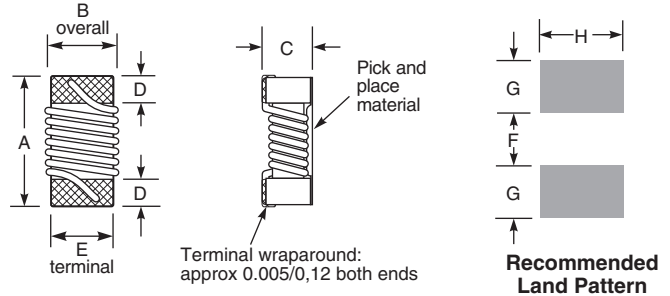


**NEW!**

# Low Profile Chip Inductors 0402CT(1005)

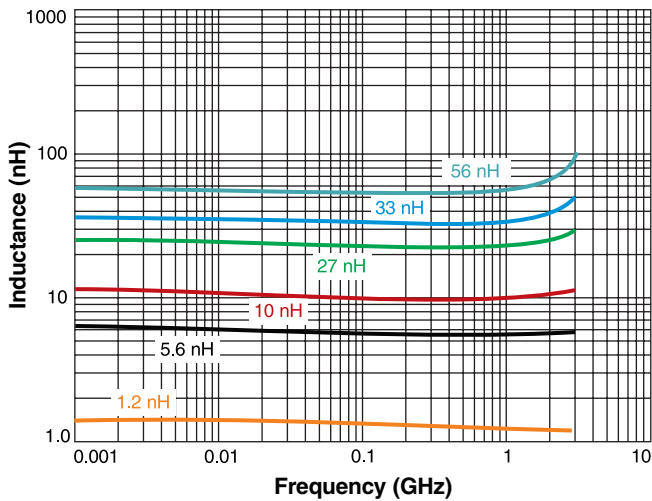


- Maximum height reduced to 0.45 mm – 30% lower profile than competitive products
- 23 inductance values from 1.2 to 56 nH
- Excellent Q Factor performance – up to 83 at 2.4 GHz
- Very high self-resonant frequencies – as high as 27.5 GHz
- High current handling capability – up to 2.3 A

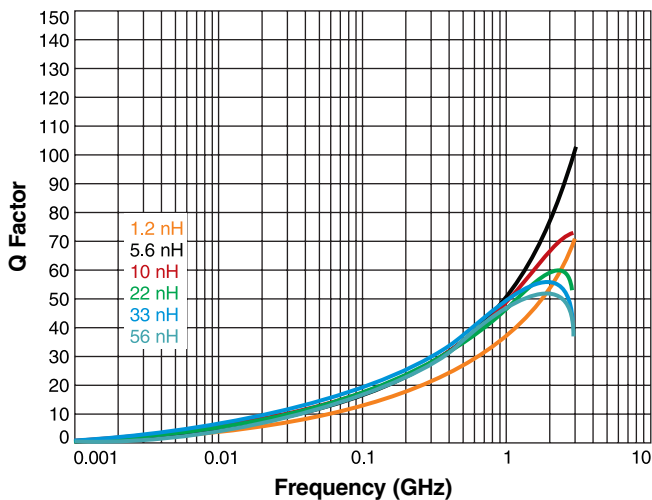


A max	B max	C max	D	E	F	G	H
0.044	0.024	0.018	0.006	0.020	0.024	0.014	0.026
1,11	0,61	0,45	0,15	0,51	0,61	0,36	0,66

## Typical L vs Frequency



## Typical Q vs Frequency



**Core material** Ceramic

**Environmental** RoHS compliant, halogen free

**Terminations** RoHS compliant matte tin over nickel over silver-platinum-glass frit.

**Weight** 0.6 – 0.8 mg

**Ambient temperature** –40°C to +125°C with Irms current

**Maximum part temperature** +140°C (ambient + temp rise).

**Storage temperature** Component: –40°C to +140°C.  
Tape and reel packaging: –40°C to +80°C

**Resistance to soldering heat** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

**Temperature Coefficient of Inductance (TCL)** +25 to +125 ppm/°C

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)** One per billion hours / one billion hours, calculated per Telcordia SR-332

**Packaging** 2000/7" reel; Paper tape: 8 mm wide, 0.6 mm thick, 2 mm pocket spacing

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).



