

# MCLA1608V2

## Automotive grade multilayer chip inductor



### Product features

- AEC-Q200 qualified
- 0603 (1608 metric) package
- Multilayer monolithic construction yields high reliability
- Inductance range from 1.0 nH to 470 nH
- 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)



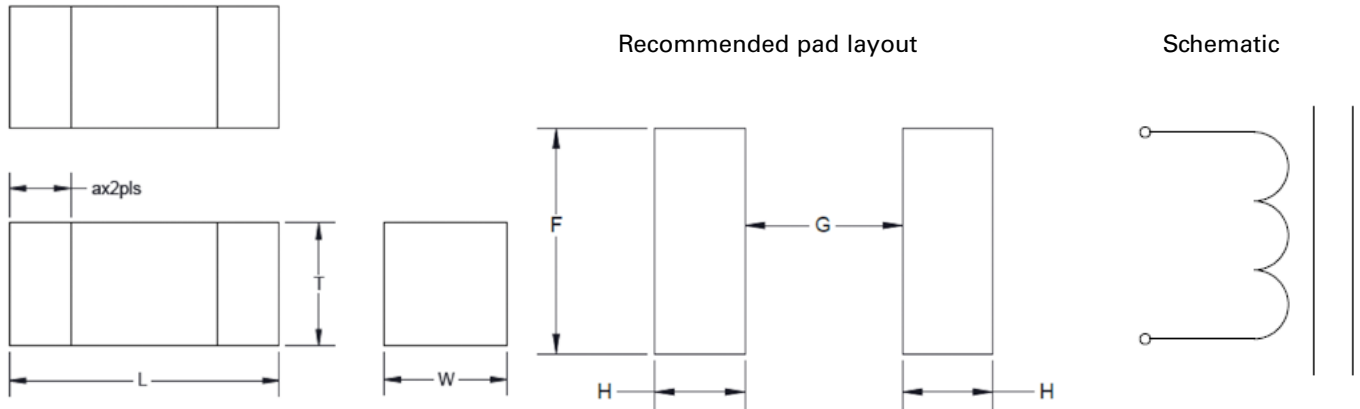
**Product specifications**

Part number	OCL Tolerance	OCL (nH)	Q minimum	DCR@ (Ω) @ +25 °C maximum	Test frequency (MHz)	Test voltage (mV)	SRF (MHz) minimum	I Rated (mA)
MCLA1608V2-1R0-R	±0.3nH	1.0	8	0.05	100	50	10000	500
MCLA1608V2-1R2-R	±0.3nH	1.2	8	0.05	100	50	10000	500
MCLA1608V2-1R5-R	±0.3nH	1.5	8	0.1	100	50	6000	500
MCLA1608V2-1R8-R	±0.3nH	1.8	8	0.1	100	50	6000	500
MCLA1608V2-2R2-R	±0.3nH	2.2	8	0.1	100	50	6000	500
MCLA1608V2-2R7-R	±0.3nH	2.7	10	0.12	100	50	6000	500
MCLA1608V2-3R3-R	±0.3nH	3.3	10	0.15	100	50	6000	500
MCLA1608V2-3R9-R	±0.3nH	3.9	10	0.16	100	50	6000	500
MCLA1608V2-4R7-R	±0.3nH	4.7	10	0.2	100	50	6000	500
MCLA1608V2-5R6-R	±0.3nH	5.6	10	0.25	100	50	5000	500
MCLA1608V2-6R8-R	±5%	6.8	10	0.3	100	50	5000	500
MCLA1608V2-8R2-R	±5%	8.2	10	0.35	100	50	4500	500
MCLA1608V2-100-R	±5%	10	12	0.4	100	50	3500	300
MCLA1608V2-120-R	±5%	12	12	0.45	100	50	3000	300
MCLA1608V2-150-R	±5%	15	12	0.5	100	50	2300	300
MCLA1608V2-180-R	±5%	18	12	0.55	100	50	2200	300
MCLA1608V2-220-R	±5%	22	12	0.6	100	50	2000	300
MCLA1608V2-270-R	±5%	27	12	0.65	100	50	1700	300
MCLA1608V2-330-R	±5%	33	12	0.7	100	50	1500	300
MCLA1608V2-390-R	±5%	39	12	0.7	100	50	1400	300
MCLA1608V2-470-R	±5%	47	12	0.7	100	50	1200	300
MCLA1608V2-560-R	±5%	56	12	0.75	100	50	1100	300
MCLA1608V2-680-R	±5%	68	12	0.85	100	50	900	300
MCLA1608V2-820-R	±5%	82	8	1.0	100	50	800	300
MCLA1608V2-101-R	±5%	100	8	1.2	100	50	700	300
MCLA1608V2-121-R	±5%	120	8	1.4	50	50	600	200
MCLA1608V2-151-R	±5%	150	8	1.6	50	50	500	200
MCLA1608V2-181-R	±5%	180	8	1.9	50	50	400	200
MCLA1608V2-221-R	±5%	220	8	2.4	50	50	350	200
MCLA1608V2-271-R	±5%	270	8	2.6	50	50	350	150
MCLA1608V2-331-R	±5%	330	8	2.8	50	50	350	150
MCLA1608V2-391-R	±5%	390	8	3.2	50	50	300	150
MCLA1608V2-431-R	±5%	430	8	3.4	50	50	280	150
MCLA1608V2-471-R	±5%	470	8	3.6	50	50	250	150

