



# Chip Inductors - 0201DS Series (0603)

- 0201 size; world's smallest wirewound inductor
- 52 inductance values from 0.5 to 14 nH

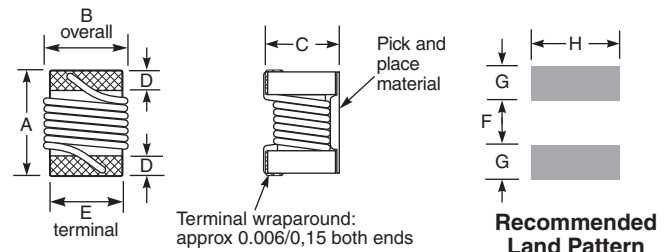
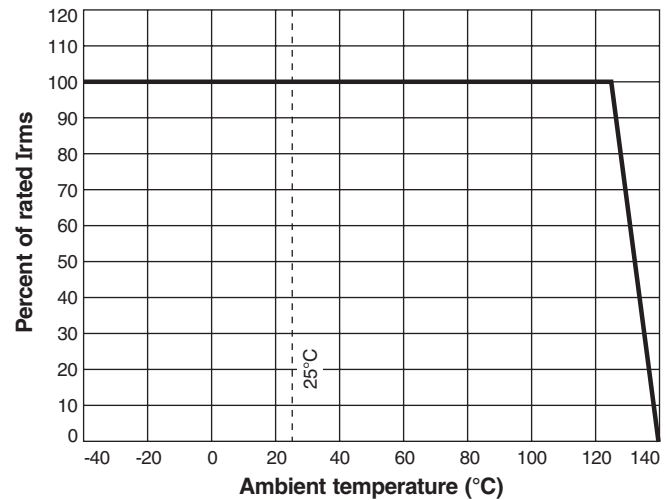
## Typical Q vs Frequency



## Typical L vs Frequency



## Irms Derating



A max	B max	C max	D	E	F	G	H	
0.023	0.018	0.0177	0.004	0.015	0.009	0.007	0.018	inches
0,58	0,46	0,45	0,10	0,38	0,23	0,18	0,46	mm

**Designer's Kits C425A and B** contain 20 of each value

**Core material** Ceramic

**Environmental** RoHS compliant, halogen free

**Terminations** RoHS compliant matte tin over nickel over silver.

**Weight** 0.14 – 0.23 mg

**Ambient temperature**  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  with Irms current,  $+125^{\circ}\text{C}$  to  $+140^{\circ}\text{C}$  with derated current

**Storage temperature** Component:  $-40^{\circ}\text{C}$  to  $+140^{\circ}\text{C}$ .

Tape and reel packaging:  $-40^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$

**Resistance to soldering heat** Max three 40 second reflows at  $+260^{\circ}\text{C}$ , parts cooled to room temperature between cycles

**Temperature Coefficient of Inductance (TCL)**  $+25$  to  $+125$  ppm/ $^{\circ}\text{C}$

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at  $<30^{\circ}\text{C}$  / 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 per 7" reel. Paper tape: 8 mm wide, 0.6 mm thick, 2 mm pocket spacing

**PCB washing** Tested with pure water or alcohol only. For other solvents, see Doc787\_PCB\_Washing.pdf.



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# 0201DS Chip Inductor Series (0603)

