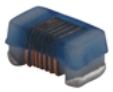
WCLA1005V1

Automotive grade wire wound chip inductor



Product features

- AEC-Q200 qualified
- 0402 (1005 metric) package
- High Q value
- Tight inductance tolerance
- Inductance range from 1.0 nH to 120 nH
- Moisture sensitivity level (MSL): 1

Applications

- ADAS
- Infotainment
- Wireless communications
- Wifi, bluetooth, satellite
- Antenna tuning
- On board computer
- Industrial connectivity (IoT)

Environmental data

- Operating temperature range: -40 °C to +125 °C (ambient plus self-temperature rise

Pb HALOGEN HF FREE RoHS

Powering Business Worldwide

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)
WCLA1005V1-1R0-R	±10	1.0	250	13	250	0.045	500	10000	1360
WLCA1005V1-1R2-R	±10	1.2	250	8	250	0.135	500	10000	640
WCLA1005V1-1R8-R	±10	1.8	250	16	250	0.070	500	6000	1040
WCLA1005V1-1R9-R	±10	1.9	250	16	250	0.070	500	6000	1040
WCLA1005V1-2R0-R	±10	2.0	250	18	250	0.070	500	6000	1040
WCLA1005V1-2R2-R	±10	2.2	250	18	250	0.070	500	6000	960
WCLA1005V1-2R4-R	±10	2.4	250	16	250	0.080	500	6000	790
WCLA1005V1-2R5-R	±10	2.5	250	15	250	0.120	500	6000	640
WCLA1005V1-2R7-R	±10	2.7	250	15	250	0.120	500	6000	640
WCLA1005V1-2R9-R	±10	2.9	250	8	250	0.300	500	6000	400
WCLA1005V1-3R3-R	±5	3.3	250	20	250	0.066	500	6000	840
WCLA1005V1-3R6-R	±5	3.6	250	20	250	0.066	500	6000	840
WCLA1005V1-3R9-R	±5	3.9	250	20	250	0.066	500	6000	840
WCLA1005V1-4R3-R	±5	4.3	250	20	250	0.091	500	6000	700
WCLA1005V1-4R7-R	±5	4.7	250	18	250	0.200	500	4500	640
WCLA1005V1-5R1-R	±5	5.1	250	18	250	0.083	500	4800	800
WCLA1005V1-5R6-R	±5	5.6	250	20	250	0.083	500	4800	760
WCLA1005V1-6R2-R	±5	6.2	250	23	250	0.083	500	4800	760
WCLA1005V1-6R8-R	±5	6.8	250	23	250	0.260	500	4800	680
WCLA1005V1-7R5-R	±5	7.5	250	23	250	0.100	500	4800	680
WCLA1005V1-8R2-R	±5	8.2	250	25	250	0.100	500	4400	680
WCLA1005V1-8R7-R	±5	8.7	250	25	250	0.200	500	4100	480
WCLA1005V1-9R0-R	±5	9.0	250	25	250	0.100	500	4160	680
WCLA1005V1-9R5-R	±5	9.5	250	25	250	0.200	500	4000	480
WCLA1005V1-100-R	±5	10	250	25	250	0.20	500	3900	480
WCLA1005V1-110-R	±5	11	250	25	250	0.120	500	3680	640
WCLA1005V1-120-R	±5	12	250	25	250	0.120	500	3600	640
WCLA1005V1-130-R	±5	13	250	25	250	0.210	500	3450	440
WCLA1005V1-150-R	±5	15	250	25	250	0.300	500	3280	560
WCLA1005V1-160-R	±5	16	250	25	250	0.220	500	3100	560
WCLA1005V1-180-R	±5	18	250	25	250	0.230	500	3100	420
WCLA1005V1-190-R	±5	19	250	25	250	0.200	500	3040	480
WCLA1005V1-200-R	±5	20	250	25	250	0.250	500	3000	420
WCLA1005V1-220-R	±5	22	250	25	250	0.300	500	2800	400
WCLA1005V1-230-R	±5	23	250	22	250	0.380	500	2720	310
WCLA1005V1-240-R	±5	24	250	25	250	0.300	500	2700	400
WCLA1005V1-270-R	±5	27	250	25	250	0.520	500	2480	280
WCLA1005V1-300-R	±5	30	250	24	250	0.500	500	2350	400
WCLA1005V1-330-R	±5	33	250	24	250	0.650	500	2350	350

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: WCLA1005V1-xxx-R
   WCLA1005V1 = 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