1. Test frequency and voltage are 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 20 °C or less.

3. Part Number Definition: MCLA1608V2-xxx-R  
MCLA1608V2 = Product code and size  
xxx= inductance value in nH, 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)**

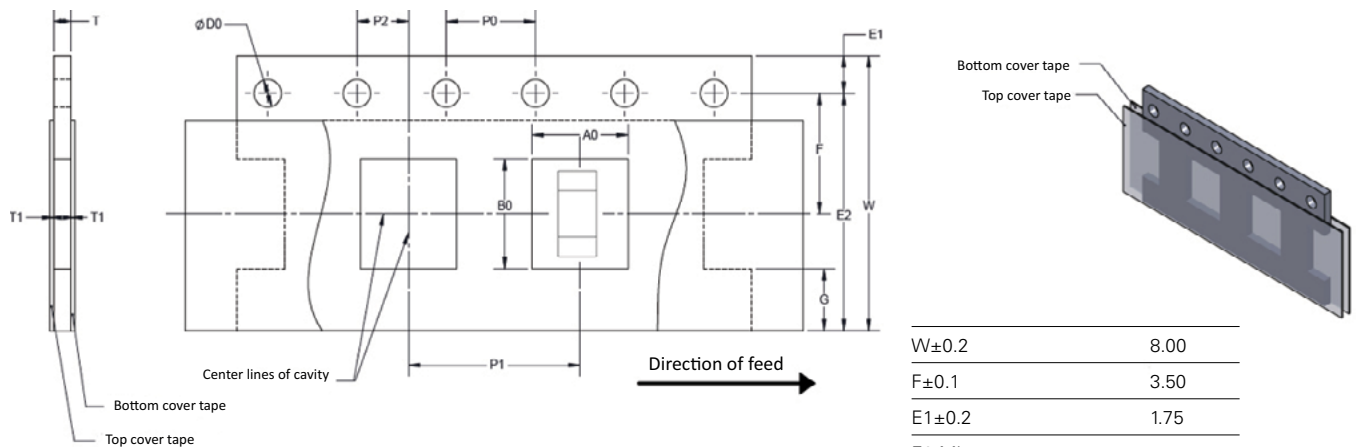


Part Number	L	W	T	a	F	G	H
MCLA1608V2-xxx-R	1.60±0.20	0.80±0.20	0.80±0.20	0.30±0.20	1.20 ref	0.40 ref	0.90 ref

