

High-Reliability Power Inductors ML598PTA



- High temperature materials allow operation in ambient temperatures up to 155°C.
- Excellent current handling; very low DCR

Core material Ferrite

Terminations Pins 1 and 2: Tin-silver over tin over nickel over phos bronze; Pin 3: Matte tin over nickel over phos bronze

Weight 2.3 – 3.2 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 500 per 13" reel;
Plastic tape: 24 mm wide, 0.4 mm thick, 16 mm pocket spacing, 6.6 mm pocket depth

| Part number ¹ | Inductance ² ±10% (µH) | DCR (mOhm) ³ | | SRF (MHz) ⁴ | | Isat (A) ⁵ | | | Irms (A) ⁶ | |
|--------------------------|--------------------------------------|-------------------------|-------|------------------------|------|-----------------------|----------|----------|-----------------------|-----------|
| | | typ | max | min | typ | 10% drop | 20% drop | 30% drop | 20°C rise | 40°C rise |
| ML598PTA331KLZ | 0.33 | 0.77 | 0.85 | 140 | 200 | 36 | 41 | 43 | 13.0 | 16.9 |
| ML598PTA651KLZ | 0.65 | 0.77 | 0.85 | 112 | 160 | 23 | 27 | 28 | 13.0 | 16.9 |
| ML598PTA102KLZ | 1.0 | 2.36 | 2.60 | 52.5 | 75.0 | 32 | 33 | 33.5 | 9.5 | 13.0 |
| ML598PTA182KLZ | 1.8 | 2.36 | 2.60 | 35.0 | 50.0 | 17 | 19 | 20 | 9.5 | 13.0 |
| ML598PTA272KLZ | 2.7 | 2.36 | 2.60 | 29.4 | 42.0 | 12 | 13 | 14 | 9.5 | 13.0 |
| ML598PTA402KLZ | 4.0 | 5.50 | 6.05 | 23.8 | 34.0 | 11 | 12 | 13 | 7.1 | 9.4 |
| ML598PTA472KLZ | 4.7 | 5.50 | 6.05 | 22.4 | 32.0 | 9.5 | 11 | 12 | 7.1 | 9.4 |
| ML598PTA602KLZ | 6.0 | 5.50 | 6.05 | 19.6 | 28.0 | 8.0 | 9.0 | 9.5 | 7.1 | 9.4 |
| ML598PTA802KLZ | 8.0 | 9.83 | 10.81 | 18.2 | 26.0 | 7.5 | 8.5 | 9.0 | 5.5 | 7.6 |
| ML598PTA103KLZ | 10 | 9.83 | 10.81 | 16.8 | 24.0 | 6.2 | 7.0 | 7.5 | 4.4 | 7.2 |
| ML598PTA223KLZ | 22 | 9.83 | 10.81 | 9.10 | 13.0 | 2.4 | 3.0 | 3.3 | 4.4 | 7.2 |

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

ML598PTA223KLZ

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)

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 = Screening per ESCC 3201

- 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 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.

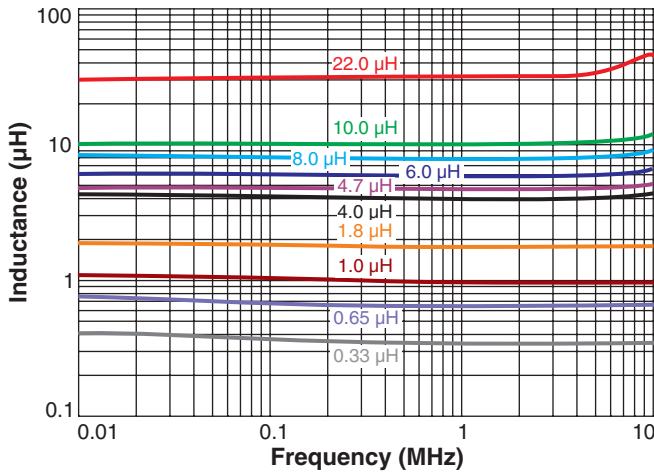
6. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

