

# 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)



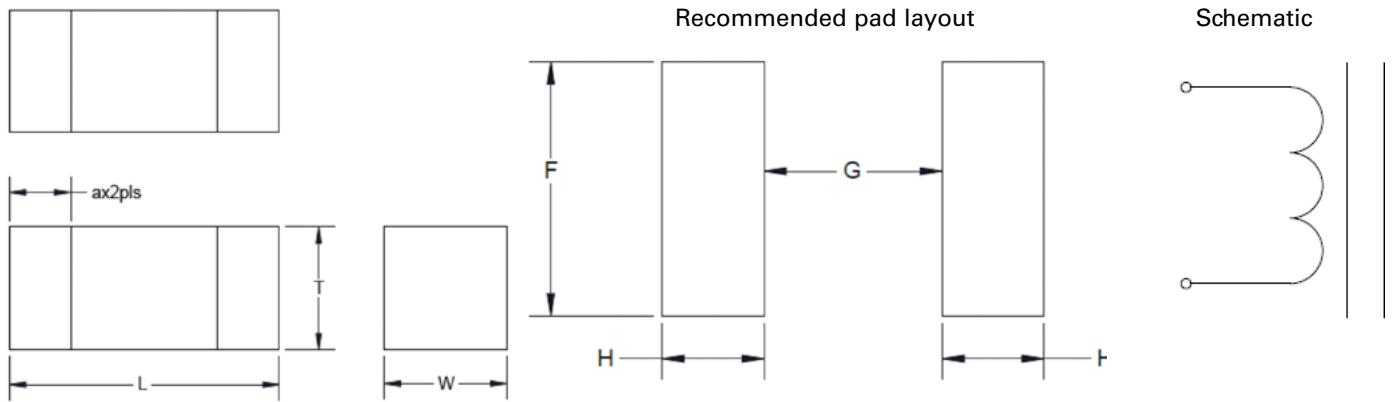
**Product specifications**

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)**

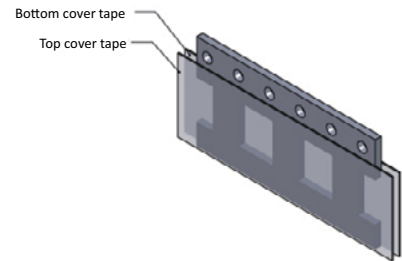
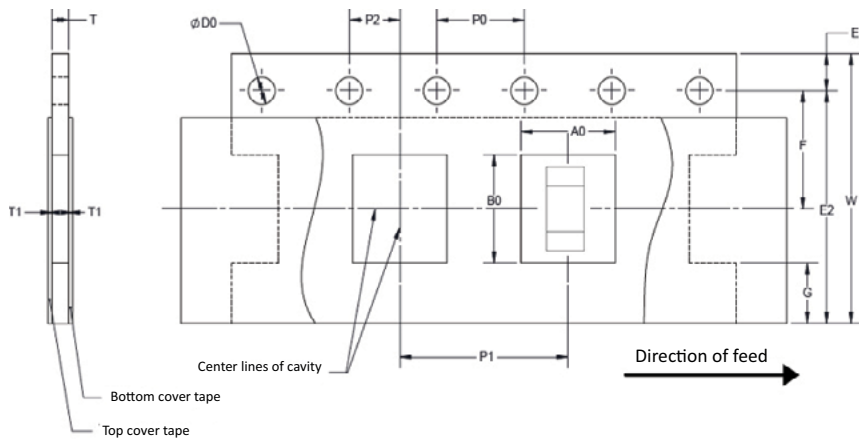


Part Number	L	W	T	a	F	G	H
MCLA1608V1-xxx-R	1.60±0.20	0.80±0.20	0.80±0.20	0.30±0.20	1.20 ref	0.40 ref	0.90 ref

