

# MCLA3216V1

## Automotive grade multilayer inductor



### Product features

- AEC-Q200 qualified
- 1206 (3216 metric) package
- Multilayer monolithic construction yields high reliability
- Inductance range from 0.047 uH to 12 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)



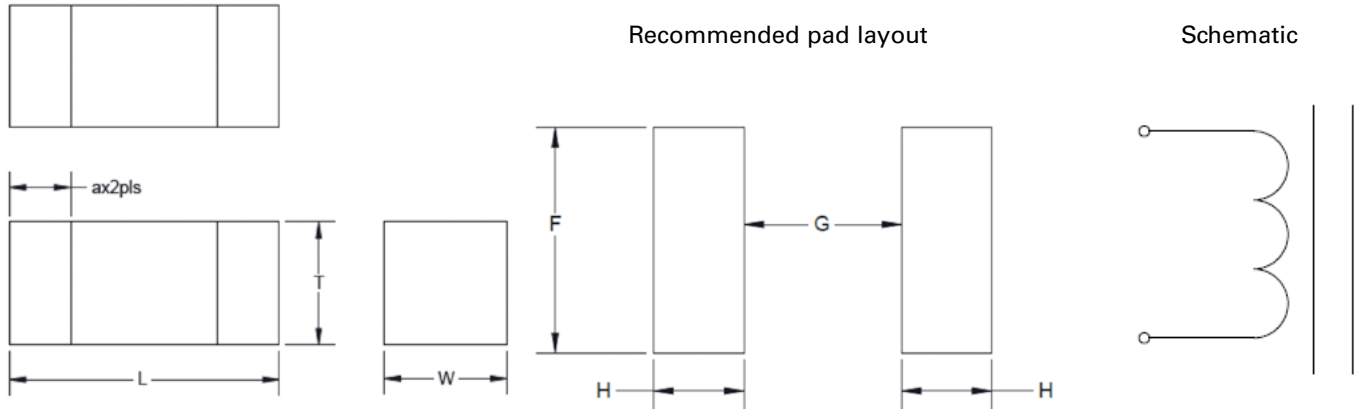
**Product specifications**

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)
MCLA3216V1-R047-R	±10	0.047	30	0.15	50	50	320	300
MCLA3216V1-R056-R	±10	0.056	30	0.2	50	50	320	300
MCLA3216V1-R068-R	±10	0.068	30	0.25	50	50	280	300
MCLA3216V1-R082-R	±10	0.082	30	0.25	50	50	280	300
MCLA3216V1-R100-R	±10	0.1	25	0.25	25	50	235	250
MCLA3216V1-R120-R	±10	0.12	25	0.25	25	50	220	250
MCLA3216V1-R150-R	±10	0.15	25	0.25	25	50	200	250
MCLA3216V1-R180-R	±10	0.18	25	0.3	25	50	185	250
MCLA3216V1-R220-R	±10	0.22	25	0.3	25	50	170	250
MCLA3216V1-R270-R	±10	0.27	25	0.3	25	50	150	250
MCLA3216V1-R330-R	±10	0.33	25	0.3	25	50	145	250
MCLA3216V1-R390-R	±10	0.39	30	0.5	25	50	135	200
MCLA3216V1-R470-R	±10	0.47	30	0.5	25	50	125	200
MCLA3216V1-R560-R	±10	0.56	30	0.5	25	50	115	150
MCLA3216V1-R680-R	±10	0.68	30	0.5	25	50	105	150
MCLA3216V1-R820-R	±10	0.82	30	0.6	25	50	100	150
MCLA3216V1-1R0-R	±10	1.0	35	0.3	10	50	75	100
MCLA3216V1-1R2-R	±10	1.2	35	0.4	10	50	65	100
MCLA3216V1-1R5-R	±10	1.5	35	0.4	10	50	60	50
MCLA3216V1-1R8-R	±10	1.8	35	0.4	10	50	55	50
MCLA3216V1-2R2-R	±10	2.2	35	0.5	10	50	50	50
MCLA3216V1-2R7-R	±10	2.7	35	0.5	10	50	45	50
MCLA3216V1-3R3-R	±10	3.3	35	0.5	10	50	41	50
MCLA3216V1-3R9-R	±10	3.9	35	0.6	10	50	38	50
MCLA3216V1-4R7-R	±10	4.7	35	0.65	10	50	35	25
MCLA3216V1-5R6-R	±10	5.6	35	0.8	4	50	32	25
MCLA3216V1-6R8-R	±10	6.8	35	0.8	4	50	29	25
MCLA3216V1-8R2-R	±10	8.2	35	0.8	4	50	26	25
MCLA3216V1-100-R	±10	10	35	0.8	2	50	24	25
MCLA3216V1-120-R	±10	12	35	0.9	2	50	22	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: MCLA3216V1-xxx-R  
MCLA3216V1 = 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)**

