

# Multilayer Chip Ceramic Inductor – SDCL – D Series



Operating temp. : -55°C ~+125°C

- FEATURES**
- ◆ Monolithic structure for high reliability
  - ◆ High self-resonant frequency
  - ◆ Excellent solderability and high heat resistance

- APPLICATIONS**
- ◆ RF circuit in telecommunication and other equipments

**PRODUCT IDENTIFICATION**

<b>1</b> SDCL	<b>2</b> 1608	<b>3</b> C	<b>4</b> 10N	<b>5</b> J	<b>6</b> T	<b>7</b> D	<b>8</b> F
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1 Type	
SDCL	Chip Ceramic Inductor

2 External Dimensions (L×W) (mm)	
1005 [0402]	1.0×0.5
1608 [0603]	1.6×0.8

3 Material Code	
C	

4 Nominal Inductance	
Example	Nominal Value
3N9	3.9nH
10N	10nH
R10	100nH
※R =decimal point, N=nH	

5 Inductance Tolerance	
B	±0.1nH
C	±0.2nH
S	±0.3nH
H	±3%
J	±5%
K	±10%

6 Packing	
T	Tape & Reel

7 Internal Code	
D	

8 Hazardous Substance Free Products	
F	

**SHAPE AND DIMENSIONS**

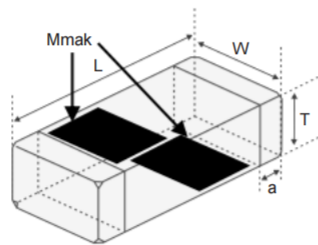


Fig.1

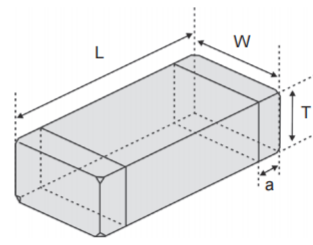


Fig.1

Type	L	W	T	a	≤10nH	≥12nH
SDCL1005 [0402]	1.0±0.15 [.039±.006]	0.5±0.15 [.020±.006]	0.5±0.15 [.020±.006]	0.25±0.1 [.010±.004]	Fig.1	Fig.2
SDCL1608 [0603]	1.6±0.15 [.063±.006]	0.8±0.15 [.031±.006]	0.8±0.15 [.031±.006]	0.3±0.2 [.012±.008]	Fig.2	Fig.2
	1.65±0.15 [.065±.006]					

Unit: mm [inch]

Multilayer Chip Ferrite Inductor  
 Multilayer Chip Inductor for Choke  
 Multilayer Chip Power Inductor  
 Multilayer Ultra High Q Chip Ceramic Inductor  
 Multilayer High Q Chip Ceramic Inductor  
 Multilayer Chip Ceramic Inductor  
 Multilayer High Frequency Chip Ceramic Inductor  
 Wire Wound Chip Ceramic Inductor  
 Wire Wound Chip Ferrite Inductor  
 SMD Power Inductor

