

PRELIMINARY

Military Grade Chip Inductors ML336RAE

Ceramic body and wire wound construction provide highest SRFs available in 0805 size. These ultra-compact inductors provide excellent Q values, even at high frequencies.

This robust version of Coilcraft's standard 0805HS series features high temperature materials that allow operation in ambient temperatures up to 155°C.

Part number ¹	Inductance ² (nH)	Percent tolerance	Q min ³	SRF min ⁴ (MHz)	DCR max ⁵ (Ohms)	Irms ⁶ (mA)	Color code
ML336RAE-030JLZ	3.3 @ 250 MHz	5	50 @ 1500 MHz	7900	0.08	600	Black
ML336RAE-060JLZ	6.8 @ 250 MHz	5	50 @ 1000 MHz	5500	0.11	600	Brown
ML336RAE-080JLZ	8.2 @ 250 MHz	5	50 @ 1000 MHz	4700	0.12	600	Red
ML336RAE-100JLZ	10 @ 250 MHz	5	60 @ 500 MHz	4200	0.10	600	Blue
ML336RAE-120JLZ	12 @ 250 MHz	5	50 @ 500 MHz	4000	0.15	600	Orange
ML336RAE-150JLZ	15 @ 250 MHz	5	50 @ 500 MHz	3400	0.17	600	Yellow
ML336RAE-180JLZ	18 @ 250 MHz	5	50 @ 500 MHz	3300	0.20	600	Green
ML336RAE-220_LZ	22 @ 250 MHz	5,2	55 @ 500 MHz	2600	0.22	500	Blue
ML336RAE-270_LZ	27 @ 250 MHz	5,2	55 @ 500 MHz	2500	0.25	500	Violet
ML336RAE-330_LZ	33 @ 250 MHz	5,2	60 @ 500 MHz	2050	0.27	500	Gray
ML336RAE-390_LZ	39 @ 250 MHz	5,2	60 @ 500 MHz	2000	0.29	500	White
ML336RAE-470_LZ	47 @ 200 MHz	5,2	60 @ 500 MHz	1650	0.31	500	Black
ML336RAE-560_LZ	56 @ 200 MHz	5,2,1	60 @ 500 MHz	1550	0.34	500	Brown
ML336RAE-680_LZ	68 @ 200 MHz	5,2,1	60 @ 500 MHz	1450	0.38	500	Red
ML336RAE-820_LZ	82 @ 150 MHz	5,2,1	65 @ 500 MHz	1300	0.42	400	Orange
ML336RAE-101_LZ	100 @ 150 MHz	5,2,1	65 @ 500 MHz	1200	0.46	400	Yellow
ML336RAE-121_LZ	120 @ 150 MHz	5,2,1	50 @ 250 MHz	1100	0.51	400	Green
ML336RAE-151_LZ	150 @ 100 MHz	5,2,1	50 @ 250 MHz	920	0.56	400	Blue
ML336RAE-181_LZ	180 @ 100 MHz	5,2,1	50 @ 250 MHz	870	0.64	400	Violet
ML336RAE-221_LZ	220 @ 100 MHz	5,2	50 @ 250 MHz	850	0.70	400	Gray

1. When ordering, please specify **tolerance** and **testing** codes:

ML336RAE-221 G L Z

Tolerance: F = 1% G = 2% J = 5%

Testing: Z = Coilcraft Critical Products Environmental Stress Conditions Testing.

H = Coilcraft Qual + Coilcraft Hi-Rel Burn-in

P = Coilcraft Qual + MIL-STD-981 Class S Group A screening

N = Coilcraft Qual + MIL-STD-981 Class B Group A screening

C = Coilcraft Qual + MIL-STD-981 Class S Group A screening + MIL-STD-981 Class S Group B qualification

W = Coilcraft Qual + MIL-STD-981 Class B Group A screening + MIL-STD-981 Class S Group B qualification

- Inductance measured using a Coilcraft SMD-A fixture in an Agilent/HP 4286A impedance analyzer with Coilcraft-provided correlation pieces.
- Q measured using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture.
- SRF measured using an Agilent/HP 8720D network analyzer and a Coilcraft SMD-D test fixture.
- DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF858 test fixture.
- Current that causes a 15°C temperature rise from 25°C ambient.
- Electrical specifications at 25°C.

Core material Ceramic

Terminations Silver-palladium-platinum-glass frit

Weight: 9.8 – 10.9 mg

Ambient temperature –55°C to +140°C with I_{rms} current, +140°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

Temperature Coefficient of Inductance (TCL) +100 to +250 ppm/°C

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Enhanced crush-resistant packaging 2000 per 7" reel
Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing,
1.3 mm pocket depth

COILCRAFT ACCURATE
PRECISION REPEATABLE
MEASUREMENTS
SEE INDEX **TEST FIXTURES**



These parts are preproduction products for electrical evaluation only.
Specification subject to change without notice.

