MCLA1608V1

Automotive multilayer chip inductor

Product features

- AEC-Q200 qualified
- 0603 (1608 metric) package
- Multilayer monolithic construction yields high reliability
- Inductance range from 0.047 uH to 3.9 uH
- Moisture sensitivity level (MSL): 1

Applications

- ADAS
- Infotainment
- Wireless communications
- Wifi, bluetooth, satellite
- Antenna tuning
- On board computer

Environmental data

- Operating temperature range: -40 °C to +125 °C (ambient plus self-temperature rise)

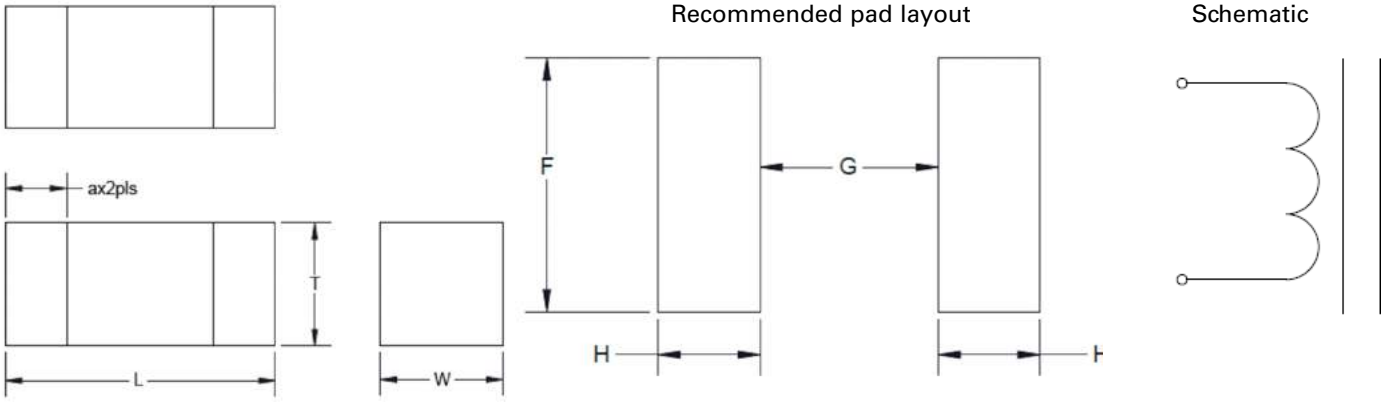
Powering Business Worldwide

Product specifications

Part number	OCL Tolerance (%)	OCL (µH)	Q minimum	DCR@ (Ω) @ +25 °C maximum	Test frequency (MHz)	Test voltage (mV)	SRF (MHz) minimum	I Rated (mA)
MCLA1608V1-R047-R	±10	0.047	15	0.2	50	50	260	50
MCLA1608V1-R056-R	±10	0.056	15	0.2	50	50	260	50
MCLA1608V1-R068-R	±10	0.068	15	0.2	50	50	250	50
MCLA1608V1-R082-R	±10	0.082	15	0.2	50	50	245	50
MCLA1608V1-R100-R	±10	0.10	20	0.25	25	50	240	50
MCLA1608V1-R120-R	±10	0.12	20	0.3	25	50	205	50
MCLA1608V1-R150-R	±10	0.15	20	0.3	25	50	180	50
MCLA1608V1-R180-R	±10	0.18	20	0.3	25	50	165	50
MCLA1608V1-R220-R	±10	0.22	20	0.4	25	50	150	50
MCLA1608V1-R270-R	±10	0.27	20	0.45	25	50	136	50
MCLA1608V1-R330-R	±10	0.33	20	0.5	25	50	125	50
MCLA1608V1-R390-R	±10	0.39	20	0.6	25	50	110	50
MCLA1608V1-R470-R	±10	0.47	20	0.7	25	50	105	50
MCLA1608V1-R560-R	±10	0.56	20	0.7	25	50	95	50
MCLA1608V1-R680-R	±10	0.68	20	0.9	25	50	90	50
MCLA1608V1-R820-R	±10	0.82	20	1.0	25	50	85	50
MCLA1608V1-1R0-R	±10	1.0	25	0.5	10	50	75	25
MCLA1608V1-1R2-R	±10	1.2	25	0.55	10	50	65	25
MCLA1608V1-1R5-R	±10	1.5	25	0.7	10	50	60	25
MCLA1608V1-1R8-R	±10	1.8	25	0.75	10	50	55	25
MCLA1608V1-2R2-R	±10	2.2	25	0.8	10	50	50	25
MCLA1608V1-2R7-R	±10	2.7	25	0.9	10	50	45	15
MCLA1608V1-3R3-R	±10	3.3	25	1.0	10	50	40	15
MCLA1608V1-3R9-R	±10	3.9	25	1.3	10	50	35	15

