

# SMD CERAMIC WIRE-WOUND CHIP INDUCTORS

AISC-0603-xxx

RoHS  
Compliant



1.80 x 1.12 x 1.02mm

## FEATURES:

- Ceramic construction assures the utmost thermal stability & high SRF
- Exceptionally high Q compared to non-wirewound inductors, especially at high frequencies
- Inductance options from 1.6nH to 560nH
- Epoxy coating protects wound wire

## APPLICATIONS:

- Widely applied in VCO, SAW circuit for GSM, and CDMA communications

## ELECTRICAL SPECIFICATIONS:

Part Number AISC-0603-	Inductance	Tolerance	Min. Quality Factor	L/Q Test Freq.	Max. DC Resistance	Max. Rated Current	Min. Self-resonant Frequency
Units	nH	-	-	MHz	$\Omega$	mA	MHz
Symbol	L	-	Q	Freq.	DCR	I <sub>r</sub>	S.R.F
R0016	1.6	S, K	22	250	0.035	1150	> 6000
R0017	1.7	C, S, D, J, K	16	250	0.043	1000	> 6000
R0018	1.8	C, S, D, J, K	18	250	0.043	1000	> 6000
R0027	2.7	C, S, D, J, K	25	250	0.043	1000	> 6000
R0033	3.3	C, S, D, J, K	25	250	0.059	850	> 6000
R0036	3.6	C, S, D, J, K	25	250	0.059	850	> 6000
R0039	3.9	C, S, D, J, K	25	250	0.059	850	> 6000
R0043	4.3	C, S, D, J, K	25	250	0.059	850	> 6000
R0047	4.7	C, S, D, J, K	25	250	0.065	800	> 6000
R0051	5.1	C, S, D, J, K	21	250	0.130	600	> 6000
R0062	6.2	C, S, D, J, K	29	250	0.095	700	> 6000
R0068	6.8	C, S, D, G, J, K	29	250	0.095	700	> 6000
R0075	7.5	C, S, D, G, J, K	33	250	0.095	700	> 6000
R0082	8.2	C, S, D, G, J, K	31	250	0.095	700	> 6000
R0087	8.7	C, S, D, G, J, K	31	250	0.095	700	> 6000
R0091	9.1	C, S, D, G, J, K	30	250	0.120	620	6000
R0095	9.5	C, S, D, G, J, K	26	250	0.160	540	6000
R010	10	C, S, D, G, J, K	30	250	0.130	600	6000
R011	11	C, S, D, G, J, K	35	250	0.130	600	6000
R012	12	C, S, D, G, J, K	35	250	0.130	600	6000
R013	13	C, S, D, G, J, K	35	250	0.130	600	6000
R015	15	C, S, D, G, J, K	37	250	0.150	550	6000
R016	16	C, S, D, G, J, K	37	250	0.150	550	5500
R018	18	C, S, D, G, J, K	37	250	0.150	550	5500
R020	20	C, S, D, G, J, K	37	250	0.150	550	4900
R022	22	C, S, D, G, J, K	38	250	0.190	490	4600
R023	23	C, S, D, G, J, K	40	250	0.190	490	3800
R024	24	C, S, D, G, J, K	40	250	0.190	490	3800
R025	25	C, S, D, G, J, K	40	250	0.190	490	3700
R027	27	C, S, D, G, J, K	38	250	0.190	490	3700
R030	30	C, S, D, G, J, K	38	250	0.210	470	3300
R033	33	C, S, D, G, J, K	40	250	0.210	470	3200
R036	36	C, S, D, G, J, K	40	250	0.220	460	2900
R039	39	C, S, D, G, J, K	40	250	0.220	460	2800
R043	43	C, S, D, G, J, K	40	250	0.270	400	2700
R047	47	C, S, D, G, J, K	36	200	0.270	400	2600
R051	51	C, S, D, G, J, K	35	200	0.300	390	2400
R056	56	C, S, D, G, J, K	38	200	0.350	360	2400
R062	62	C, S, D, G, J, K	36	200	0.380	350	2300