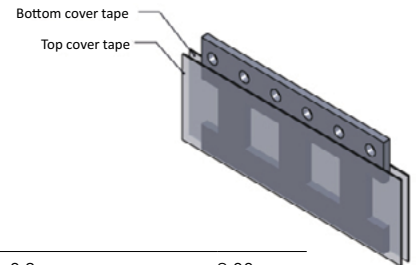
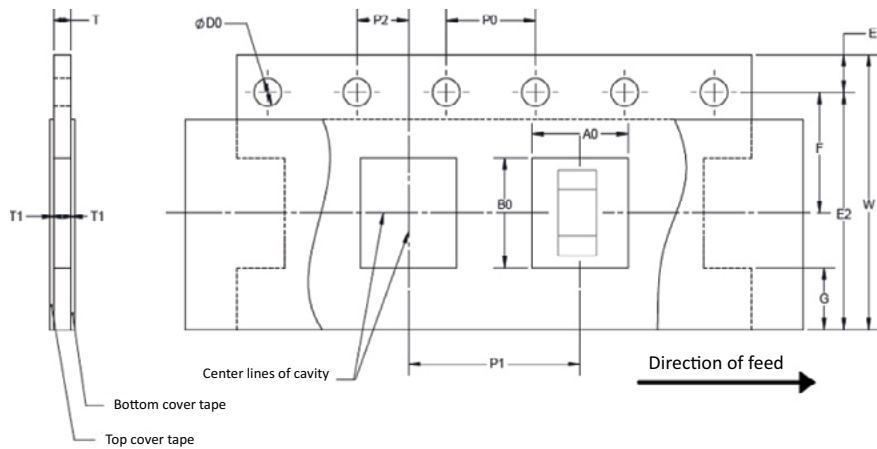


Part Number	L	W	T	a	F	G	H
MCLA3216V1-xxx-R	3.20±0.20	1.60±0.20	0.90±0.20	0.50±0.30	2.00 ref	1.40 ref	1.20 ref