Document ML159-1 Revised 06/02/09

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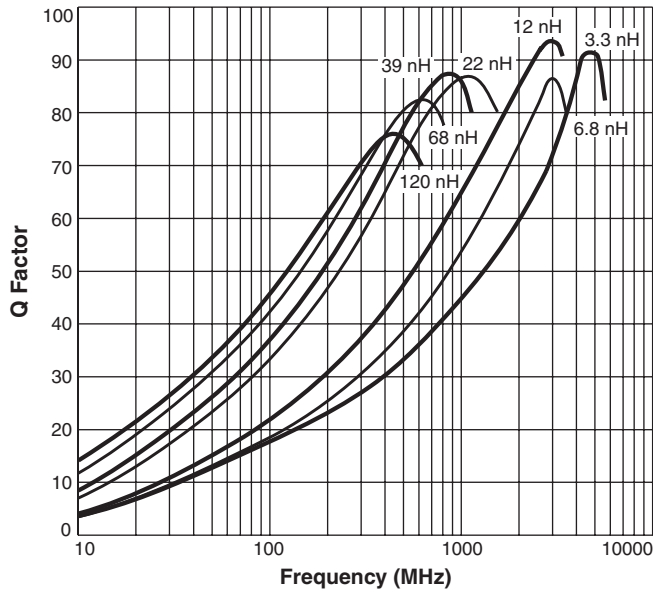
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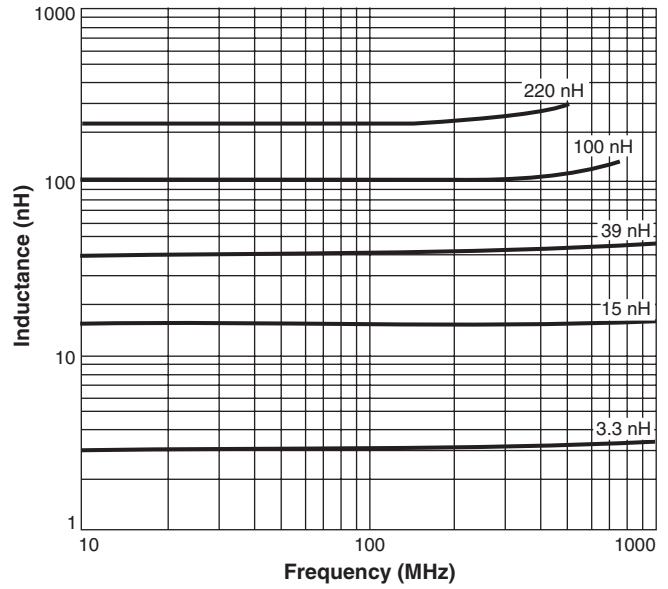
PRELIMINARY

ML336RAE Series (0805)

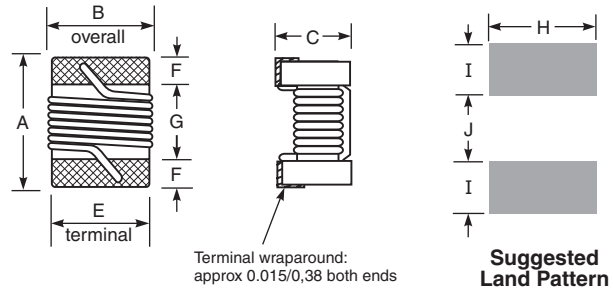
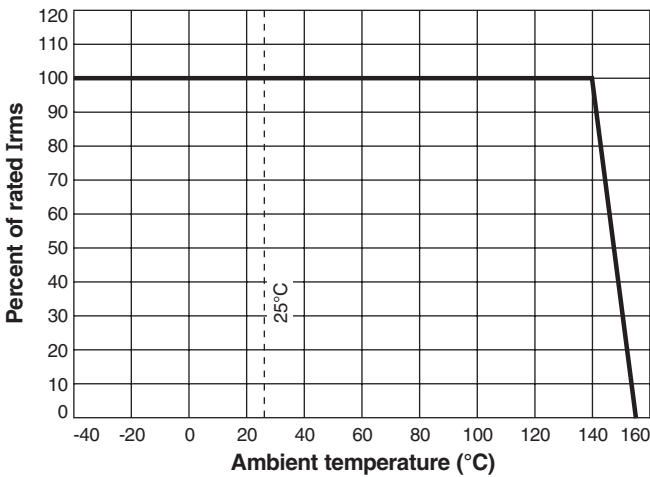
Typical Q vs Frequency



Typical L vs Frequency



Irms Derating



A	B	C	E	F	G	H	I	J
max	max	max						
0.085	0.060	0.057	0.050	0.020	0.040	0.070	0.040	0.030
2,16	1,52	1,45	1,27	0,51	1,02	1,78	1,02	0,76