7. Electrical specifications at 25°C.

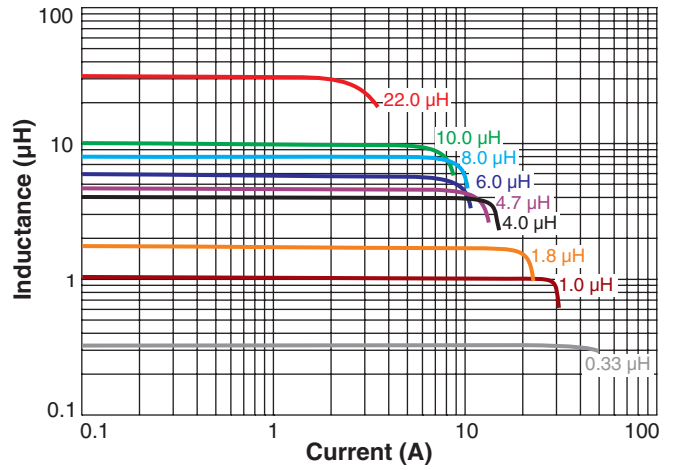
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

ML598PTA Series

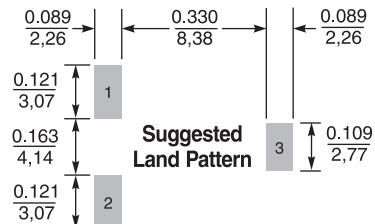
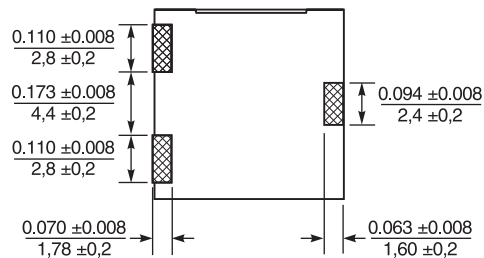
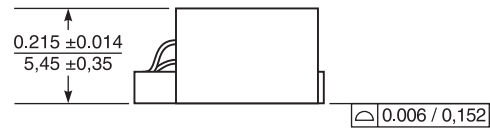
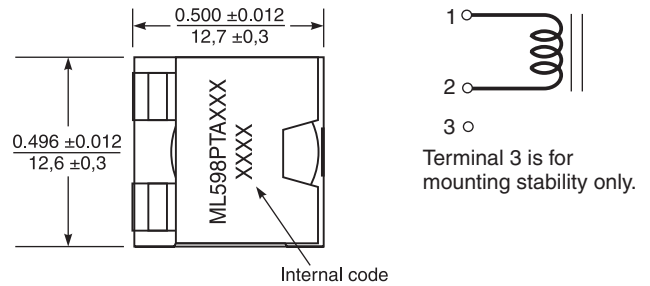
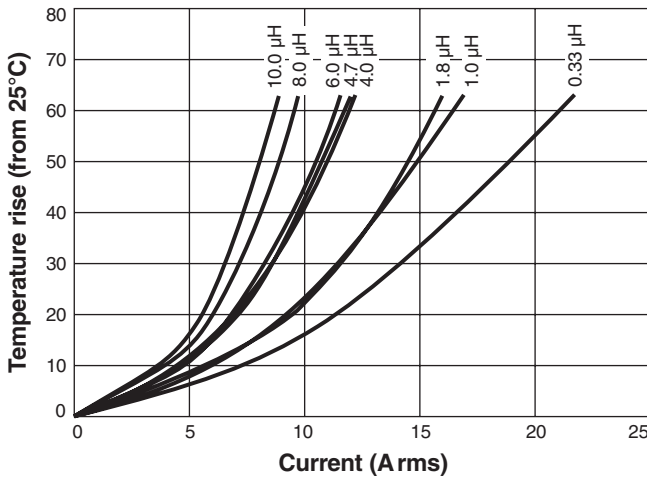
Typical L vs Frequency



Typical L vs Current



Temperature Rise vs Current



Dimensions are in inches / mm

