

WCLA2012V1

Automotive grade wire wound chip inductor



Product features

- AEC-Q200 qualified
- 0805 (2012 metric) package
- High Q value
- Tight inductance tolerance
- Inductance range from 2.2 nH to 2200 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)



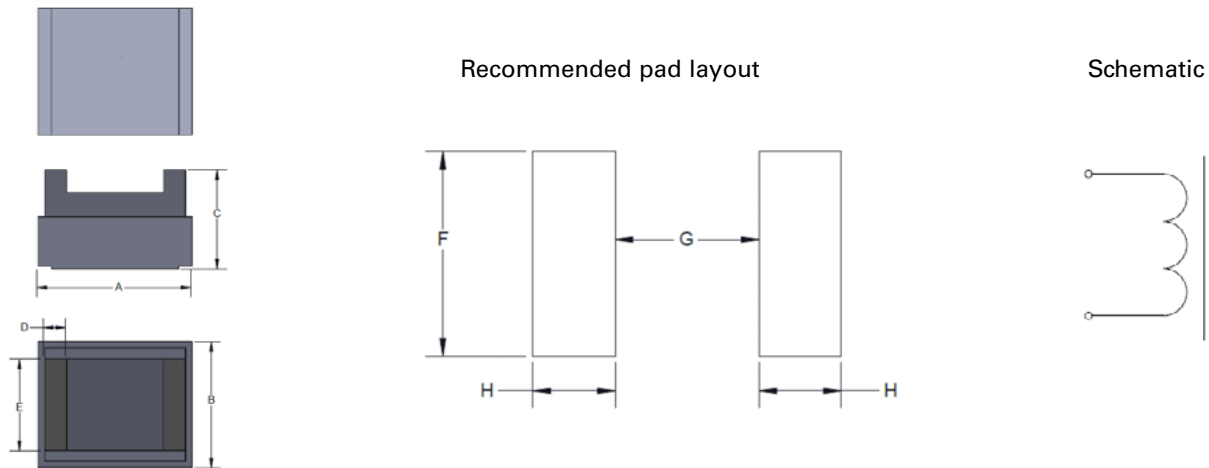
Product specifications

Part number	OCL Tolerance (%)	OCL (nH)	OCL Test frequency (MHz)	Q minimum	Q Test frequency (MHz)	DCR@ (Ω) @ +25 °C maximum	Test voltage (mV)	SRF (MHz) minimum	I Rated (mA)
WCLA2012V1-2R2-R	±10	2.2	250	50	1500	0.03	500	8500	800
WCLA2012V1-2R7-R	±5	2.7	250	50	1500	0.045	500	8000	800
WCLA2012V1-3R3-R	±10	3.3	250	35	1500	0.09	500	7900	600
WCLA2012V1-4R7-R	±10	4.7	250	40	1000	0.05	500	6000	600
WCLA2012V1-5R6-R	±5	5.6	250	50	1000	0.065	500	5500	600
WCLA2012V1-6R8-R	±5	6.8	250	50	1000	0.11	500	5500	600
WCLA2012V1-8R2-R	±5	8.2	250	35	1000	0.2	500	4700	600
WCLA2012V1-100-R	±5	10	250	50	500	0.15	500	4200	600
WCLA2012V1-120-R	±5	12	250	50	500	0.15	500	4000	600
WCLA2012V1-150-R	±5	15	250	45	500	0.17	500	3400	600
WCLA2012V1-180-R	±5	18	250	55	500	0.2	500	3300	600
WCLA2012V1-220-R	±5	22	250	55	500	0.22	500	2600	500
WCLA2012V1-270-R	±5	27	250	55	500	0.25	500	2500	500
WCLA2012V1-330-R	±5	33	250	55	500	0.27	500	2050	500
WCLA2012V1-390-R	±5	39	250	55	500	0.29	500	2000	500
WCLA2012V1-470-R	±5	47	200	55	500	0.31	500	1650	500
WCLA2012V1-560-R	±5	56	200	55	500	0.34	500	1550	500
WCLA2012V1-680-R	±5	68	200	55	500	0.38	500	1450	500
WCLA2012V1-820-R	±5	82	150	55	500	0.42	500	1300	400
WCLA2012V1-101-R	±5	100	150	50	500	0.46	500	1200	400
WCLA2012V1-121-R	±5	120	150	45	250	0.51	500	1100	400
WCLA2012V1-151-R	±5	150	100	45	250	0.56	500	920	400
WCLA2012V1-181-R	±5	180	100	45	250	0.64	500	870	400
WCLA2012V1-221-R	±5	220	100	40	250	1.05	500	850	400
WCLA2012V1-271-R	±5	270	100	40	250	1.1	500	650	350
WCLA2012V1-331-R	±5	330	100	40	250	1.4	500	600	310
WCLA2012V1-391-R	±5	390	100	40	250	1.5	500	560	290
WCLA2012V1-471-R	±5	470	50	33	100	2	500	375	250
WCLA2012V1-561-R	±5	560	25	23	50	1.9	500	340	230
WCLA2012V1-681-R	±5	680	25	23	50	2.1	500	300	190
WCLA2012V1-821-R	±5	820	25	23	50	2.14	500	250	180
WCLA2012V1-102-R	±5	1000	25	20	50	2.4	500	200	170
WCLA2012V1-122-R	±5	1200	7.9	18	50	2.55	500	180	170
WCLA2012V1-152-R	±5	1500	7.9	18	50	2.8	500	170	160
WCLA2012V1-182-R	±5	1800	7.9	18	50	3.8	500	140	150
WCLA2012V1-222-R	±5	2200	7.9	16	7.9	4.2	500	50	150

