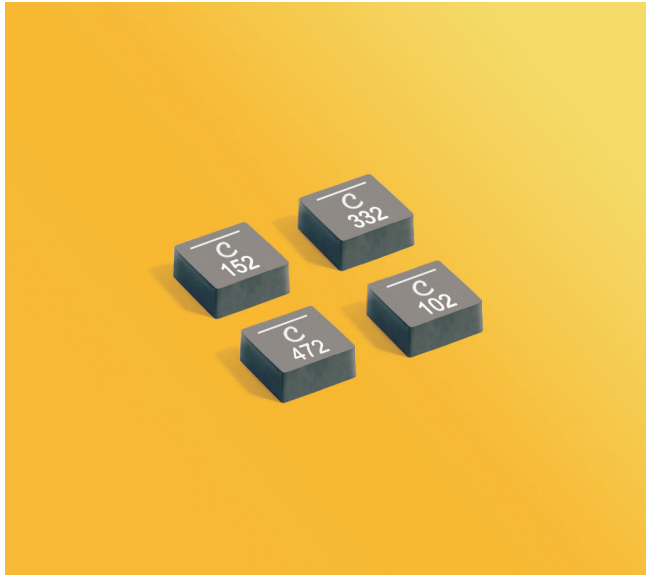


# High Reliability Power Inductors MS433PZA



- High temperature materials allow operation in ambient temperatures up to 155°C
- Tin-lead (Sn-Pb) termination for the best possible board adhesion
- Exceptionally low DCR – 10.8 mOhm
- Excellent current handling capability

**Terminations** Tin-lead (63/37) over copper.

**Core material** Composite

**Weight** 134 – 187 mg

**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** 1000/7" reel; 3500/13" reel  
Plastic tape: 12 mm wide, 0.23 mm thick, 8 mm pocket spacing, 2.3 mm pocket depth

Part number <sup>1</sup>	Inductance <sup>2</sup> ±20% (µH)	DCR (mOhms) <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
MS433PZA102MSZ	1.0	10.80	11.90	51	64	4.5	5.1	5.4	6.0	8.3
MS433PZA152MSZ	1.5	14.40	15.80	47	59	4.1	4.4	4.6	5.0	6.8
MS433PZA222MSZ	2.2	21.35	23.50	30	38	3.1	3.5	3.7	4.5	6.0
MS433PZA332MSZ	3.3	34.80	38.30	26	33	2.7	2.8	2.9	2.9	3.9
MS433PZA472MSZ	4.7	52.20	57.40	21	26	2.0	2.5	2.7	2.7	3.6

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

**MS433PZA472MSZ**

**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

2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc.

3. DCR measured on a micro-ohmmeter.

4. SRF measured using an Agilent/HP 4395A or equivalent.

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.

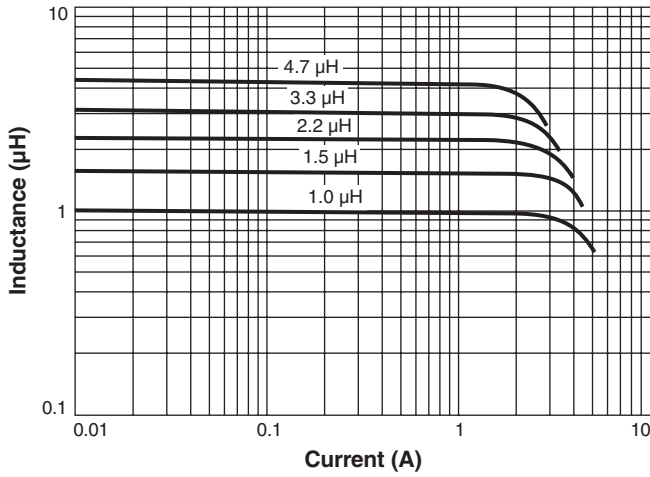
## Irms Testing

Irms testing was performed on a 0.060" thick pcb with 4 oz. copper traces optimized to minimize additional temperature rise.

