

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)



Powering Business Worldwide

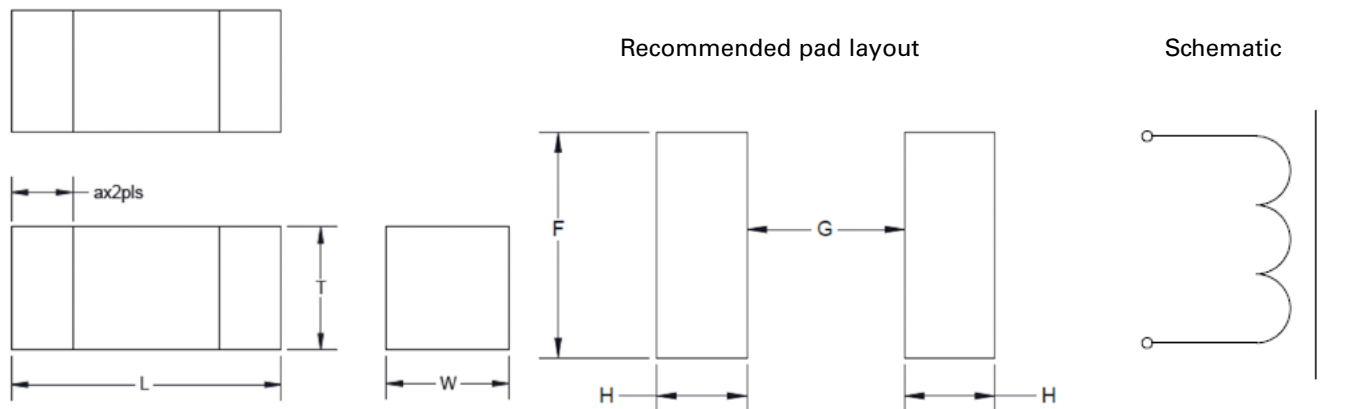
Product specifications

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)



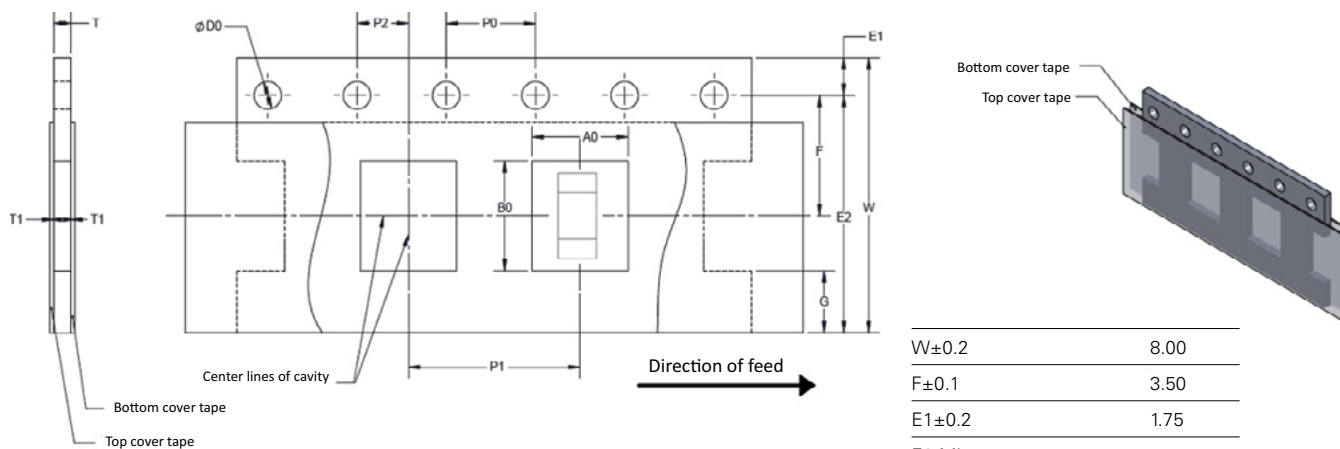
Part Number	L	W	T	a	F	G	H
MCLA1608V2-xxx-R	1.60±0.20	0.80±0.20	0.80±0.20	0.30±0.20	1.20 ref	0.40 ref	0.90 ref

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)