1. Test 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 20 °C or less.

3. Part Number Definition: WCLA2012V1-xxx-R
WCLA2012V1 = 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

Dimensions (mm)



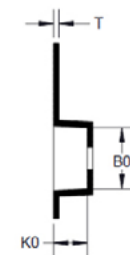
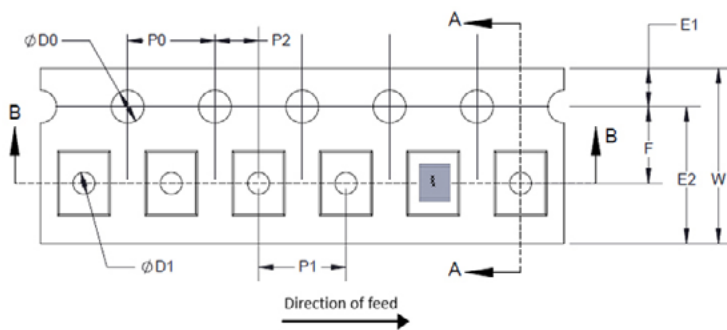
Part Number	A	B	C	D	E	F	G	H
WCLA2012V1-xxx-R	2.30 max	1.70 max	1.52 max	0.50 ref	1.27 ref	1.78 ref	0.76 ref	1.02 ref

Park marking: xxx= inductance value in nH, R= decimal point, if no R is present last character indicates the number of zeros
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)