## SPECIFICATIONS SDCL1005-D Series

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq.	Typical Q @ Freq. (MHz)			Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
				100	800	1000			
Units	nH	-	MHz	-			MHz	$\Omega$	mA
Symbol	L	Q	Freq	Q			S.R.F	DCR	I <sub>r</sub>
SDCL1005C0N6 □ TDF	0.6	4	100	6	35	41	10000	0.10	800
SDCL1005C1N0 □ TDF	1.0	8	100	11	34	36	10000	0.10	400
SDCL1005C1N1 □ TDF	1.1	8	100	11	34	36	10000	0.10	400
SDCL1005C1N2 □ TDF	1.2	8	100	11	34	36	10000	0.10	400
SDCL1005C1N3 □ TDF	1.3	8	100	11	34	36	10000	0.10	400
SDCL1005C1N5 □ TDF	1.5	8	100	11	34	36	6000	0.10	300
SDCL1005C1N6 □ TDF	1.6	8	100	11	32	35	6000	0.10	300
SDCL1005C1N8 □ TDF	1.8	8	100	11	30	34	6000	0.10	300
SDCL1005C2N0 □ TDF	2.0	8	100	10	29	33	6000	0.20	300
SDCL1005C2N2 □ TDF	2.2	8	100	10	29	33	6000	0.20	300
SDCL1005C2N4 □ TDF	2.4	8	100	10	29	32	6000	0.20	300
SDCL1005C2N7 □ TDF	2.7	8	100	10	29	32	6000	0.20	300
SDCL1005C3N0 □ TDF	3.0	8	100	10	29	32	6000	0.20	300
SDCL1005C3N3 □ TDF	3.3	8	100	10	29	32	6000	0.20	300
SDCL1005C3N6 □ TDF	3.6	8	100	10	28	31	4000	0.20	300
SDCL1005C3N9 □ TDF	3.9	8	100	10	28	31	4000	0.20	300
SDCL1005C4N3 □ TDF	4.3	8	100	10	28	31	4000	0.20	300
SDCL1005C4N7 □ TDF	4.7	8	100	10	28	31	4000	0.20	300
SDCL1005C5N1 □ TDF	5.1	8	100	10	28	30	4000	0.30	300
SDCL1005C5N6 □ TDF	5.6	8	100	10	28	30	4000	0.30	300
SDCL1005C6N2 □ TDF	6.2	8	100	10	27	30	3900	0.30	300
SDCL1005C6N8 □ TDF	6.8	8	100	10	27	30	3900	0.30	300
SDCL1005C7N5 □ TDF	7.5	8	100	10	27	30	3700	0.40	300
SDCL1005C8N2 □ TDF	8.2	8	100	10	27	30	3600	0.40	300
SDCL1005C9N1 □ TDF	9.1	8	100	10	27	30	3400	0.40	300
SDCL1005C10N □ TDF	10	8	100	10	27	30	3200	0.40	300
SDCL1005C12N □ TDF	12	8	100	10	26	29	2700	0.50	300
SDCL1005C15N □ TDF	15	8	100	10	26	28	2300	0.50	300
SDCL1005C18N □ TDF	18	8	100	10	25	27	2100	0.60	300
SDCL1005C20N □ TDF	20	8	100	10	25	26	2000	0.60	300
SDCL1005C22N □ TDF	22	8	100	10	25	25	1900	0.60	300
SDCL1005C27N □ TDF	27	8	100	10	25	23	1600	0.70	300
SDCL1005C33N □ TDF	33	8	100	10	22	22	1300	0.80	200
SDCL1005C39N □ TDF	39	8	100	10	22	19	1200	1.00	200
SDCL1005C43N □ TDF	43	8	100	10	21	16	1100	1.10	200
SDCL1005C47N □ TDF	47	8	100	10	21	16	1000	1.10	200
SDCL1005C56N □ TDF	56	8	100	10	18	13	750	1.20	200
SDCL1005C68N □ TDF	68	8	100	10	18	9	750	1.40	180
SDCL1005C82N □ TDF	82	8	100	10	13	-	750	2.40	150
SDCL1005CR10 □ TDF	100	8	100	10	12	-	700	2.60	150
SDCL1005CR12 □ TDF	120	8	100	10	-	-	600	2.80	150
SDCL1005CR15 □ TDF	150	8	100	10	-	-	550	3.20	100
SDCL1005CR18 □ TDF	180	8	100	10	-	-	500	3.70	100
SDCL1005CR22 □ TDF	220	8	100	12	-	-	450	4.00	100
SDCL1005CR27 □ TDF	270	8	100	12	-	-	400	4.50	100
SDCL1005CR30 □ TDF	300	8	100	12	-	-	400	4.50	100
SDCL1005CR33 □ TDF	330	6	50	8	-	-	350	7.00	50
SDCL1005CR36 □ TDF	360	6	50	8	-	-	300	7.50	50

※ □: Please specify the inductance tolerance. For L≤6.2nH, choose B=±0.1nH, C=±0.2nH or S=±0.3nH; For L>6.2nH, choose H=±3%, J=±5% or K=±10%.

※: Please refer to "Measurement Notice For RF Inductors".