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

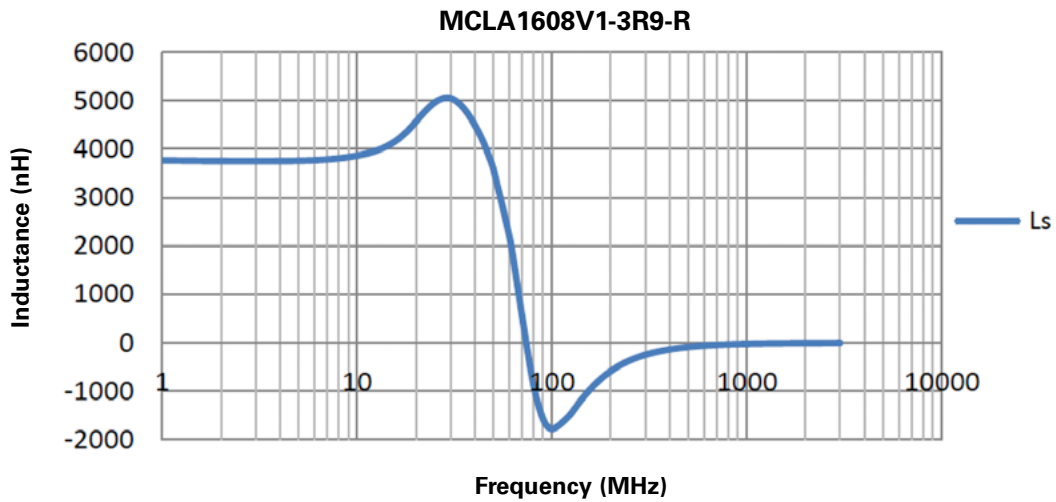
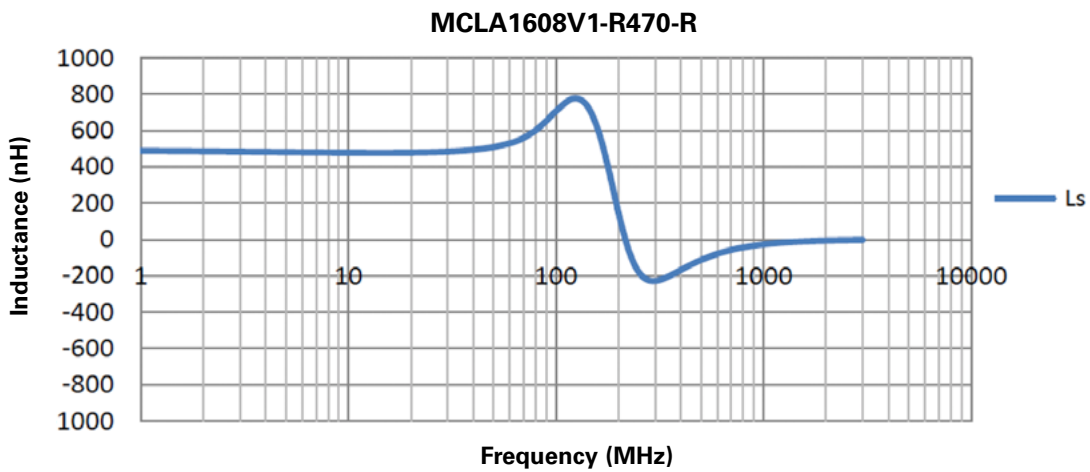
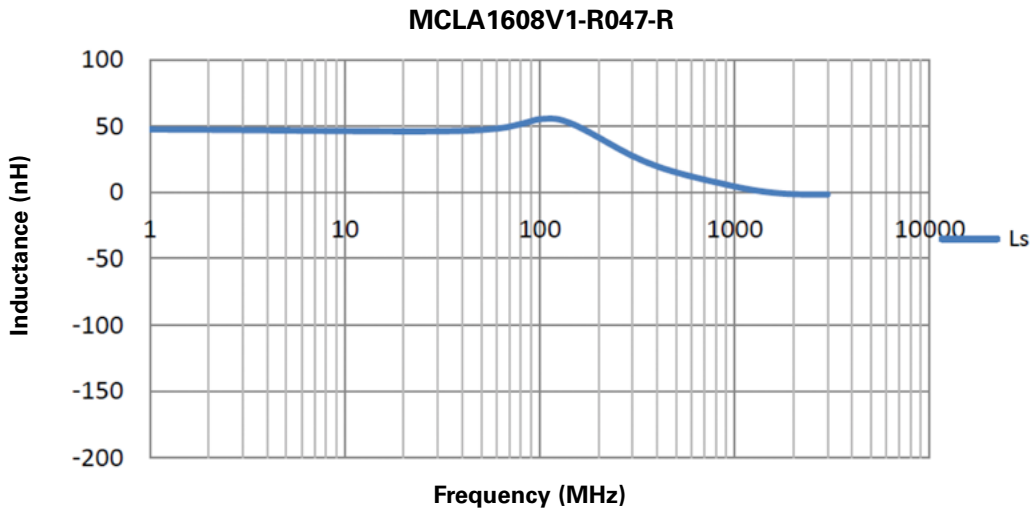
**Packaging information (mm)**