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

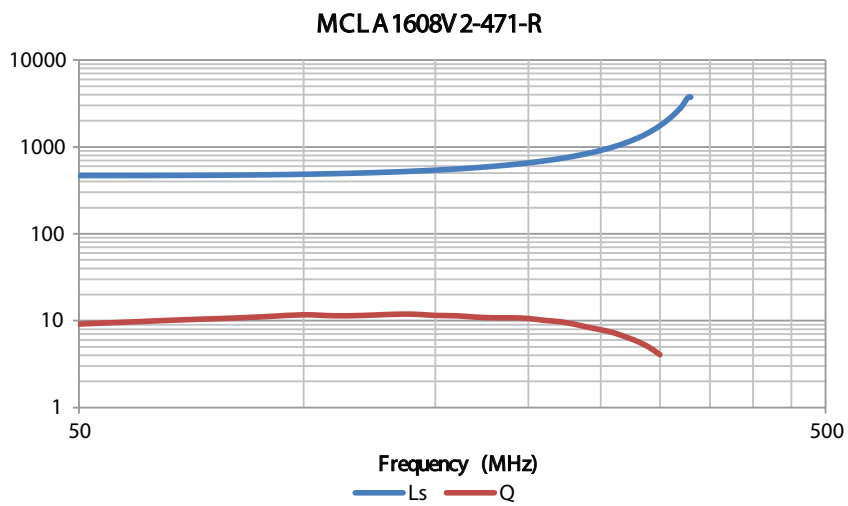
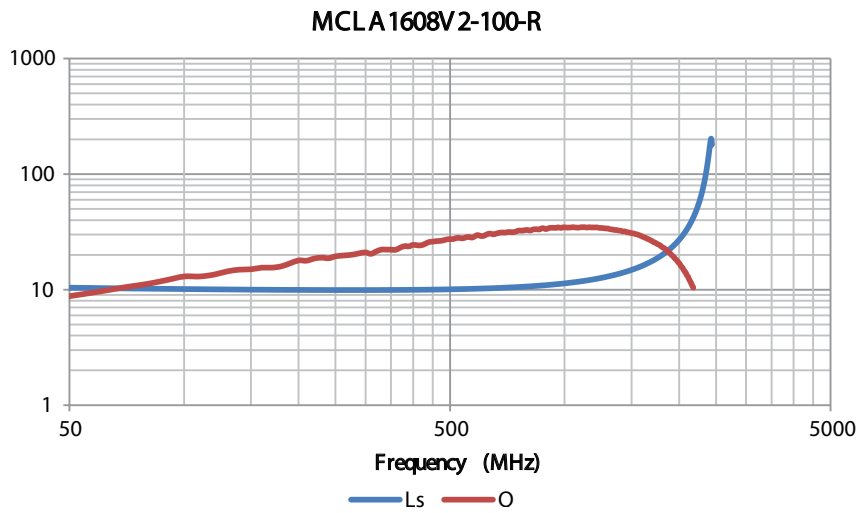
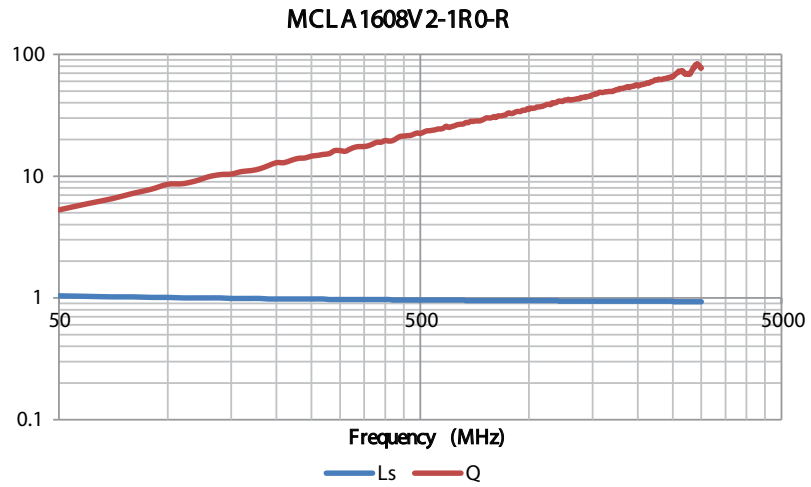
**Packaging information (mm)**

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

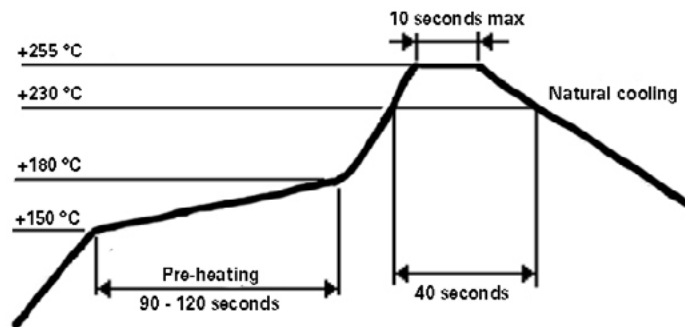


W±0.2	8.00
F±0.1	3.50
E1±0.2	1.75
E2 Min	na
P0±0.2	4.00
P1±0.2	4.00
P2±0.1	2.00
D0±0.1	1.55
A0	1.1±0.2
B0	1.9±0.2
T	0.95±0.1
T1 Max	na

Inductance and Q vs frequency



**Solder reflow profile**



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