

# High-Reliability Power Inductors MS598PTA



- High temperature materials allow operation in ambient temperatures up to 155°C.
- Tin-lead (Sn-Pb) termination for the best possible board adhesion

**Core material** Ferrite

**Terminations** Tin-lead (63/37) over 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 <sup>1</sup>	Inductance <sup>2</sup> ±10% (µH)	DCR (mOhm) <sup>3</sup>		SRF (MHz) <sup>4</sup>		Isat (A) <sup>5</sup>			Irms (A) <sup>6</sup>	
		typ	max	min	typ	10% drop	20% drop	30% drop	20°C rise	40°C rise
MS598PTA331KSZ	0.33	0.77	0.85	140	200	36	41	43	13.0	16.9
MS598PTA651KSZ	0.65	0.77	0.85	112	160	23	27	28	13.0	16.9
MS598PTA102KSZ	1.0	2.36	2.60	52.5	75.0	32	33	33.5	9.5	13.0
MS598PTA182KSZ	1.8	2.36	2.60	35.0	50.0	17	19	20	9.5	13.0
MS598PTA272KSZ	2.7	2.36	2.60	29.4	42.0	12	13	14	9.5	13.0
MS598PTA402KSZ	4.0	5.50	6.05	23.8	34.0	11	12	13	7.1	9.4
MS598PTA472KSZ	4.7	5.50	6.05	22.4	32.0	9.5	11	12	7.1	9.4
MS598PTA602KSZ	6.0	5.50	6.05	19.6	28.0	8.0	9.0	9.5	7.1	9.4
MS598PTA802KSZ	8.0	9.83	10.81	18.2	26.0	7.5	8.5	9.0	5.5	7.6
MS598PTA103KSZ	10	9.83	10.81	16.8	24.0	6.2	7.0	7.5	4.4	7.2
MS598PTA223KSZ	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:

**MS598PTA223KSZ**

**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 = 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 a 10% (typ) inductance drop from its value without current.

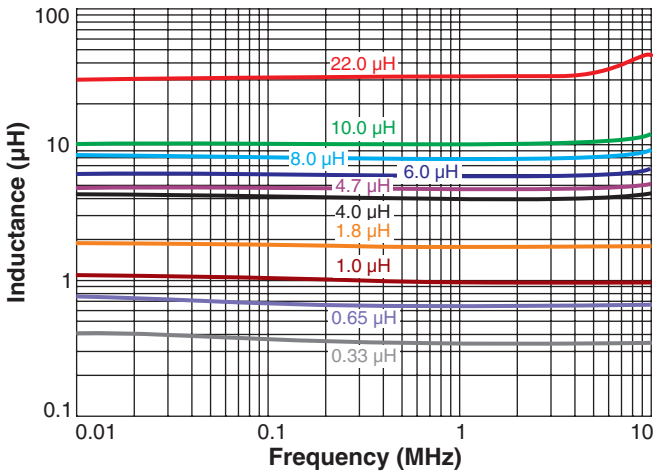
6. Current that causes a 40°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

7. Electrical specifications at 25°C.

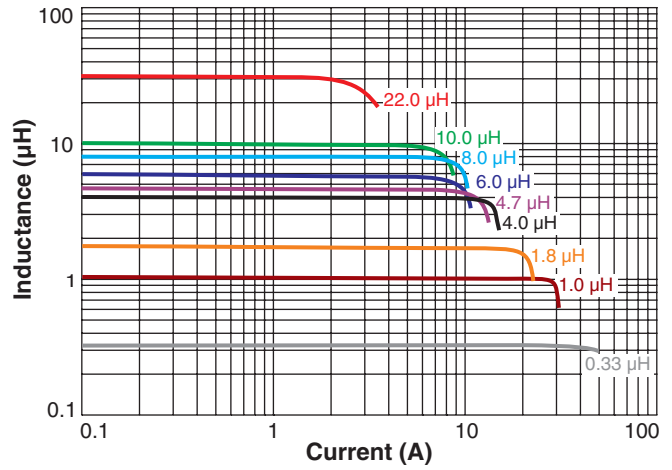
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

# MS598PTA Series

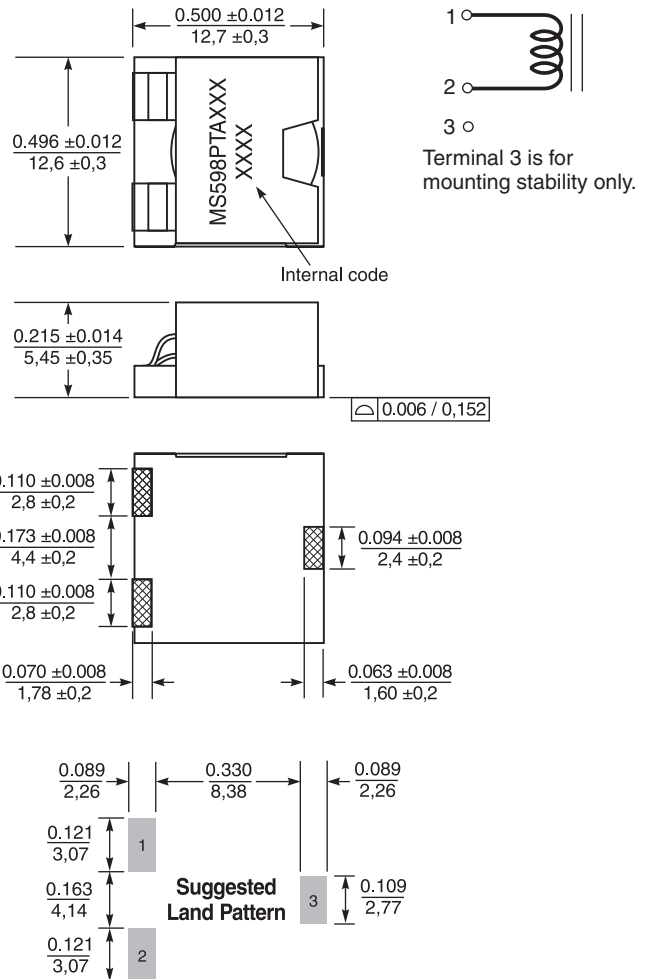
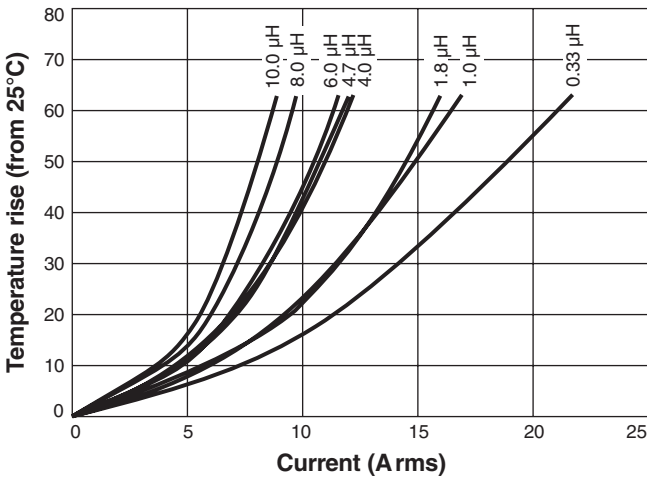
## Typical L vs Frequency



## Typical L vs Current



## Temperature Rise vs Current



Dimensions are in inches / mm



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