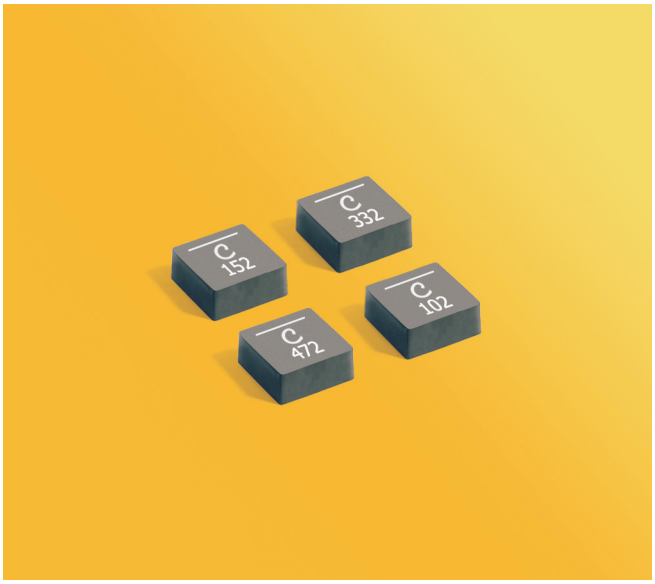
High Reliability Power Inductors ML433PZA



- High temperature materials allow operation in ambient temperatures up to 155°C
- Exceptionally low DCR – 10.8 mOhm
- Excellent current handling capability

Terminations Tin-silver over copper.

Core material Composite

Weight 162 – 169 mg

Ambient temperature –55°C to +105°C with Irms current, +105°C to +155°C with derated current

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[1]	Inductance[2] ±20% (µH)	DCR (mOhms)[3] typ	DCR (mOhms)[3] max	SRF (MHz)[4] min	SRF (MHz)[4] typ	Isat (A)[5] 10% drop	Isat (A)[5] 20% drop	Isat (A)[5] 30% drop	Irms (A)[6] 20°C rise	Irms (A)[6] 40°C rise
ML433PZA102MLZ	1.0	10.80	11.90	51	64	4.5	5.1	5.4	6.0	8.3
ML433PZA152MLZ	1.5	14.40	15.80	47	59	4.1	4.4	4.6	5.0	6.8
ML433PZA222MLZ	2.2	21.35	23.50	30	38	3.1	3.5	3.7	4.5	6.0
ML433PZA332MLZ	3.3	34.80	38.30	26	33	2.7	2.8	2.9	2.9	3.9
ML433PZA472MLZ	4.7	52.20	57.40	21	26	2.0	2.5	2.7	2.7	3.6

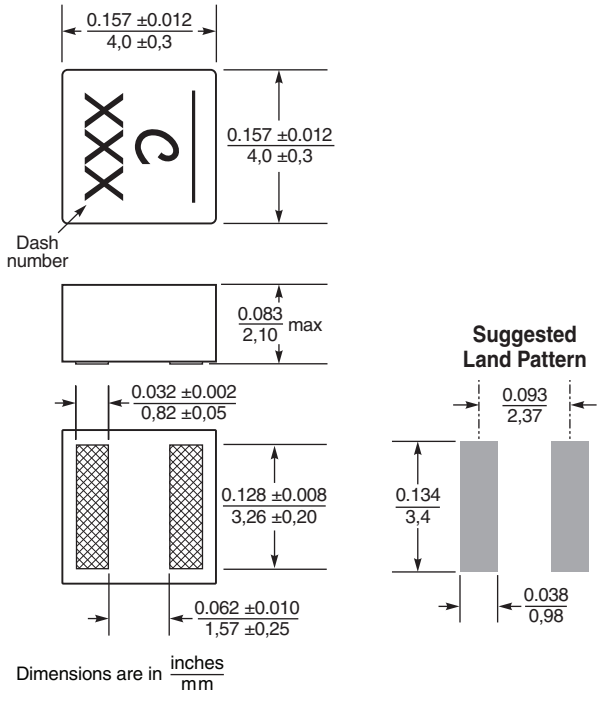
1. When ordering, please specify **testing** code:
   ML433PZA472MLZ
   Testing: **Z** = COTS
   H = Screening per Coilcraft CP-SA-10001
   N = Screening per Coilcraft CP-SA-10004
2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc.
3. DCR measured on a micro-ohmmeter.
4. SRF measured using an Agilent/HP 4395A or equivalent.
5. 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.

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.