# 0402CT Series (1005)



Part number <sup>1</sup>	L <sup>2</sup> (nH)	Percent tolerance <sup>3</sup>	Q typ <sup>4</sup>			SRF typ <sup>5</sup> (GHz)	DCR max <sup>6</sup> (mOhms)	Irms (mA)		
			900 MHz	1.7 GHz	2.4 GHz			at 25°C <sup>7</sup>	at 85°C <sup>8</sup>	at 125°C <sup>9</sup>
0402CT-1N2XJRW	1.2	<b>5</b>	33	47	58	27.5	35	2300	1300	1100
0402CT-2N0X_RW	2.0	<b>5,3,2</b>	40	56	70	21.5	40	2200	1300	1100
0402CT-3N0X_RW	3.0	<b>5,3,2</b>	40	60	76	17.5	50	1900	1300	1000
0402CT-3N9X_RW	3.9	<b>5,3,2</b>	46	66	83	13.5	70	1600	890	720
0402CT-4N7X_RW	4.7	<b>5,3,2</b>	42	59	73	12.5	60	1700	1300	900
0402CT-5N6X_RW	5.6	<b>5,3,2</b>	47	68	83	11.0	80	1400	890	720
0402CT-6N8X_RW	6.8	<b>5,3,2</b>	48	68	82	9.50	70	1600	1300	820
0402CT-7N5X_RW	7.5	<b>5,3,2</b>	47	66	81	10.5	80	1500	1300	760
0402CT-8N2X_RW	8.2	<b>5,3,2</b>	49	68	84	9.50	80	1500	1300	760
0402CT-9N0X_RW	9.0	<b>5,3,2</b>	50	68	82	8.35	100	1300	1100	680
0402CT-9N5X_RW	9.5	<b>5,3,2</b>	47	64	77	7.80	100	1300	1100	680
0402CT-10NX_RW	10	<b>5,3,2</b>	46	61	70	7.25	110	1200	890	630
0402CT-12NX_RW	12	<b>5,3,2</b>	45	60	68	6.75	135	1100	890	590
0402CT-15NX_RW	15	<b>5,3,2</b>	48	63	69	6.50	150	1100	890	560
0402CT-16NX_RW	16	<b>5,3,2</b>	44	58	65	6.35	165	1000	890	530
0402CT-18NX_RW	18	<b>5,3,2</b>	45	59	64	5.90	240	1000	890	530
0402CT-20NX_RW	20	<b>5,3,2</b>	45	57	61	5.70	300	900	760	470
0402CT-22NX_RW	22	<b>5,3,2</b>	44	56	60	5.25	260	810	640	420
0402CT-27NX_RW	27	<b>5,3,2</b>	45	55	58	4.85	360	660	550	350
0402CT-33NX_RW	33	<b>5,3,2</b>	46	56	53	4.60	400	610	550	320
0402CT-39NX_RW	39	<b>5,3,2</b>	49	58	—	4.25	825	430	320	180
0402CT-47NX_RW	47	<b>5,3,2</b>	43	49	—	3.90	900	400	320	180
0402CT-56NX_RW	56	<b>5,3,2</b>	45	53	—	3.70	1250	340	260	140

1. When ordering, specify **tolerance** code:

**0402CT-56NXJRW**

**Tolerance:** G = 2% H = 3% J = 5%

**Termination:** R = RoHS compliant matte tin over nickel over silver-platinum-glass frit.

**Packaging:** W = 7" machine-ready reel. EIA-481 punched paper tape (2000 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

2. Inductance measured at 250 MHz, 0.1 Vrms, 0 Adc using Coilcraft SMD-A fixture in Agilent/HP 4287A impedance analyzer.  
 3. Tolerances in bold are stocked for immediate shipment.  
 4. Q measured using Agilent/HP4991A with Agilent/HP 16197 test fixture.

5. SRF measured using Agilent/HP 8722ES network analyzer and Coilcraft SMD-D test fixture.  
 6. DCR measured on Cambridge Technology micro-ohmmeter and Coilcraft CCF858 test fixture.  
 7. Current that causes a 40°C temperature rise at 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.  
 8. Maximum current that can be applied at 85°C.  
 9. Maximum current that can be applied at 125°C.  
 10. Electrical specifications at 25°C.  
 Refer to Doc 362 "Soldering Surface Mount Components" before soldering.