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

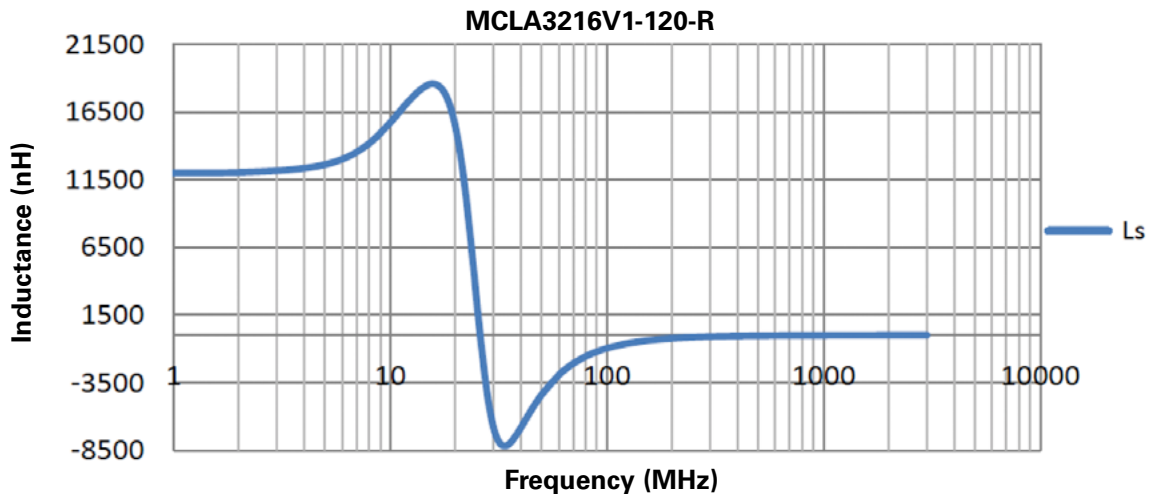
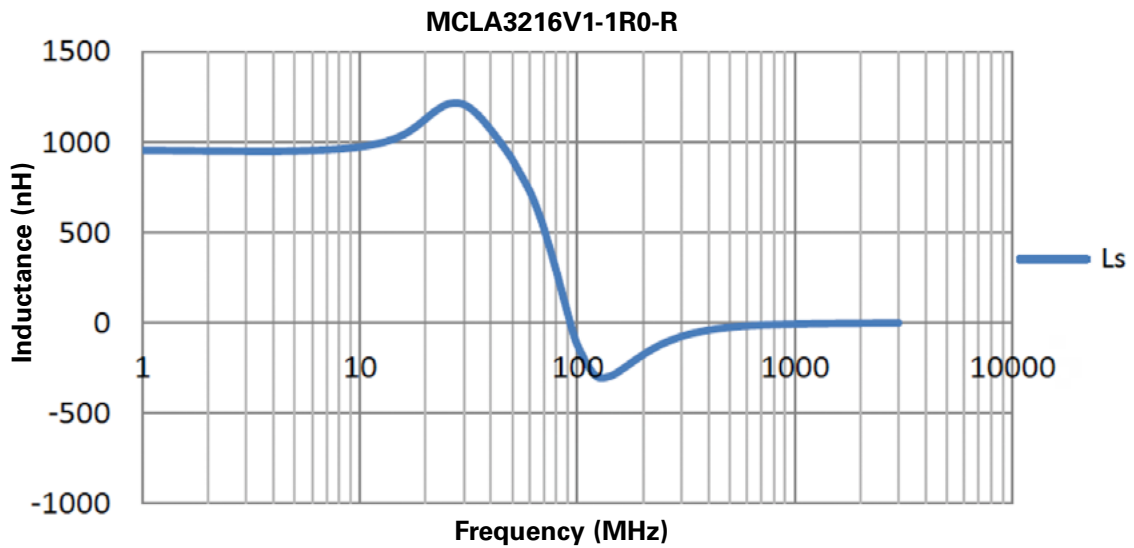
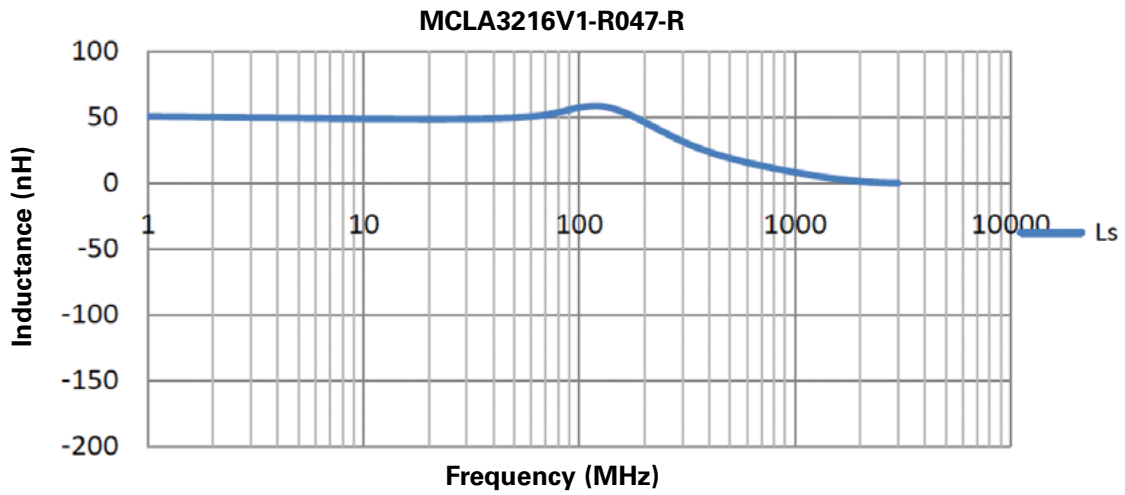
**Packaging information (mm)**