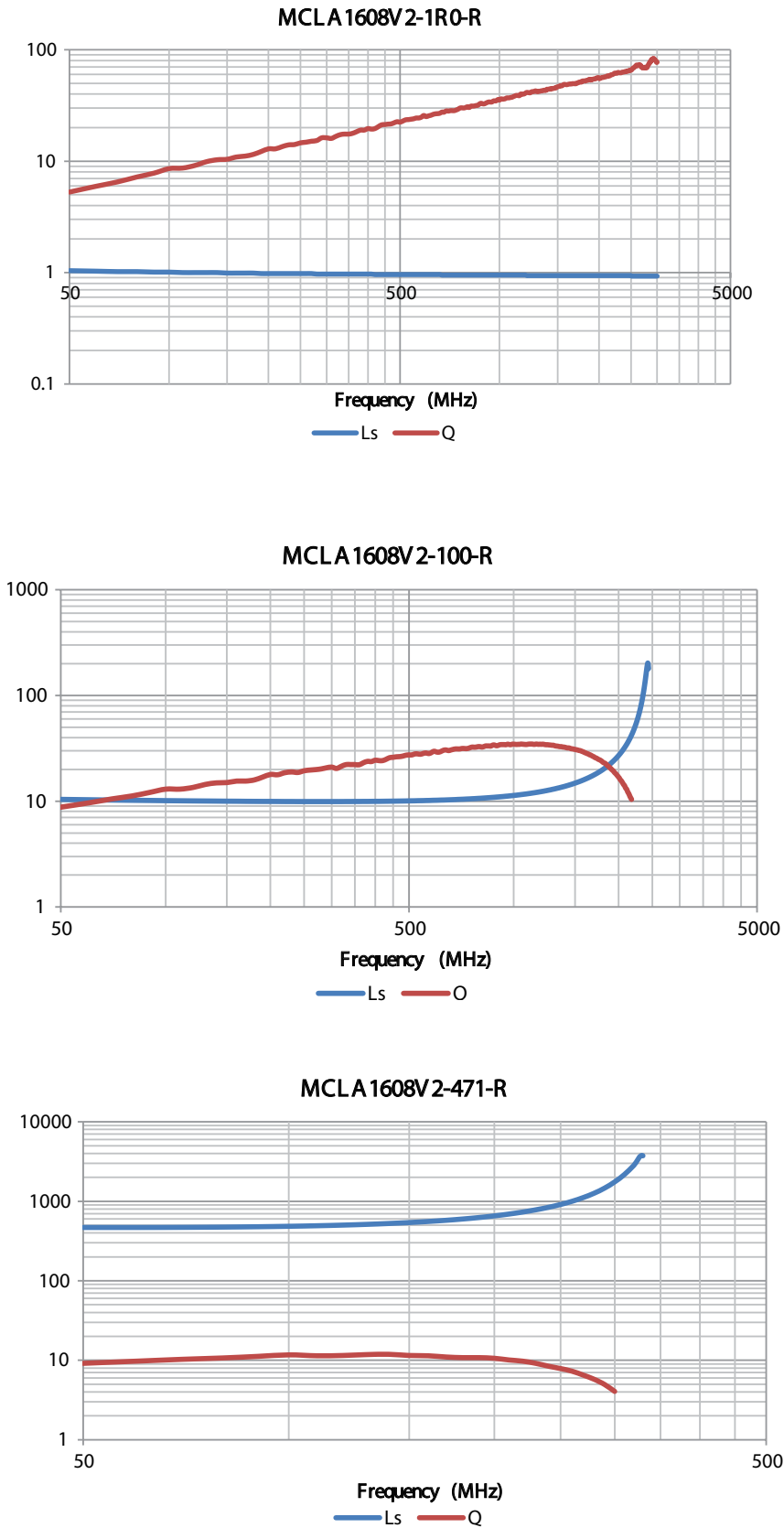
Drawing not to scale

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

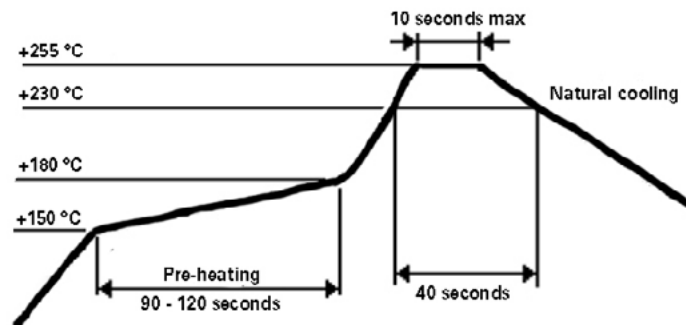


$W \pm 0.2$	8.00
$F \pm 0.1$	3.50
$E1 \pm 0.2$	1.75
$E2$ Min	na
$P0 \pm 0.2$	4.00
$P1 \pm 0.2$	4.00
$P2 \pm 0.1$	2.00
$D0 \pm 0.1$	1.55
$A0$	1.1±0.2
$B0$	1.9±0.2
T	0.95±0.1
$T1$ Max	na

Inductance and Q vs frequency



Solder reflow profile



Life Support Policy: Eaton does not authorize the use of any of its products for use in life support devices or systems without the express written approval of an officer of the Company. Life support systems are devices which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.

Eaton reserves the right, without notice, to change design or construction of any products and to discontinue or limit distribution of any products. Eaton also reserves the right to change or update, without notice, any technical information contained in this bulletin.

Eaton
Electronics Division
1000 Eaton Boulevard
Cleveland, OH 44122
United States
www.eaton.com/electronics

© 2019 Eaton
All Rights Reserved
Printed in USA
Publication No. 10976 BU-MC19104
November 2019

Eaton is a registered trademark.

All other trademarks are property
of their respective owners.

Follow us on social media to get the
latest product and support information.