1. Test frequency and voltage is for open circuit inductance (OCL) and Q at +25 °C
2. Rated I: When rated I is applied to the product, self-temperature rise will be 40 °C or less.
3. Part Number Definition: MCLA1608V1-xxx-R
   MCLA1608V1 = Product code and size
   xxx= inductance value in µH, R= decimal point,
   If no R is present then last character equals number of zeros
   -R suffix = RoHS compliant

Mechanical parameters, schematic, pad layout (mm)



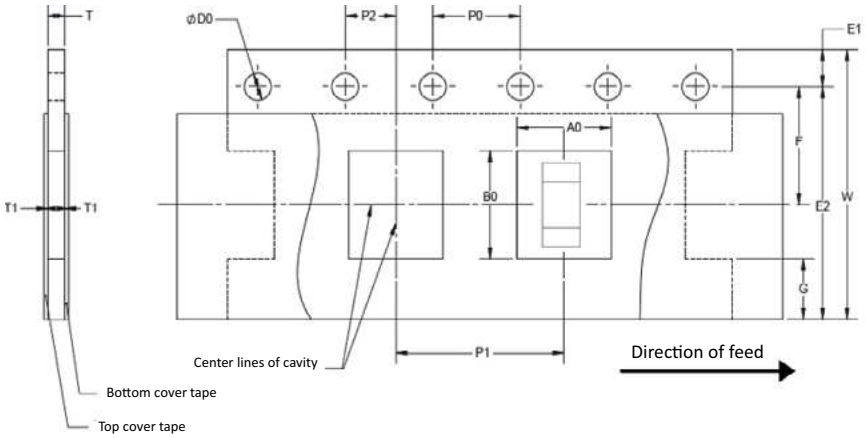
Part Number	L	W	T	a	F	G	H
MCLA1608V1-xxx-R	1.60±0.20	0.80±0.20	0.80±0.20	0.30±0.20	1.20 ref	0.40 ref	0.90 ref

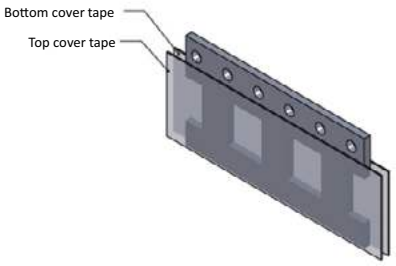
Part marking: No marking
All soldering surfaces to be coplanar within 0.1 millimeters
Tolerances are ±0.1 millimeters unless stated otherwise
Pad layout dimensions are reference only
Traces or vias underneath the inductor is not recommended

Packaging information (mm)

Drawing not to scale

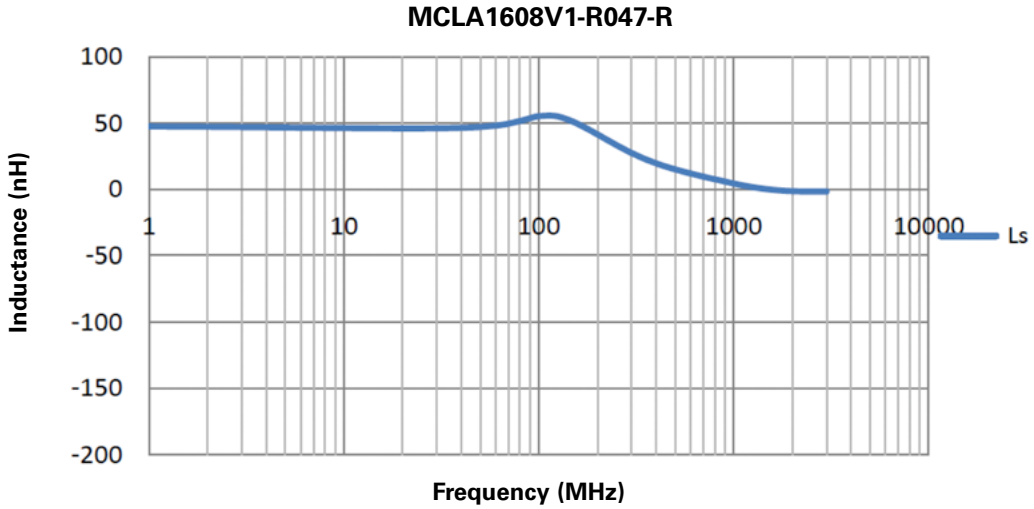
Supplied in tape and reel packaging, 4000 parts per 7" diameter reel