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)
WCLA1005V1-360-R	±5	36	250	25	250	0.600	500	2320	250
WCLA1005V1-390-R	±5	39	250	25	250	0.750	500	2100	200
WCLA1005V1-400-R	±5	40	250	25	250	0.600	500	2240	220
WCLA1005V1-430-R	±5	43	250	25	250	0.810	500	2030	100
WCLA1005V1-470-R	±5	47	250	25	250	0.830	500	2100	150
WCLA1005V1-510-R	±5	51	250	25	250	0.820	500	1750	100
WCLA1005V1-560-R	±5	56	250	25	250	0.97	500	1760	100
WCLA1005V1-620-R	±5	62	250	25	250	1.120	500	1620	100
WCLA1005V1-680-R	±5	68	250	25	250	1.12	500	1620	100
WCLA1005V1-750-R	±5	75	250	25	250	1.630	500	1400	50
WCLA1005V1-820-R	±5	82	250	25	250	1.70	500	1260	50
WCLA1005V1-101-R	±5	100	250	25	250	2.00	500	1160	30
WCLA1005V1-121-R	±5	120	250	25	250	2.20	500	1100	30

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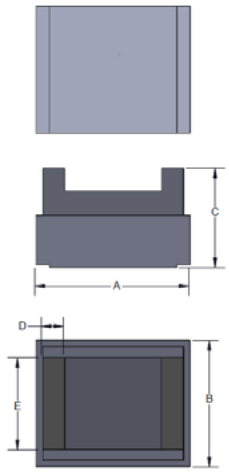
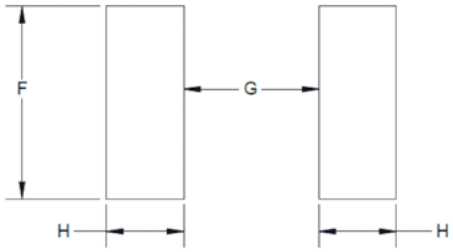
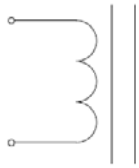
Dimensions (mm)



Recommended pad layout



Schematic



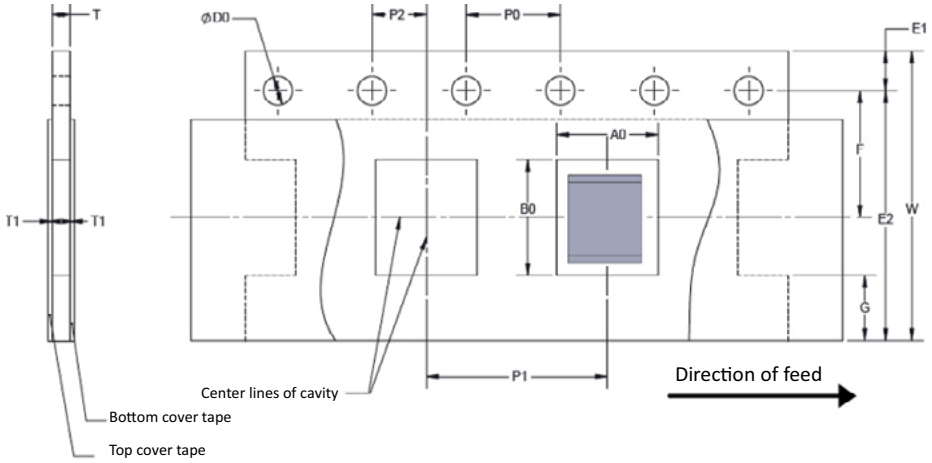
Part Number	A	B	C	D	E	F	G	H
WCLA1005V1-xxx-R	1.19 max	0.66 max	0.60 max	0.23 ref	0.50 ref	0.66 ref	0.46 ref	0.36 ref

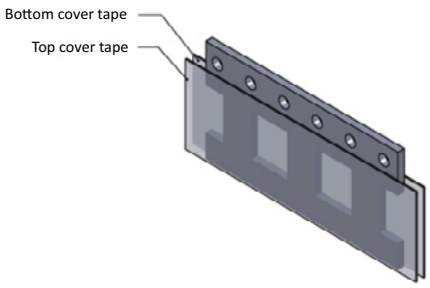
Park marking: No marking
All soldering surfaces to be coplanar within 0.1 millimeters
Tolerances are ±0.1 millimeters unless stated otherwise
Pad layout dimensions are reference only
Traces or vias underneath the inductor is not recommended

Packaging information (mm)

Drawing not to scale

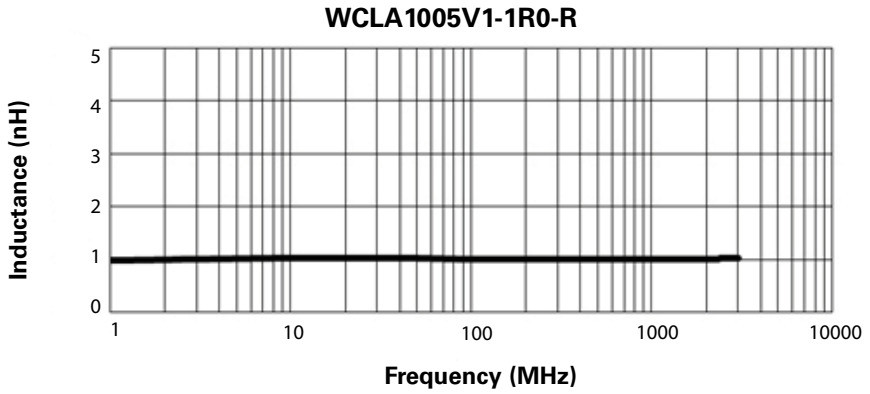
Supplied in tape and reel packaging, 5000 parts per 7" diameter reel