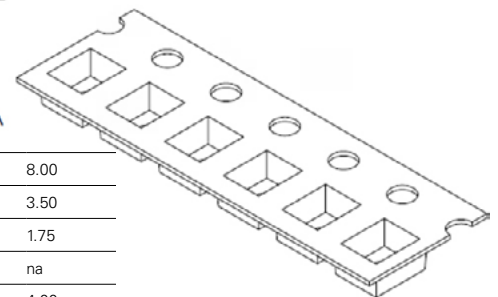
Drawing not to scale

Supplied in tape and reel packaging, 3000 parts per 7" diameter reel

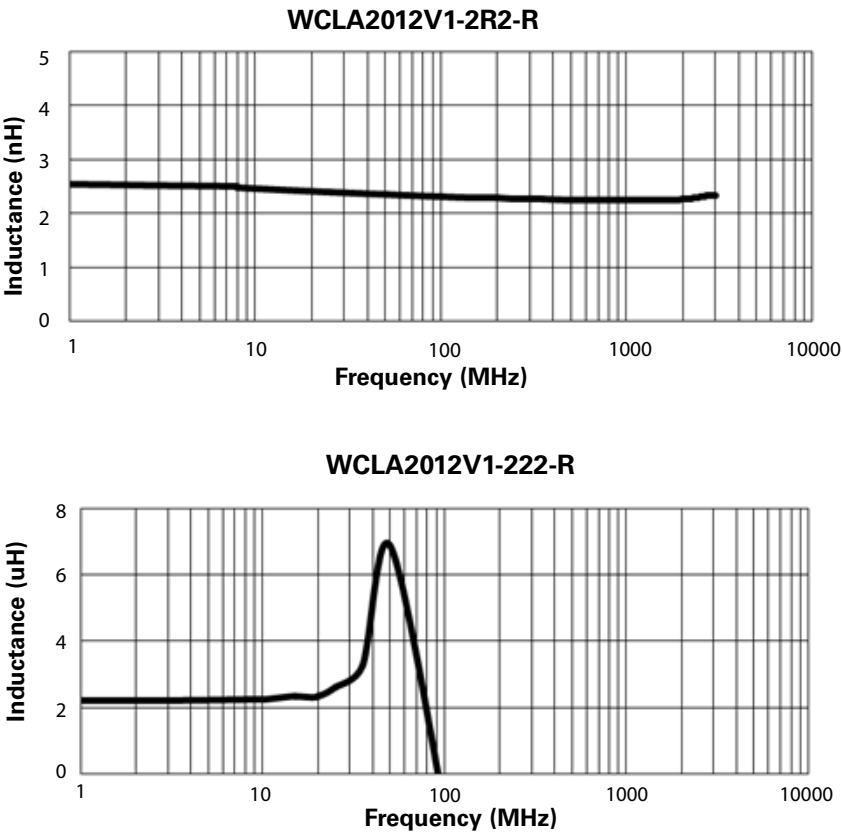


SECTION A-A

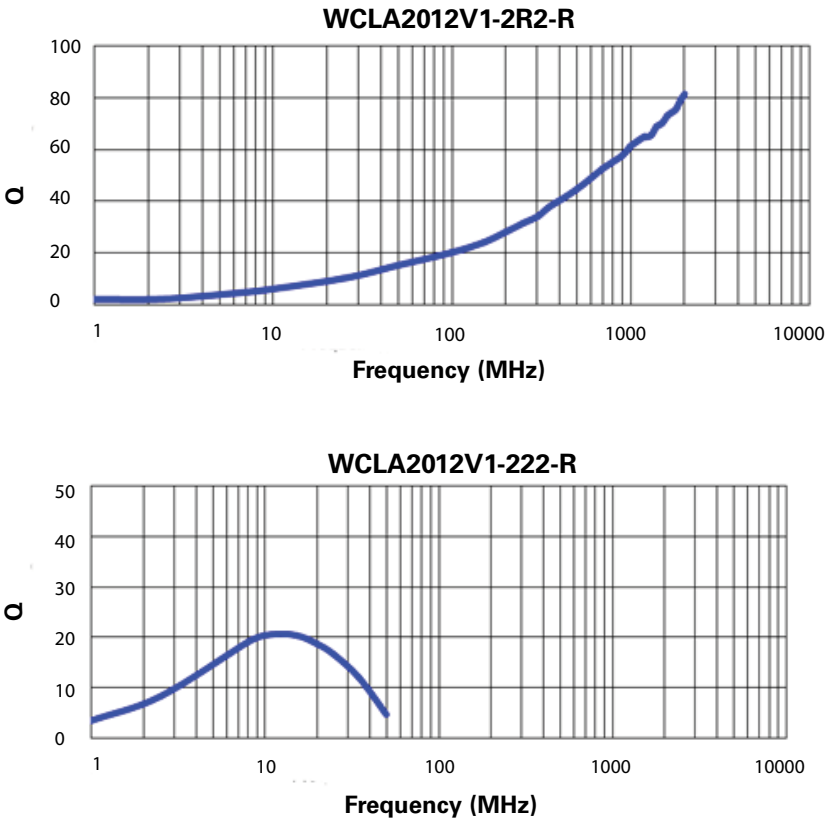
W ± 0.3	8.00
F ± 0.05	3.50
E1 ± 0.1	1.75
E2 Min	na
P0 ± 0.1	4.00
P1 ± 0.05	4.00
P2 ± 0.05	2.00
D0 $+0.1-0.0$	1.55
D1 min	0.65
A0	1.85
B0	2.45
K0	1.5
T	0.23