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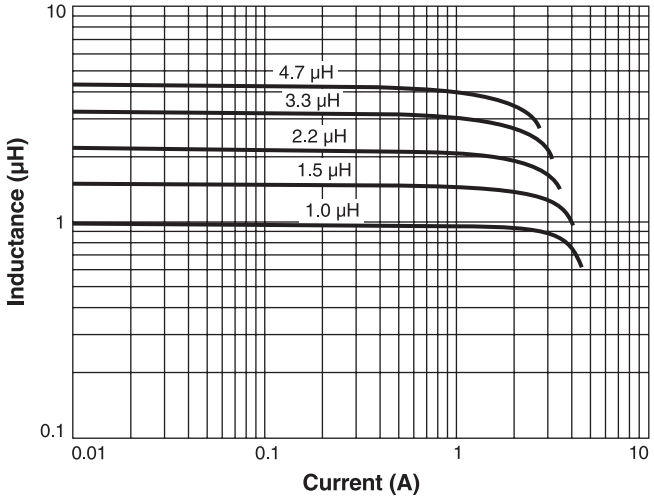
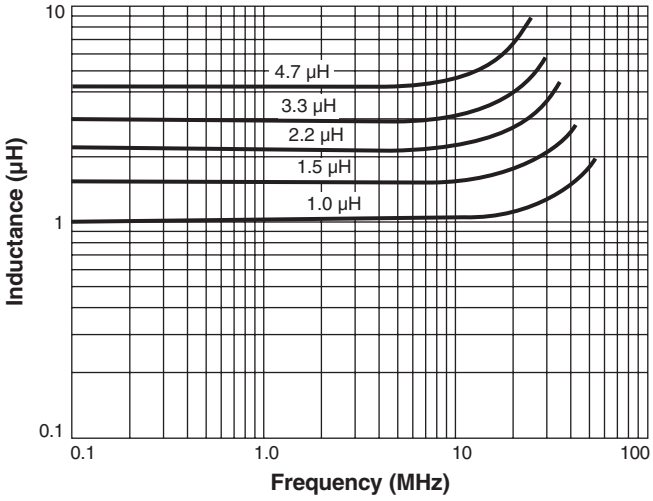
Document ML745-1 Revised 08/16/12

ML433PZA Series

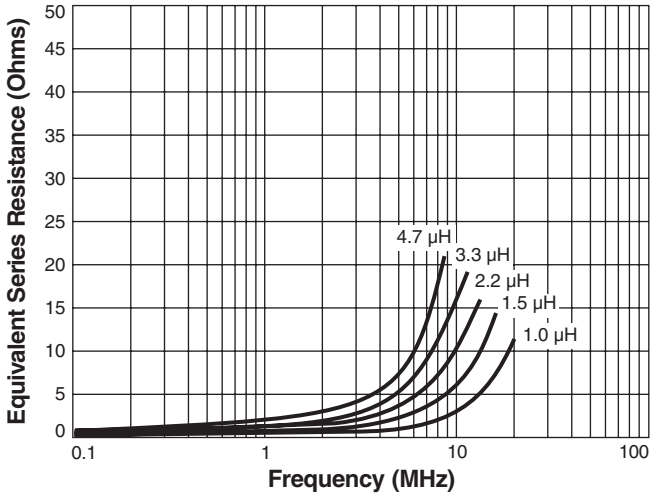
L vs Current



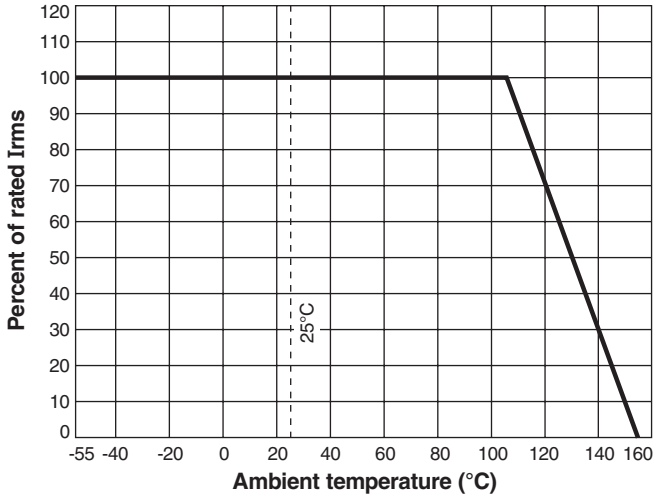
L vs Frequency



ESR vs Frequency



Irms Derating



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Document ML745-2 Revised 08/16/12