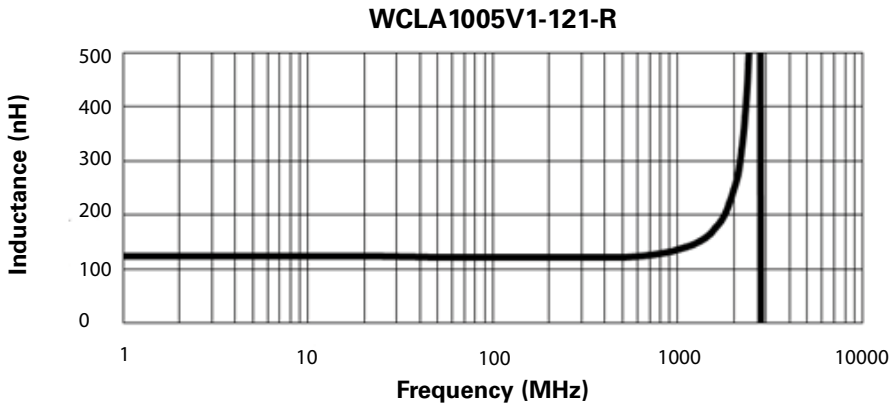




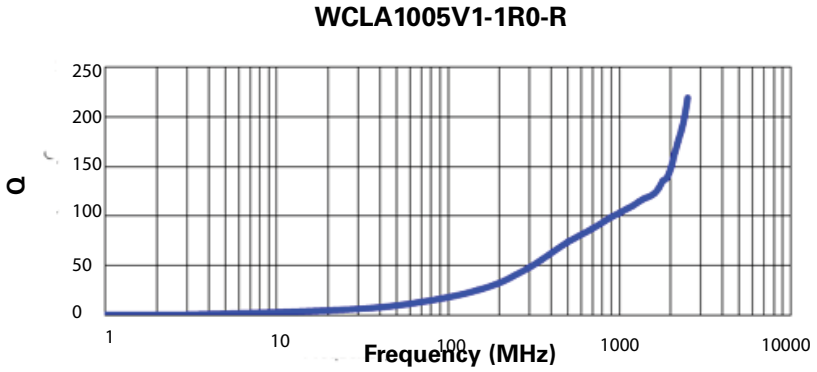
W±0.3	8.00
F±0.05	3.50
E1±0.1	1.75
E2 Min	na
P0±0.1	4.00
P1±0.05	2.00
P2±0.05	2.00
D0+0.1-0.0	1.55
A0	0.74
B0	1.23
T	0.68
T1	na

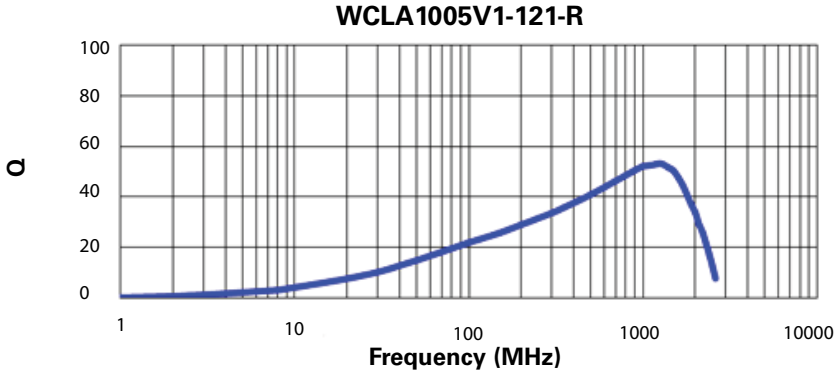
Inductance vs frequency



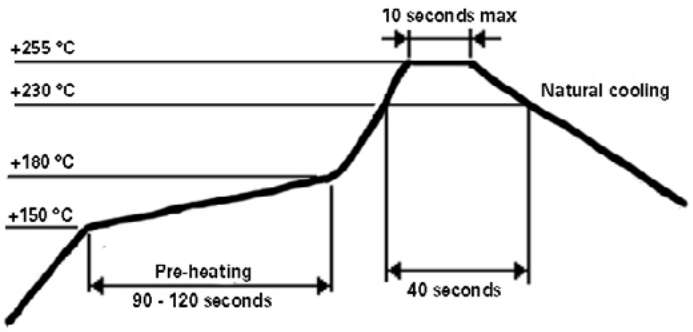


Q vs frequency





Solder reflow profile



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