Drawing not to scale  
 Supplied in tape and reel packaging, 4000 parts per 7" diameter reel

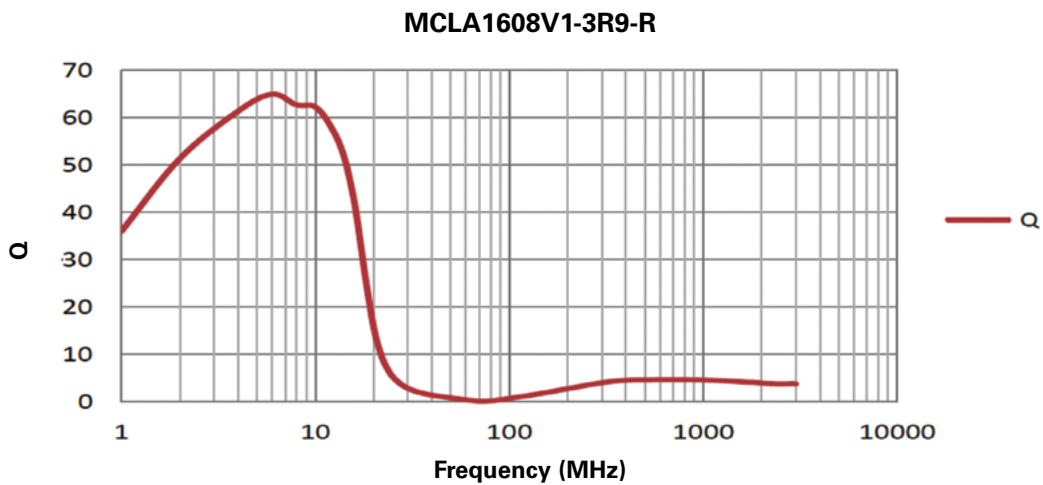
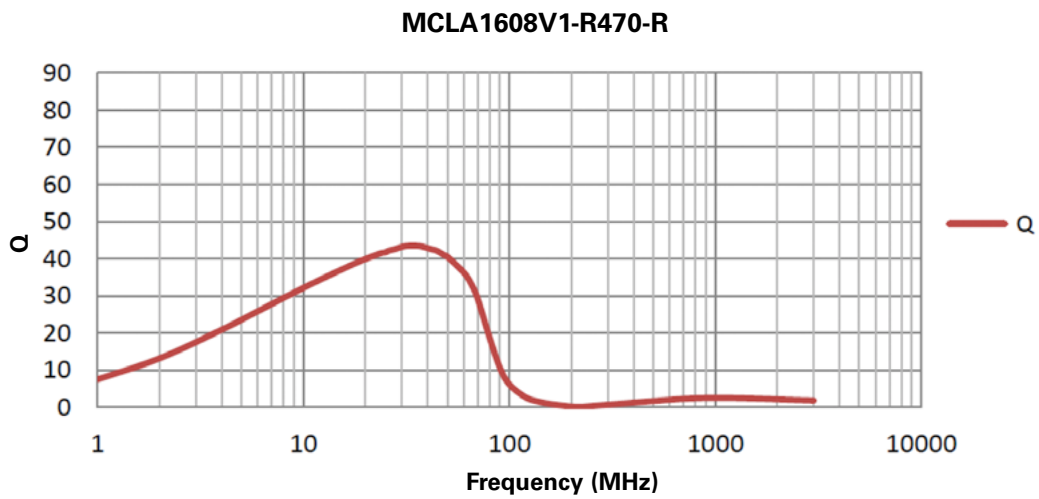
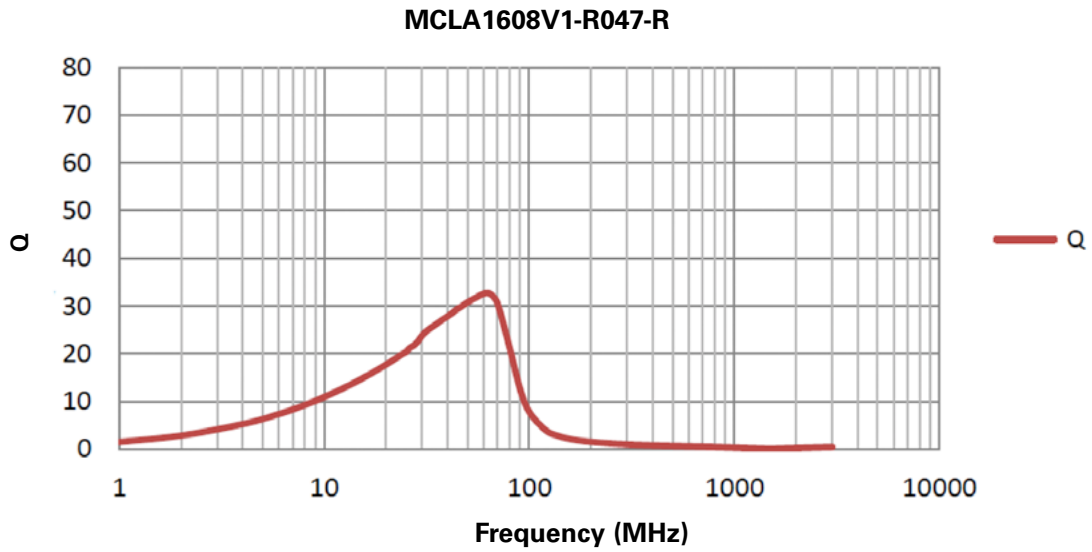


W±0.2	8.00
F±0.1	3.50
E1±0.2	1.75
E2 Min	na
P0±0.2	4.00
P1±0.2	4.00
P2±0.1	2.00
D0±0.1	1.55
A0	1.1±0.2
B0	1.9±0.2
T	0.95±0.1
T1 Max	na

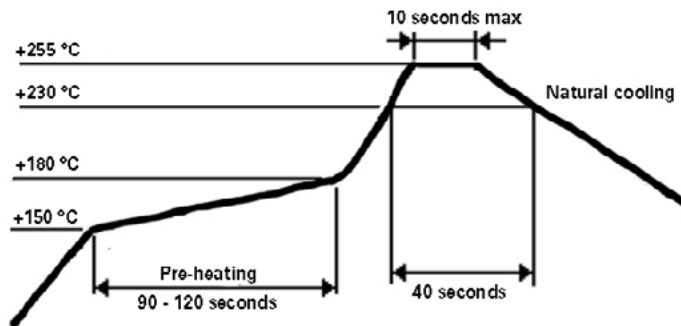
Inductance vs frequency



Q vs frequency



### Solder reflow profile



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