

## Type TFC0603CH

### 1.6nH to 270nH

- # Standard EIA 0603 package
- # Moulded wirewound construction
- # Reflow or wave soldering
- # Ceramic core type CH
- # High self resonant frequency

High quality subminiature inductors exhibiting excellent mechanical and electrical characteristics supplied on 8mm tape and reel or bulk packed. TFC0603 inductors are wound on ceramic formers producing stable, high Q chip inductors suitable for high frequency applications.

Electrodes are phosphor bronze gold plated to achieve ideal solderability using reflow or solder bath techniques.

### Electrical specification

Case style	EIA 0603 subminiature
Inductance range	1.6nH to 270nH
Marking	Epoxy ink
Working temp. range	(-40 +125) <sup>o</sup> C ceramic case
Storage temp. range	(-55 +125) <sup>o</sup> C
Insulation resistance	1000 Meg. $\Omega$ min., 100Vd.c.
Dielectric strength	250Va.c. applied between terminal and case, one minute max.

### Environmental specification

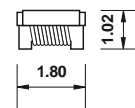
High temp.	$\mu H \pm 10\%$ max., Q $\pm 20$ max., +85 <sup>o</sup> C for 500 hours with rated d.c. current
Humidity load life	$\mu H \pm 5\%$ max., Q $\pm 20\%$ max., relative humidity 90% ~ 95%, +60 <sup>o</sup> C for 500 hours with rated d.c. current
Low temp. storage	$\mu H \pm 5\%$ max., Q $\pm 20\%$ max., -40 <sup>o</sup> C for 500 hours
Thermal shock	$\mu H \pm 5\%$ max., Q $\pm 20\%$ max., 100 cycles; 30 minutes @ +40 <sup>o</sup> C, 30 minutes @ +85 <sup>o</sup> C
Resistance to solvents	Resistant to freon, TF, TE, or TMS for 5 minutes

### Mechanical specification

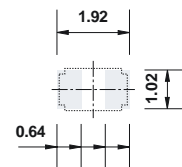
Vibration	$\mu H \pm 5\%$ max., Q $\pm 20\%$ max., frequency sweep (10 ~ 55)Hz in one minute, amplitude 1.5mm, each of three mutually perpendicular planes, two hours each plane
Shock	$\mu H \pm 5\%$ max., Q $\pm 20\%$ max., 100G, 6 milli. secs., half sine wave each of three mutually perpendicular planes, three shocks each plane
Solderability	90% uniform coating min. with precoating of flux, and dip into solder at +230 <sup>o</sup> C, 3 secs.
Solder heat resistance	$\mu H \pm 5\%$ max., Q $\pm 20\%$ max., 5 minutes preheating at +120 <sup>o</sup> C, 5 secs. at +260 <sup>o</sup> C
Terminal pull test	1kg load in horizontal direction for 1 minute

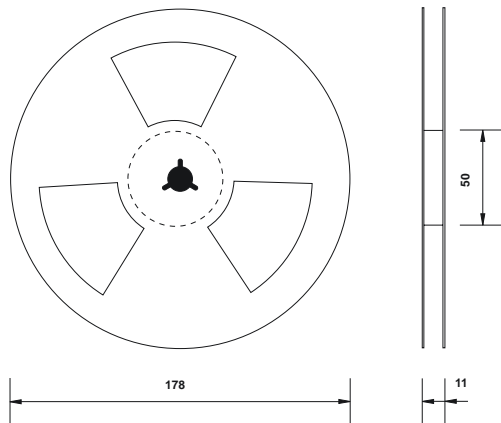
### Dimensions(mm)

shown x5

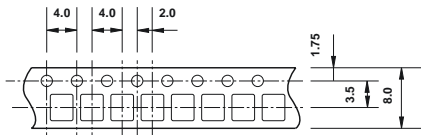


Suggested pad layout  
Gold contact material  
suitable for reflow or  
wave soldering



