

# High-Reliability Power Inductors MS558PTA



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

**Core material** Ferrite

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

**Weight** 1.6 g

**Ambient temperature** -55°C to +105°C with I<sub>rms</sub> current, +105°C to +155°C with derated current

**Storage temperature** Component: -55°C to +155°C.  
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; 700/13" 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
MS558PTA331MSZ	0.33	4.0	119	170	29.5	30.0	30.5	12.5	16.3
MS558PTA801MSZ	0.80	4.0	70.0	100	24.9	25.2	25.6	12.5	16.3
MS558PTA102MSZ	1.0	4.0	66.5	95.0	16.5	17.0	17.5	12.5	16.3
MS558PTA122MSZ	1.2	6.0	63.7	91.0	20.5	21.0	21.3	11.0	15.0
MS558PTA132MSZ	1.3	4.0	56.7	81.0	12.9	16.8	17.2	12.5	16.3
MS558PTA152MSZ	1.5	6.0	52.5	75.0	13.5	14.0	14.5	11.0	15.0
MS558PTA182MSZ	1.8	6.0	49.0	70.0	13.3	13.8	14.3	11.0	15.0
MS558PTA202MSZ	2.0	9.0	45.5	65.0	15.3	15.8	16.2	8.5	11.5
MS558PTA222MSZ	2.2	4.0	40.6	58.0	8.9	9.6	10.0	12.5	16.3
MS558PTA252MSZ	2.5	7.5	38.5	55.0	11.4	11.8	12.1	9.0	12.0
MS558PTA322MSZ	3.2	6.0	37.1	53.0	7.3	7.8	8.5	11.0	15.0
MS558PTA402MSZ	4.0	9.0	32.9	47.0	8.3	8.5	8.8	8.5	11.5
MS558PTA432MSZ	4.3	7.5	30.8	44.0	6.4	6.8	7.0	9.0	12.0
MS558PTA572MSZ	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:

**MS558PTA103MSZ**

**Testing:** Z = COTS

H = Screening per Coilcraft CP-SA-10001

N = Screening per Coilcraft CP-SA-10004

C = Custom screening (please specify when ordering)

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

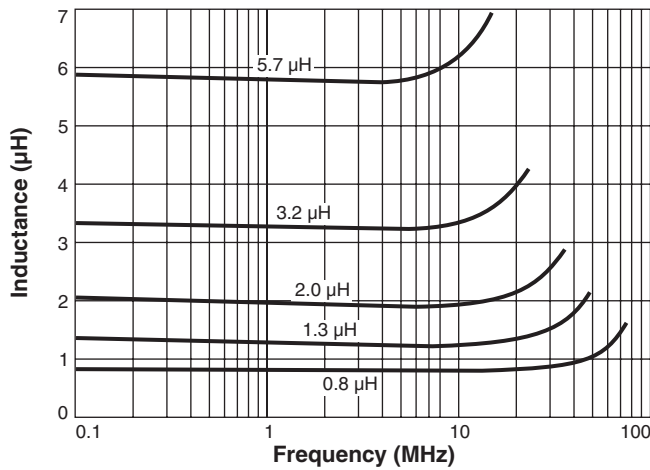
6. Typical current that causes the specified temperature rise from 25°C ambient.

7. Electrical specifications at 25°C.

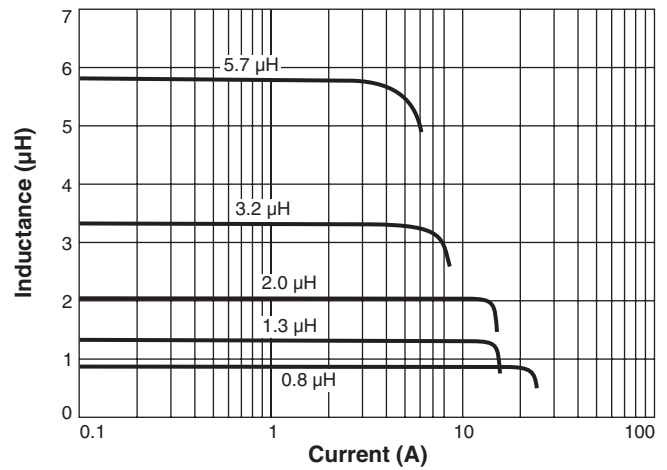
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

# MS558PTA Series

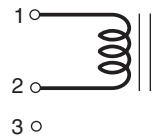
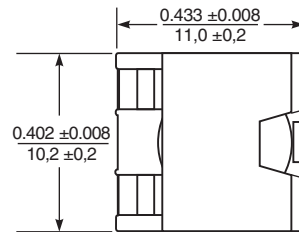
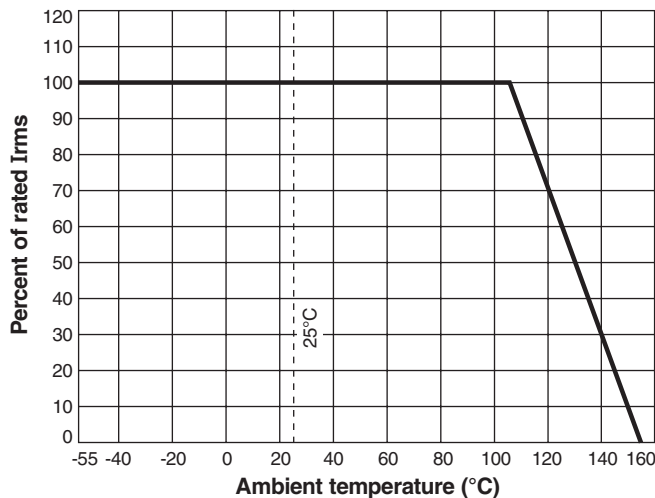
## Typical L vs Frequency



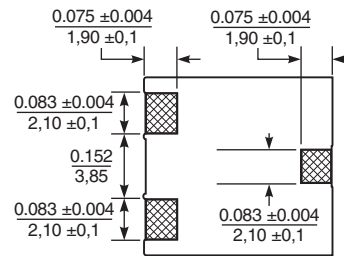
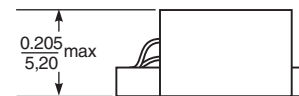
## Typical L vs Current



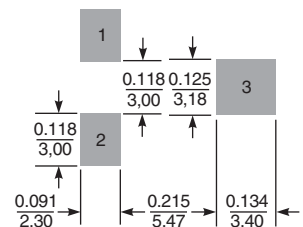
## Irms Derating



Terminal 3 is for mounting stability only.



### Suggested Land Pattern



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