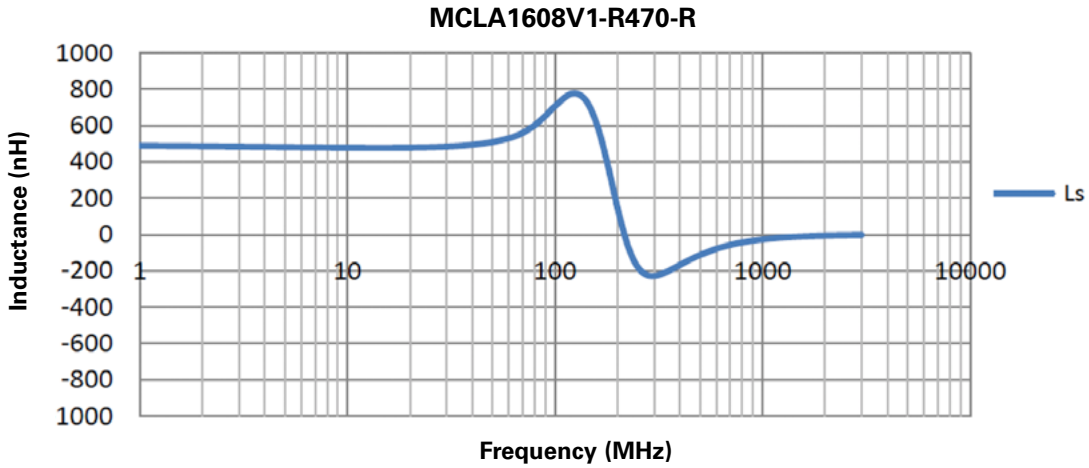


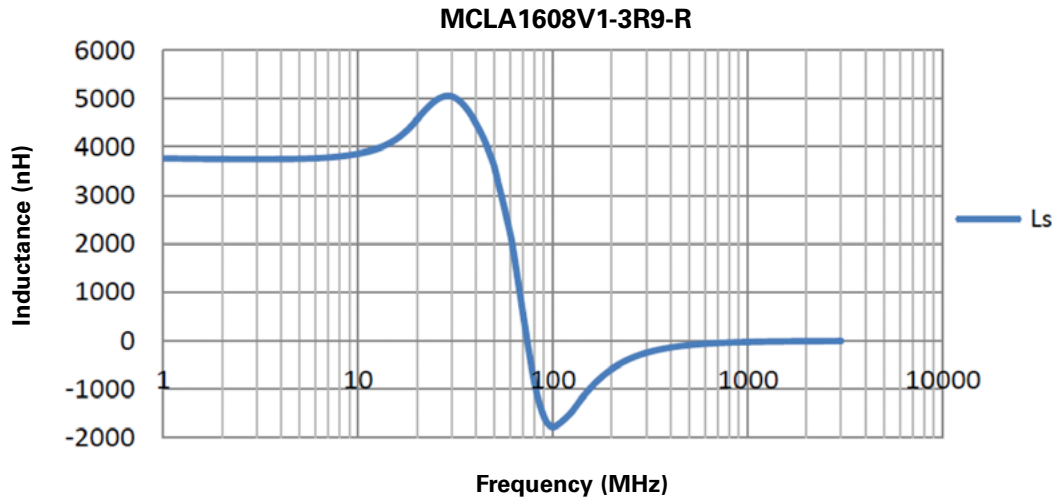


W±0.2	8.00
F±0.1	3.50
E1±0.2	1.75
E2 Min	na
P0±0.2	4.00
P1±0.2	4.00
P2±0.1	2.00
D0±0.1	1.55
A0	1.1±0.2
B0	1.9±0.2
T	0.95±0.1
T1 Max	na