**TFC0603 tape and reel dimensions**


Centre hole diameter 13.0mm, slot width 2mm spaced at 120°  
 Reel quantity 4000 pieces, leader tape 400mm minimum  
 Trailer tape: 10 empty compartments minimum



Tape transport hole diameter 1.5mm  
 Compartment size 1.06mm x 1.85mm, depth 1.02mm

**Standard values**

TFC Part No.	nH	Q	Test Freq. MHz	S.R.F. min. MHz	$\Omega$ d.c. max.	I d.c. max. mA
TFC0603 CH GR 1N6	1.6	24	250	12500	0.030	700
TFC0603 CH GR 1N8	1.8	16	250	12500	0.045	700
TFC0603 CH GR 3N6	3.6	22	250	5900	0.063	700
TFC0603 CH GR 3N9	3.9	22	250	6900	0.080	700
TFC0603 CH GR 4N3	4.3	22	250	5900	0.063	700
TFC0603 CH GR 4N7	4.7	20	250	5800	0.116	700
TFC0603 CH GR 5N1	5.1	20	250	5700	0.140	700
TFC0603 CH GR 6N8	6.8	27	250	5800	0.110	700
TFC0603 CH GR 7N5	7.5	28	250	4800	0.106	700
TFC0603 CH GR 8N7	8.7	28	250	4600	0.109	700
TFC0603 CH GR 9N5	9.5	28	250	5400	0.135	700
TFC0603 CH GR 10N	10	31	250	4800	0.130	700
TFC0603 CH GR 11N	11	33	250	4000	0.086	700
TFC0603 CH GR 12N	12	35	250	4000	0.130	700
TFC0603 CH GR 15N	15	35	250	4000	0.170	700
TFC0603 CH GR 16N	16	34	250	3300	0.104	700
TFC0603 CH GR 18N	18	35	250	3100	0.170	700
TFC0603 CH GR 22N	22	38	250	3000	0.190	700
TFC0603 CH GR 24N	24	37	250	2650	0.135	700
TFC0603 CH GR 27N	27	40	250	2800	0.220	600
TFC0603 CH GR 30N	30	37	250	2250	0.144	600
TFC0603 CH GR 33N	33	40	250	2300	0.220	600
TFC0603 CH GR 36N	36	38	250	2080	0.250	600
TFC0603 CH GR 39N	39	40	250	2200	0.250	600
TFC0603 CH GR 43N	43	39	250	2000	0.280	600
TFC0603 CH GR 47N	47	38	200	2000	0.280	600
TFC0603 CH GR 56N	56	38	200	1900	0.310	600
TFC0603 CH GR 68N	68	37	200	1700	0.340	600
TFC0603 CH GR 72N	72	34	150	1700	0.490	400
TFC0603 CH GR 82N	82	34	150	1700	0.540	400
TFC0603 CH GR R10	100	34	150	1400	0.580	400
TFC0603 CH GR R11	110	32	150	1350	0.610	300
TFC0603 CH GR R12	120	32	150	1300	0.650	300
TFC0603 CH GR R15	150	28	150	990	0.920	280
TFC0603 CH GR R18	180	25	100	990	1.250	240
TFC0603 CH GR R22	220	25	100	900	1.900	200
TFC0603 CH GR R27	270	24	100	900	2.300	170

**Ordering information**

Order the type TFC0603 chip inductors using the following standard part numbers to indicate value, tolerance and packaging:

TFC Part No ----- TFC 0603 CH GR 33N K T

- TFC0603 ----- Type No.
- CH ----- Core material:  
----- CH = ceramic
- G ----- Gold plated electrodes
- R ----- Tape and reel
- 33N ----- Inductance value code
- K ----- Tolerance:  
----- M = 20%, K = 10%, J = 5%
- T ----- Packing method:  
----- T = embossed tape and reel  
----- B = bulk packed