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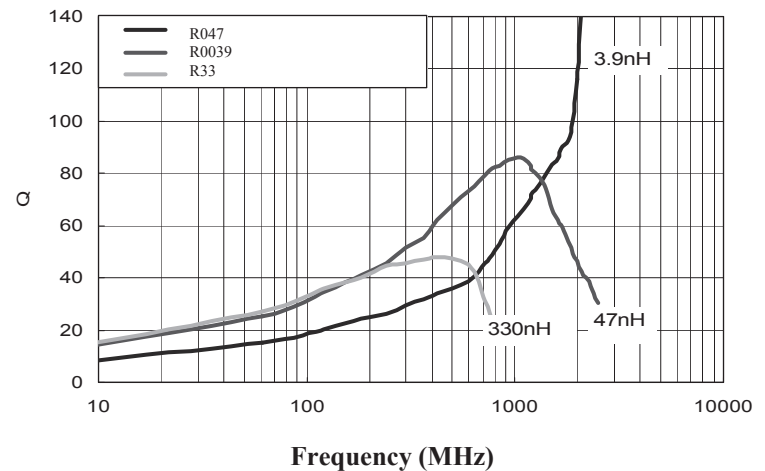
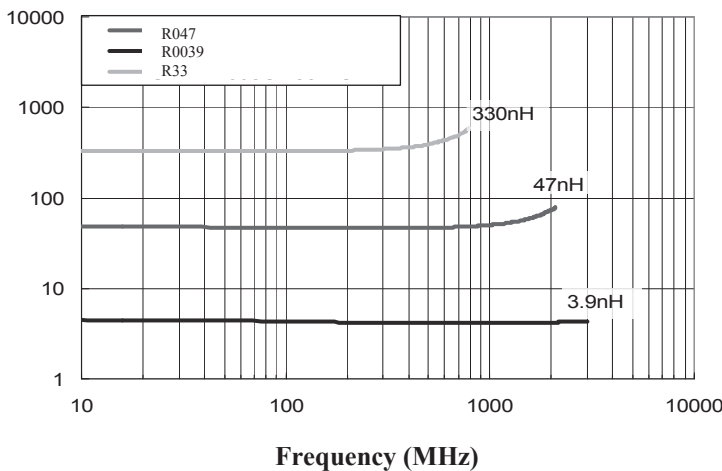
## ELECTRICAL SPECIFICATIONS (cont'd):

Part Number AISC-0603-	Inductance	Tolerance	Min. Quality Factor	L/Q Test Freq.	Max. DC Resistance	Max. Rated Current	Min. Self-resonant Frequency
Units	nH	-	-	MHz	$\Omega$	mA	MHz
Symbol	L	-	Q	Freq.	DCR	I <sub>r</sub>	S.R.F
R068	68	C, S, D, G, J, K	36	200	0.380	350	2200
R072	72	C, S, D, G, J, K	34	150	0.430	320	2100
R082	82	C, S, D, G, J, K	34	150	0.500	300	2000
R091	91	C, S, D, G, J, K	34	150	0.520	300	1900
R10	100	C, S, D, G, J, K	31	150	0.660	260	1800
R11	110	C, S, D, G, J, K	32	150	0.730	250	1700
R12	120	C, S, D, G, J, K	32	150	0.750	240	1600
R15	150	C, S, D, G, J, K	32	150	1.120	200	1400
R16	160	C, S, D, G, J, K	32	150	1.120	200	1400
R18	180	C, S, D, G, J, K	25	100	1.380	180	1300
R20	200	C, S, D, G, J, K	25	100	1.900	150	1250
R22	220	C, S, D, G, J, K	25	100	2.100	140	1200
R25	250	C, S, D, G, J, K	25	100	2.800	120	1100
R27	270	C, S, D, G, J, K	26	100	3.000	120	960
R33	330	C, S, D, G, J, K	26	100	4.200	100	800
R39	390	C, S, D, G, J, K	27	100	4.500	100	800
R42	420	C, S, D, G, J, K	27	100	5.400	90	800
R47	470	C, S, D, G, J, K	27	100	5.700	90	700
R56	560	C, S, D, G, J, K	27	100	8.100	70	650