Part number <sup>1</sup>	Inductance <sup>2</sup> (nH)	Percent tolerance	900 MHz		1.7 GHz		SRF typ <sup>4</sup> (GHz)	DCR max <sup>5</sup> (Ohms)	I <sub>rms</sub> <sup>6</sup> (mA)
			L typ	Q typ <sup>3</sup>	L typ	Q typ <sup>3</sup>			
0201DS-0N5XKE_	0.5	10	0.50	29	0.49	43	23.5	0.020	1250
0201DS-0N6XKE_	0.6	10	0.58	31	0.58	51	24.5	0.030	1000
0201DS-1N2XJE_	1.2	5	1.16	42	1.16	60	17.9	0.042	870
0201DS-1N3XJE_	1.3	5	1.24	38	1.24	57	17.6	0.048	820
0201DS-1N4XJE_	1.4	5	1.35	27	1.34	37	17.0	0.080	630
0201DS-1N5XJE_	1.5	5	1.47	28	1.47	40	17.0	0.090	600
0201DS-2N2XJE_	2.2	5	2.23	32	2.23	32	16.7	0.070	700
0201DS-2N3XJE_	2.3	5	2.28	45	2.28	64	16.5	0.070	670
0201DS-2N4XJE_	2.4	5	2.36	35	2.36	53	13.0	0.082	620
0201DS-2N5XJE_	2.5	5	2.50	31	2.49	44	12.5	0.165	440
0201DS-3N3XJE_	3.3	5	3.31	42	3.32	62	12.8	0.080	630
0201DS-3N4XJE_	3.4	5	3.38	42	3.42	62	12.7	0.080	630
0201DS-3N5XJE_	3.5	5	3.41	44	3.45	64	12.4	0.080	630
0201DS-3N6XJE_	3.6	5	3.53	40	3.57	61	12.5	0.105	550
0201DS-3N7XJE_	3.7	5	3.65	39	3.66	58	10.6	0.105	550
0201DS-3N8XJE_	3.8	5	3.81	38	3.81	60	10.2	0.180	420
0201DS-3N9XJE_	3.9	5	3.89	35	3.89	50	11.2	0.240	360
0201DS-4N8XJE_	4.8	5	4.83	34	4.83	50	11.0	0.096	570
0201DS-4N9XJE_	4.9	5	4.72	33	4.71	52	11.7	0.130	510
0201DS-5N0XJE_	5.0	5	4.90	34	4.90	54	11.5	0.130	510
0201DS-5N1XJE_	5.1	5	4.96	35	4.96	54	11.1	0.130	510
0201DS-5N2XJE_	5.2	5	5.21	36	5.21	55	10.0	0.170	430
0201DS-5N3XJE_	5.3	5	5.15	36	5.15	57	10.6	0.130	510
0201DS-5N4XJE_	5.4	5	5.30	36	5.31	56	10.2	0.130	510
0201DS-5N5XJE_	5.5	5	5.49	35	5.49	50	9.5	0.285	330
0201DS-6N7XJE_	6.7	5	6.71	40	6.72	59	6.8	0.150	460
0201DS-6N8XJE_	6.8	5	6.52	35	6.52	52	9.5	1.150	460
0201DS-6N9XJE_	6.9	5	6.70	36	6.73	54	9.3	0.150	460
0201DS-7N0XJE_	7.0	5	6.97	39	6.97	60	6.7	0.210	390
0201DS-7N1XJE_	7.1	5	6.91	36	6.90	54	9.5	0.250	390
0201DS-7N2XJE_	7.2	5	6.97	36	6.97	55	9.4	0.250	390
0201DS-7N3XJE_	7.3	5	7.05	37	7.04	56	9.3	0.250	390
0201DS-7N4XJE_	7.4	5	7.29	40	7.30	61	9.1	0.250	390
0201DS-7N5XJE_	7.5	5	7.44	36	7.46	50	6.8	0.340	300
0201DS-7N6XJE_	7.6	5	7.32	39	7.31	59	9.3	0.300	340
0201DS-7N7XJE_	7.7	5	7.38	39	7.37	60	9.2	0.300	340
0201DS-7N8XJE_	7.8	5	7.49	38	7.49	58	9.2	0.300	340
0201DS-7N9XJE_	7.9	5	7.56	38	7.56	58	9.1	0.300	340
0201DS-8N0XJE_	8.0	5	7.65	35	7.68	53	9.2	0.300	340
0201DS-8N1XJE_	8.1	5	7.74	37	7.75	59	9.1	0.300	340
0201DS-8N2XJE_	8.2	5	8.14	37	8.22	53	6.4	0.270	340
0201DS-8N3XJE_	8.3	5	7.93	36	7.95	57	8.9	0.300	340
0201DS-8N4XJE_	8.4	5	8.03	35	8.04	55	8.9	0.350	300
0201DS-8N5XJE_	8.5	5	8.11	35	8.13	55	8.9	0.350	300
0201DS-8N7XJE_	8.7	5	8.68	38	8.74	59	6.3	0.350	300
0201DS-9N0XJE_	9.0	5	9.02	42	9.04	63	6.4	0.350	300
0201DS-9N4XJE_	9.4	5	9.38	36	9.39	51	6.4	0.400	280
0201DS-9N6XJE_	9.6	5	9.62	38	9.64	53	6.2	0.400	280
0201DS-11NXJE_	11.0	5	11.11	40	11.15	62	5.7	0.400	280
0201DS-12NXJE_	12.0	5	12.15	39	12.20	56	5.6	0.360	300
0201DS-13NXJE_	13.0	5	13.12	38	13.22	52	6.7	0.440	270
0201DS-14NXJE_	14.0	5	14.13	37	14.37	51	5.1	0.440	270

1. When ordering, please specify **packaging** code:

**0201DS-14NXJEW**

**Packaging:** W = 7" machine-ready reel. EIA-481 punched paper tape (2000 parts per full reel).

U = Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter W instead.

2. Inductance measured at 250 MHz using a Coilcraft SMD-F fixture in an Agilent/HP 4286 impedance analyzer with Coilcraft-provided correlation pieces.

3. Q measured using an Agilent/HP 4291A with an Agilent/HP 16197 test fixture.

4. SRF measured using an Agilent/HP 8722ES network analyzer and a test fixture with a 0.010" air gap.

5. DCR measured on a micro-ohmmeter and a Coilcraft CCF858 test fixture.

6. Current that causes a 15°C temperature rise from 25°C ambient.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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