Inductance vs frequency

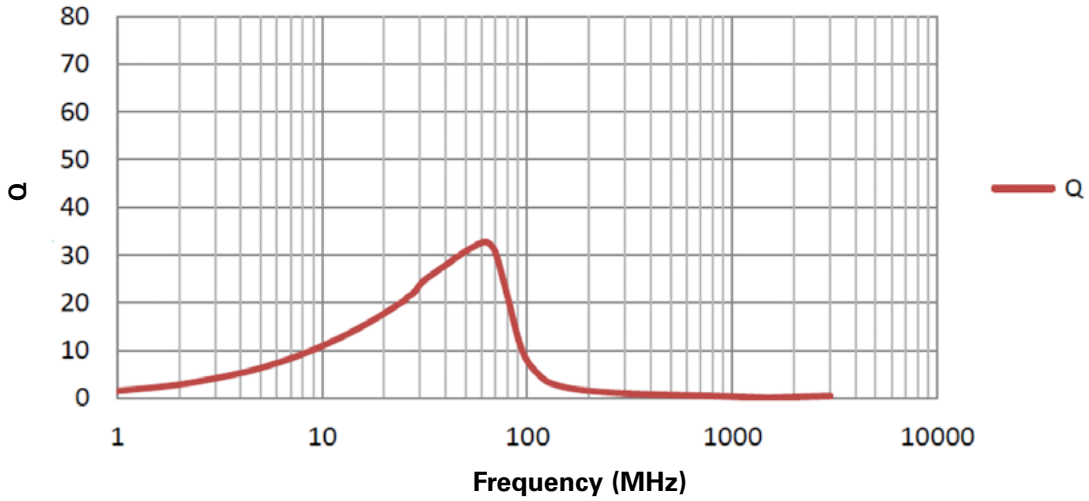




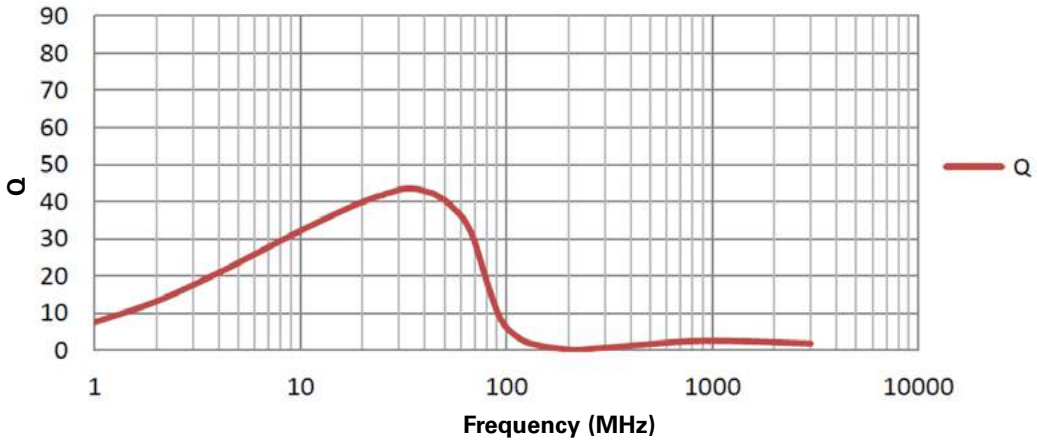


Q vs frequency

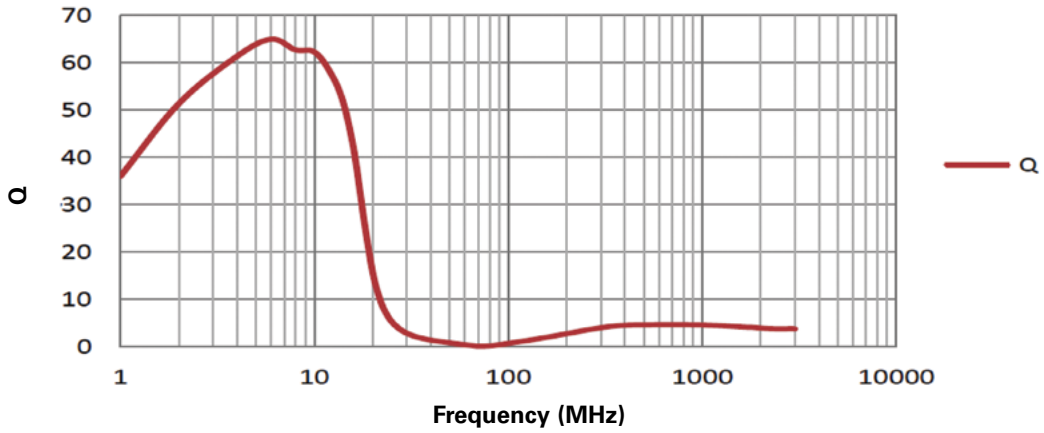
MCLA1608V1-R047-R



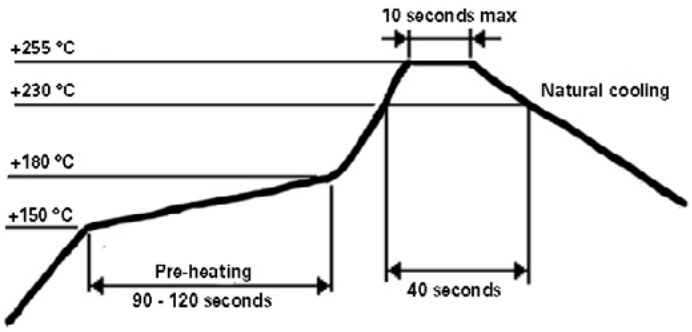
MCLA1608V1-R470-R



MCLA1608V1-3R9-R



Solder reflow profile



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Printed in USA
Publication No. 10975 BU-MC19103
November 2019

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