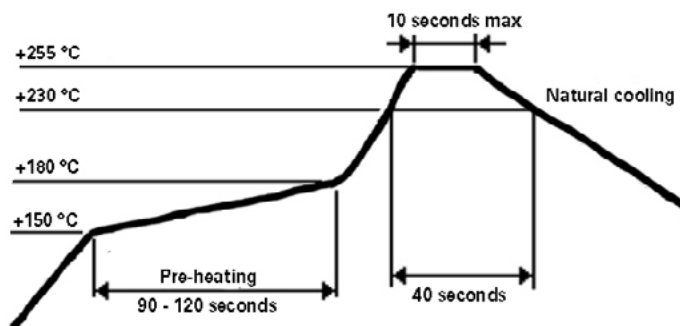
Inductance vs frequency



Q vs frequency



Solder reflow profile



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<u>WCLA2012V1-121-R</u>	<u>WCLA2012V1-331-R</u>	<u>WCLA2012V1-3R3-R</u>	<u>WCLA1005V1-300-R</u>	<u>WCLA1005V1-6R2-R</u>
<u>WCLA2012V1-101-R</u>	<u>WCLA1005V1-9R0-R</u>	<u>WCLA1608V1-181-R</u>	<u>WCLA1608V1-331-R</u>	<u>WCLA1608V1-4R7-R</u>
<u>WCLA2012V1-181-R</u>	<u>WCLA2012V1-820-R</u>	<u>WCLA2012V1-8R2-R</u>	<u>WCLA1005V1-240-R</u>	<u>WCLA1005V1-2R9-R</u>
<u>WCLA1005V1-430-R</u>	<u>WCLA1005V1-4R3-R</u>	<u>WCLA1005V1-5R6-R</u>	<u>WCLA1005V1-8R7-R</u>	<u>WCLA1005V1-9R5-R</u>
<u>WCLA2012V1-102-R</u>	<u>WCLA2012V1-2R7-R</u>	<u>WCLA2012V1-152-R</u>	<u>WCLA2012V1-4R7-R</u>	<u>WCLA1005V1-110-R</u>
<u>WCLA1005V1-160-R</u>	<u>WCLA1005V1-190-R</u>	<u>WCLA1005V1-360-R</u>	<u>WCLA1608V1-2R2-R</u>	<u>WCLA1005V1-1R2-R</u>
<u>WCLA1005V1-390-R</u>	<u>WCLA1608V1-1R8-R</u>	<u>WCLA1608V1-6R8-R</u>	<u>WCLA2012V1-561-R</u>	<u>WCLA2012V1-5R6-R</u>
<u>WCLA2012V1-680-R</u>	<u>WCLA2012V1-2R2-R</u>	<u>WCLA2012V1-330-R</u>	<u>WCLA2012V1-470-R</u>	<u>WCLA1005V1-1R8-R</u>
<u>WCLA1005V1-1R9-R</u>	<u>WCLA1005V1-3R9-R</u>	<u>WCLA1608V1-7R5-R</u>	<u>WCLA2012V1-220-R</u>	<u>WCLA2012V1-681-R</u>
<u>WCLA2012V1-100-R</u>	<u>WCLA2012V1-151-R</u>	<u>WCLA2012V1-180-R</u>	<u>WCLA2012V1-182-R</u>	<u>WCLA2012V1-271-R</u>
<u>WCLA2012V1-471-R</u>	<u>WCLA2012V1-560-R</u>	<u>WCLA2012V1-6R8-R</u>	<u>WCLA2012V1-821-R</u>	<u>WCLA1005V1-3R3-R</u>
<u>WCLA1005V1-7R5-R</u>	<u>WCLA1005V1-820-R</u>	<u>WCLA1005V1-2R4-R</u>	<u>WCLA1005V1-510-R</u>	<u>WCLA1005V1-5R1-R</u>
<u>WCLA1608V1-121-R</u>	<u>WCLA1608V1-391-R</u>	<u>WCLA1608V1-221-R</u>	<u>WCLA1608V1-270-R</u>	<u>WCLA1608V1-820-R</u>
<u>WCLA2012V1-221-R</u>	<u>WCLA2012V1-222-R</u>	<u>WCLA2012V1-270-R</u>	<u>WCLA1005V1-101-R</u>	<u>WCLA1005V1-330-R</u>
<u>WCLA1608V1-180-R</u>	<u>WCLA1005V1-2R7-R</u>	<u>WCLA1005V1-4R7-R</u>	<u>WCLA1608V1-3R9-R</u>	<u>WCLA2012V1-120-R</u>
<u>WCLA2012V1-150-R</u>	<u>WCLA2012V1-390-R</u>	<u>WCLA2012V1-391-R</u>	<u>WCLA1005V1-2R0-R</u>	<u>WCLA1005V1-2R5-R</u>
<u>WCLA1608V1-120-R</u>	<u>WCLA1608V1-390-R</u>	<u>WCLA2012V1-122-R</u>		