Definition of Rated Current (I<sub>r</sub>): I<sub>r</sub> is direct electric current as chip surface temperature rose just 20°C against chip initial surface temperature (T<sub>a</sub>)

**Operating Temperature:** -40°C to +125°C

**Storage Temperature:** -10°C to +40°C, 70% RH max.



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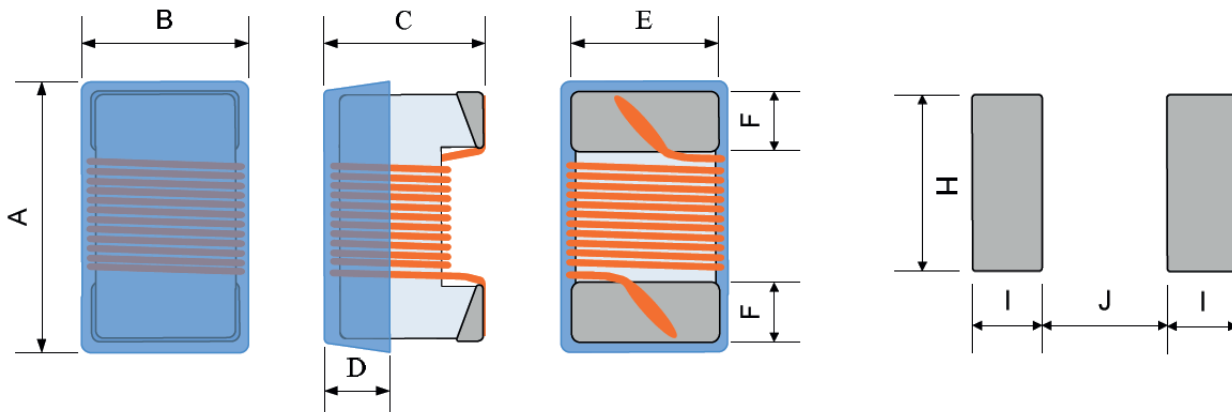
## OPTIONS AND PART IDENTIFICATION:

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AISC-0603-   -

Inductance Code	Tolerance Code	Packaging
Please refer to the Table	C: $\pm 0.2\text{nH}$	T: 3kpcs/reel
	S: $\pm 0.3\text{nH}$	
	D: $\pm 0.5\text{nH}$	
	G: $\pm 2\%$	
	J: $\pm 5\%$	
	K: $\pm 10\%$	

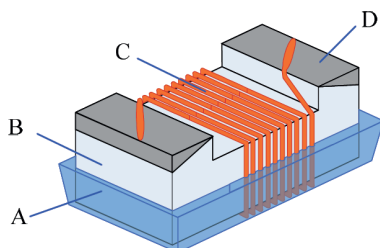
## MECHANICAL DIMENSIONS:



A MAX.	B MAX.	C MAX.	D REF.	E REF.	F REF.	H REF.	I REF.	J REF.
1.8	1.12	1.02	0.38	0.80	0.30	1.02	0.64	0.64

Dimension: mm

## MATERIALS:



No.	Components	Material
A	Coating	Ultraviolet epoxy resin
B	Core	Ceramic
C	Wire	Polyurethane system enameled copper wire
D	Electrodes	Ag-Pd with Ni and Sn plating