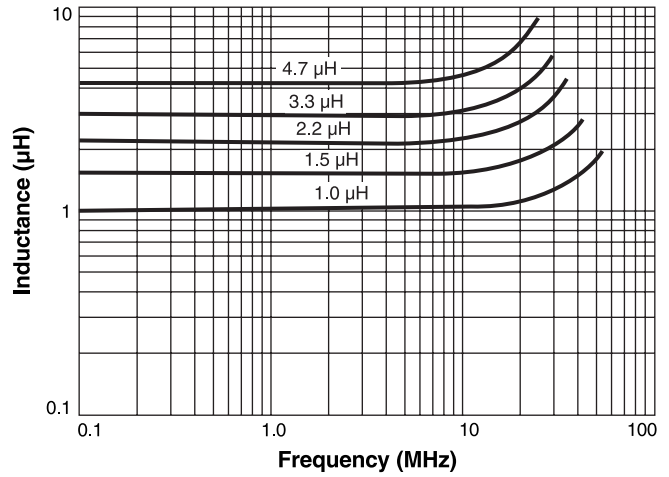
Temperature rise is highly dependent on many factors including pcb land pattern, trace size, and proximity to other components. Therefore temperature rise should be verified in application conditions.

# MS433PZA Series

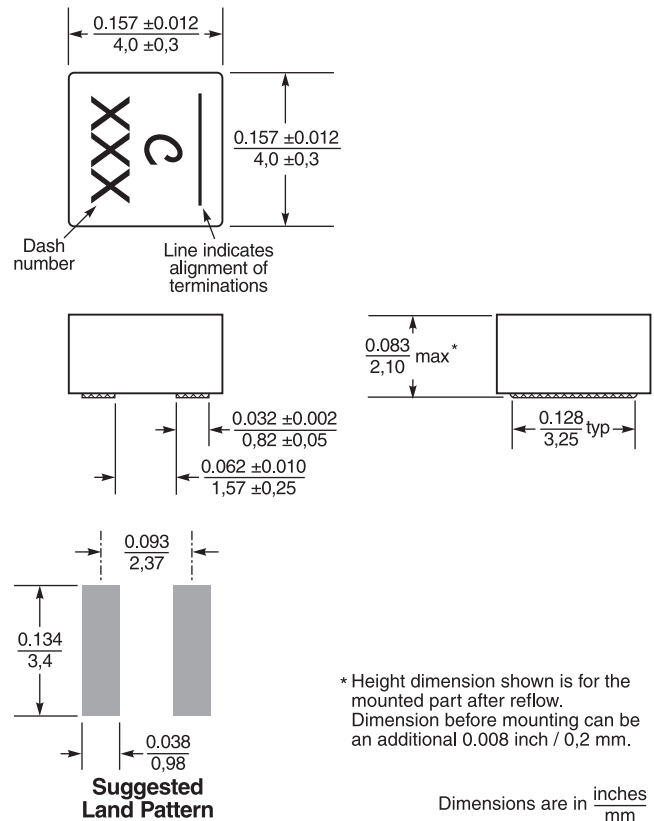
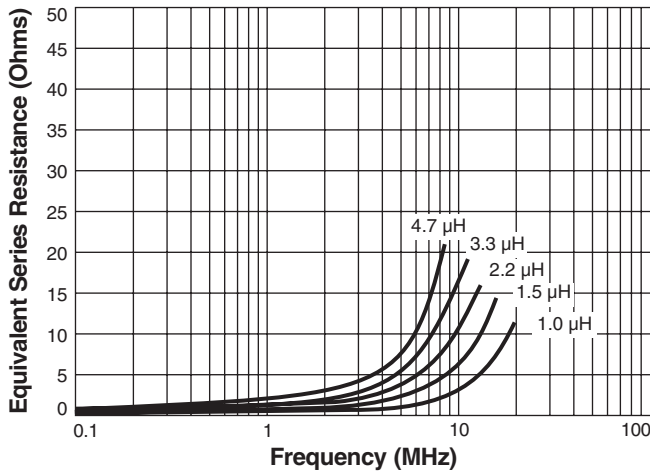
## L vs Current



## L vs Frequency



## ESR vs Frequency



CRITICAL PRODUCTS & SERVICES

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