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

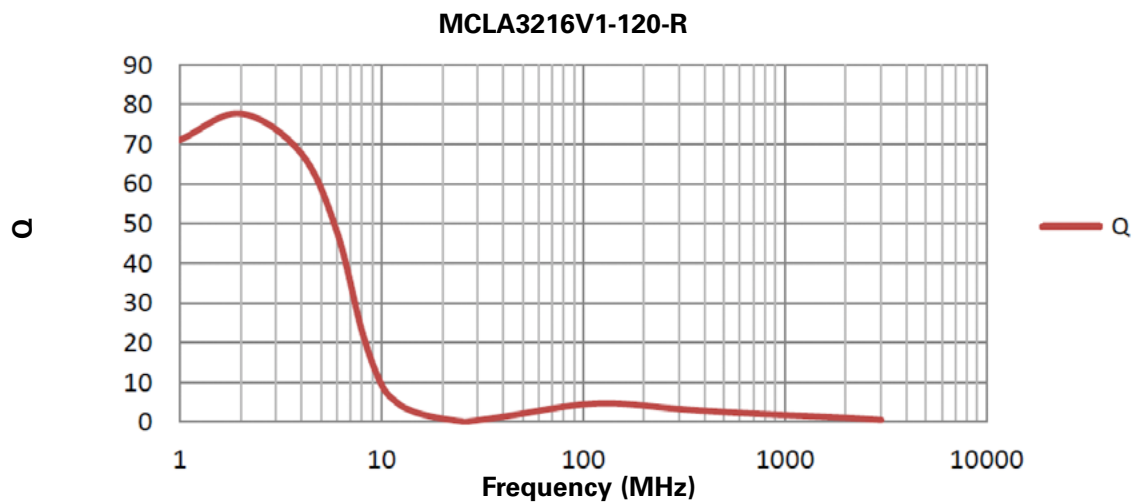
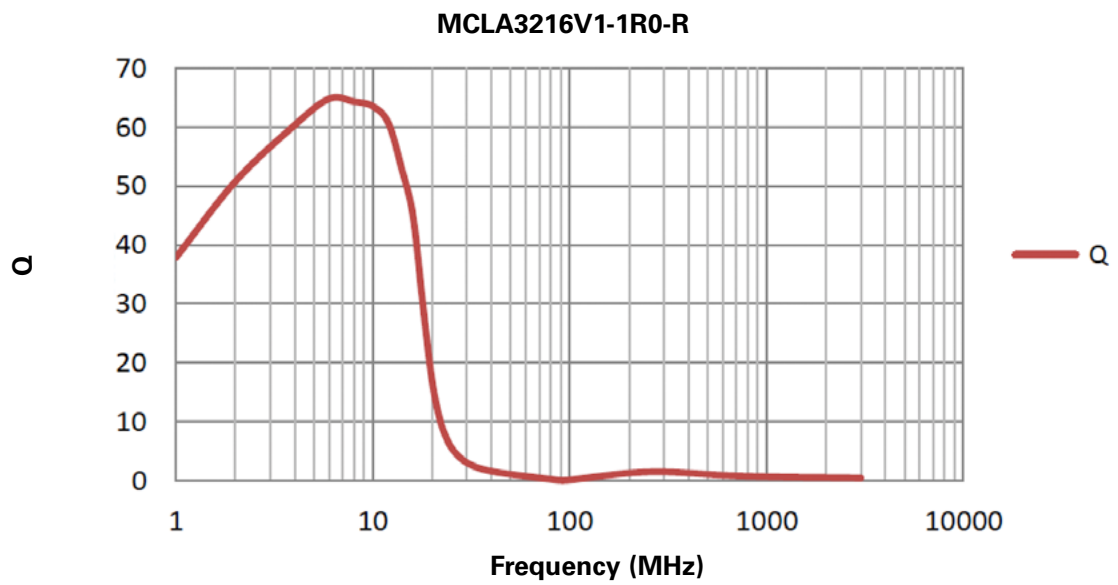
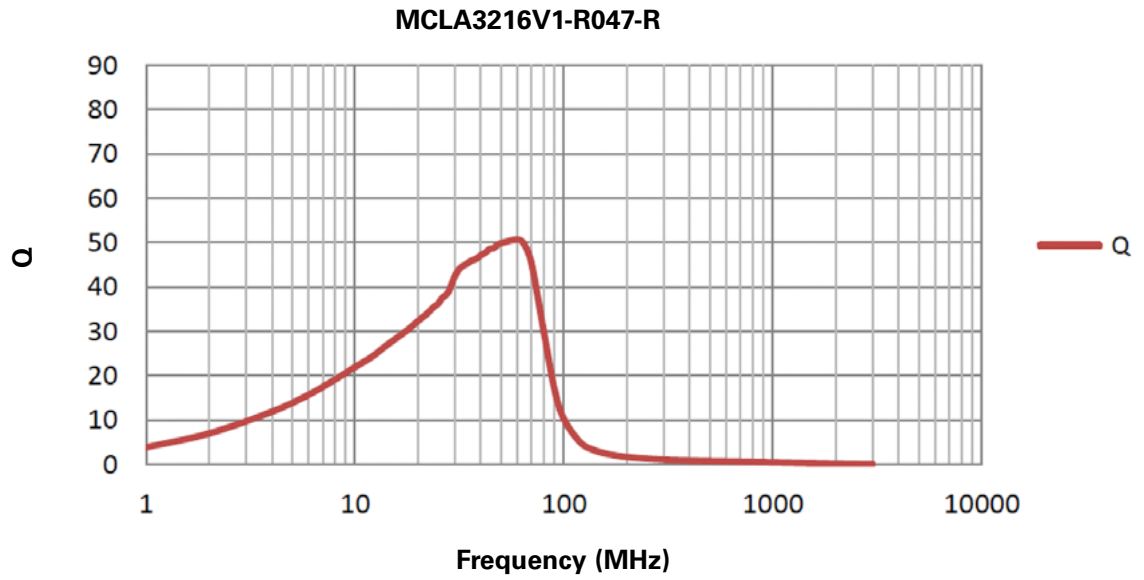


W±0.2	8.00
F±0.1	3.50
E1±0.2	1.75
E2 Min	na
P0±0.2	4.00
P1±0.2	4.00
P2±0.1	2.00
D0±0.1	1.55
A0	1.9±0.2
B0	3.5±0.2
T	0.95±0.1
T1 Max	na

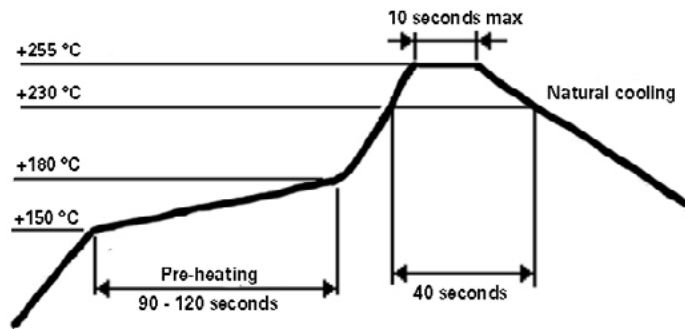
Inductance vs frequency



Q vs frequency



**Solder reflow profile**



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Publication No. 10978 BU-MC19106  
November 2019

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