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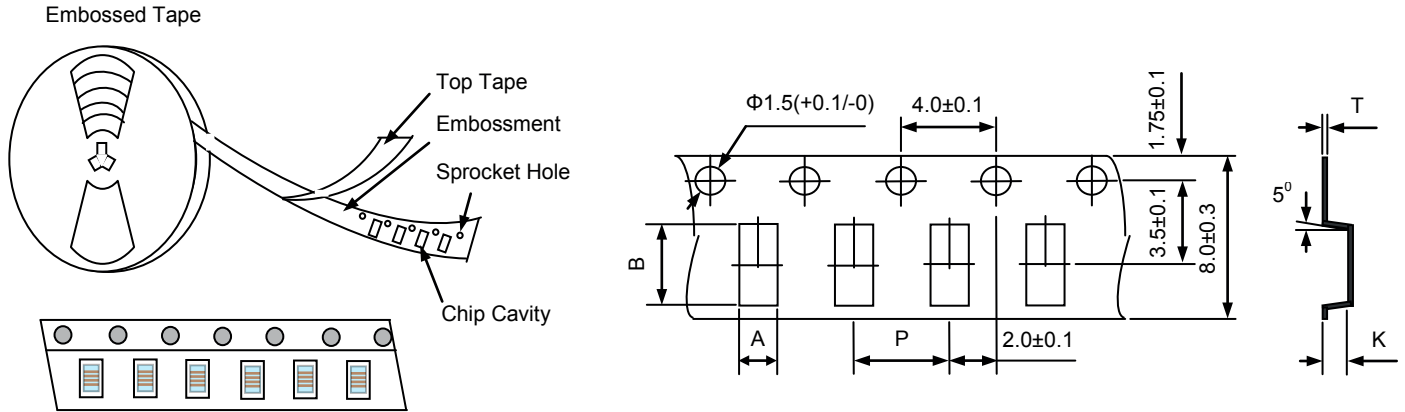
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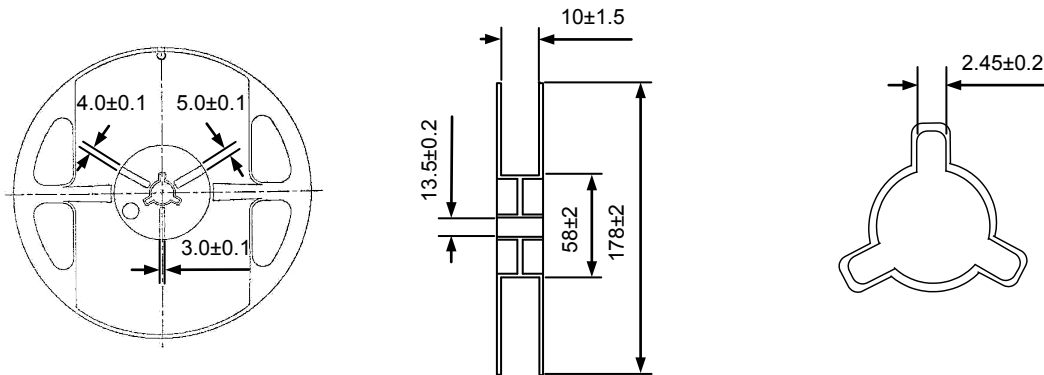
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## PACKING:

T= tape and reel (3,000pcs/reel)

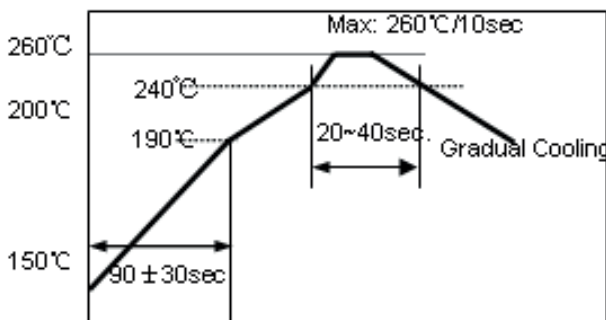


A	B	P	K Max	T Max
$1.12 \pm 0.05$	$1.80 \pm 0.05$	$4.0 \pm 0.1$	$0.96 \pm 0.05$	$0.3 \pm 0.1$



Dimension: mm

## REFLOW PROFILE:



- 1~2 °C/sec. Ramp
- Pre-heating: 150~190°C/90±30 sec.
- Time above 240°C: 20~40sec
- Peak temperature: 260°C Max./10sec.
- Solder paste: Sn/3.0Ag/0.5Cu
- Max.2 times for re-flowing

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