  | 16.3      |
| AE558PTA801MSZ           | 0.80                                 | 4.0                            | 70.0                   | 100  | 24.9                  | 25.2     | 25.6     | 12.5                  | 16.3      |
| AE558PTA102MSZ           | 1.0                                  | 4.0                            | 66.5                   | 95.0 | 16.5                  | 17.0     | 17.5     | 12.5                  | 16.3      |
| AE558PTA122MSZ           | 1.2                                  | 6.0                            | 63.7                   | 91.0 | 20.5                  | 21.0     | 21.3     | 11.0                  | 15.0      |
| AE558PTA132MSZ           | 1.3                                  | 4.0                            | 56.7                   | 81.0 | 12.9                  | 16.8     | 17.2     | 12.5                  | 16.3      |
| AE558PTA152MSZ           | 1.5                                  | 4.0                            | 52.5                   | 75.0 | 13.5                  | 14.0     | 14.5     | 11.0                  | 15.0      |
| AE558PTA182MSZ           | 1.8                                  | 6.0                            | 49.0                   | 70.0 | 13.3                  | 13.8     | 14.3     | 11.0                  | 15.0      |
| AE558PTA202MSZ           | 2.0                                  | 9.0                            | 45.5                   | 65.0 | 15.3                  | 15.8     | 16.2     | 8.5                   | 11.5      |
| AE558PTA222MSZ           | 2.2                                  | 4.0                            | 40.6                   | 58.0 | 8.9                   | 9.6      | 10.0     | 12.5                  | 16.3      |
| AE558PTA252MSZ           | 2.5                                  | 7.5                            | 38.5                   | 55.0 | 11.4                  | 11.8     | 12.1     | 9.0                   | 12.0      |
| AE558PTA322MSZ           | 3.2                                  | 6.0                            | 37.1                   | 53.0 | 7.3                   | 7.8      | 8.5      | 11.0                  | 15.0      |
| AE558PTA402MSZ           | 4.0                                  | 9.0                            | 32.9                   | 47.0 | 8.3                   | 8.5      | 8.8      | 8.5                   | 11.5      |
| AE558PTA432MSZ           | 4.3                                  | 7.5                            | 30.8                   | 44.0 | 6.4                   | 6.8      | 7.0      | 9.0                   | 12.0      |
| AE558PTA572MSZ           | 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:

**AE558PTA572MSZ**

**Screening: Z** = Unscreened

**Y** = Unscreened (SLDC Option A)

**W** = Unscreened (SLDC Option B)

**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)

**1/2/3** = EEE-INST-002 (Family 1) Level 1/2/3

**4/5** = MIL-STD-981 (Family 04) Class B=4, Class S=5

**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 option G.

2. Inductance measured at 100 kHz, 0.1 Vrms, 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. DC current at 25°C that causes the specified inductance drop from its value without current.

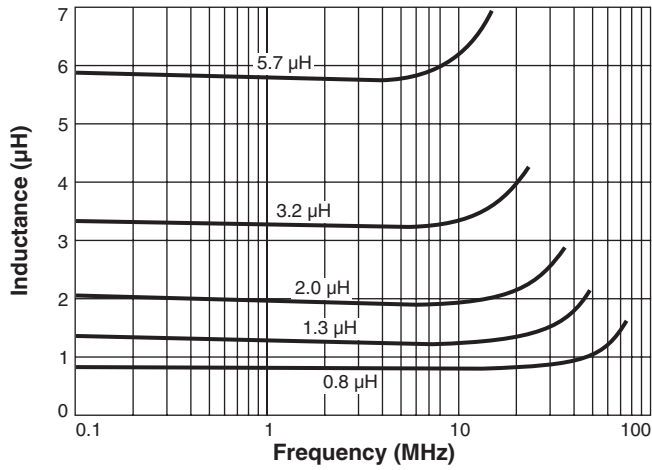
6. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

7. Electrical specifications at 25°C.

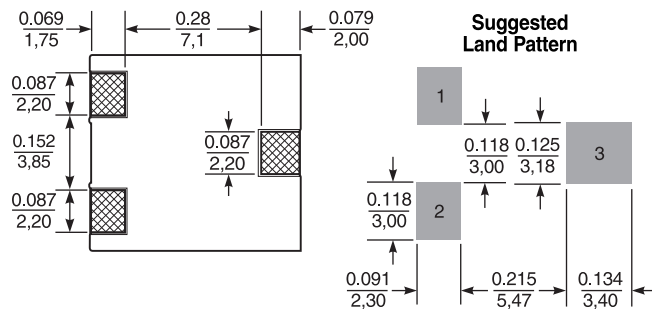
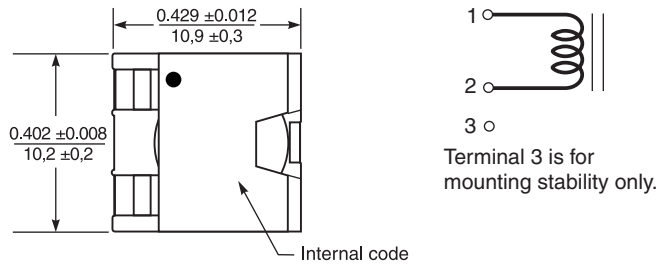
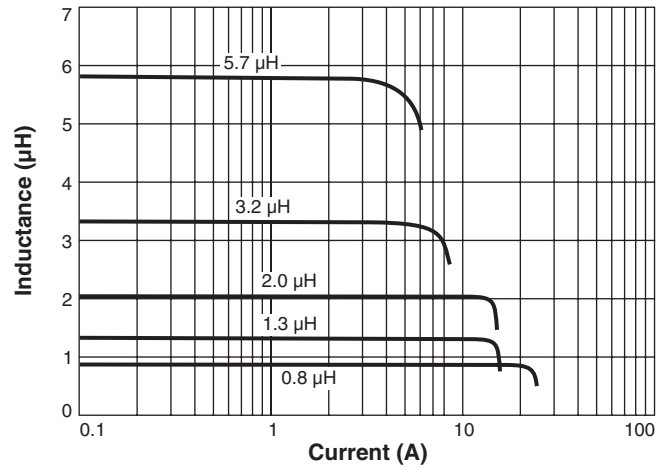
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

# AE558PTA Series

## Typical L vs Frequency



## Typical L vs Current



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