**SPECIFICATIONS** SDCL1608-D Series

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq.	Typical Q @ Freq. (MHz)			Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
				100	800	1000			
Units	nH	-	MHz	-			MHz	Ω	mA
Symbol	L	Q	Freq	Q			S.R.F	DCR	I <sub>r</sub>
SDCL1608C1N0 □ TDF	1.0	8	100	13	70	80	10000	0.05	500
SDCL1608C1N2 □ TDF	1.2	8	100	13	60	70	10000	0.05	500
SDCL1608C1N5 □ TDF	1.5	8	100	13	47	68	6000	0.10	500
SDCL1608C1N8 □ TDF	1.8	8	100	13	45	61	6000	0.10	500
SDCL1608C2N2 □ TDF	2.2	8	100	13	45	60	6000	0.10	500
SDCL1608C2N7 □ TDF	2.7	10	100	13	44	55	6000	0.12	500
SDCL1608C3N3 □ TDF	3.3	10	100	13	43	50	6000	0.15	500
SDCL1608C3N9 □ TDF	3.9	10	100	13	43	50	6000	0.16	500
SDCL1608C4N7 □ TDF	4.7	10	100	13	43	50	6000	0.20	500
SDCL1608C5N6 □ TDF	5.6	10	100	14	42	48	5000	0.25	500
SDCL1608C6N8 □ TDF	6.8	10	100	14	43	50	5000	0.30	500
SDCL1608C8N2 □ TDF	8.2	10	100	14	43	48	4500	0.35	500
SDCL1608C10N □ TDF	10	12	100	15	45	50	3500	0.40	300
SDCL1608C12N □ TDF	12	12	100	18	48	50	3000	0.45	300
SDCL1608C15N □ TDF	15	12	100	18	48	50	2300	0.50	300
SDCL1608C18N □ TDF	18	12	100	16	48	51	2200	0.55	300
SDCL1608C22N □ TDF	22	12	100	16	45	48	2000	0.60	300
SDCL1608C27N □ TDF	27	12	100	16	45	45	1700	0.65	300
SDCL1608C33N □ TDF	33	12	100	16	45	41	1500	0.70	300
SDCL1608C39N □ TDF	39	12	100	17	40	48	1400	0.70	300
SDCL1608C47N □ TDF	47	12	100	17	35	35	1200	0.70	300
SDCL1608C56N □ TDF	56	12	100	17	35	30	1100	0.75	300
SDCL1608C68N □ TDF	68	12	100	17	30	20	900	0.85	300
SDCL1608C82N □ TDF	82	8	100	15	22	-	800	1.00	300
SDCL1608CR10 □ TDF	100	8	100	15	16	-	700	1.20	300
SDCL1608CR12 □ TDF*	120	8	50	15	-	-	600	1.40	200
SDCL1608CR15 □ TDF*	150	8	50	15	-	-	500	1.60	200
SDCL1608CR18 □ TDF*	180	8	50	15	-	-	400	1.90	200
SDCL1608CR22 □ TDF*	220	8	50	15	-	-	350	2.40	200
SDCL1608CR27 □ TDF*	270	8	50	16	-	-	350	2.60	150
SDCL1608CR33 □ TDF*	330	8	50	16	-	-	350	2.80	150
SDCL1608CR39 □ TDF*	390	8	50	16	-	-	300	3.20	150
SDCL1608CR43 □ TDF*	430	8	50	16	-	-	280	3.40	150
SDCL1608CR47 □ TDF*	470	8	50	15	-	-	250	3.60	150
SDCL1608CR56 □ TDF*	560	8	50	15	-	-	250	4.00	100
SDCL1608CR68 □ TDF*	680	8	50	15	-	-	250	4.50	100

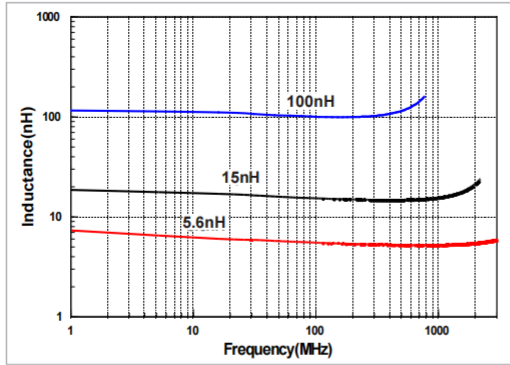
※ □: Please specify the inductance tolerance. For L≤6.2nH, choose B=±0.1nH, C=±0.2nH or S=±0.3nH; For L>6.2nH, choose H=±3%, J=±5% or K=±10%.

※ \*: The length: 1.65±0.15mm, for others: 1.60±0.15mm

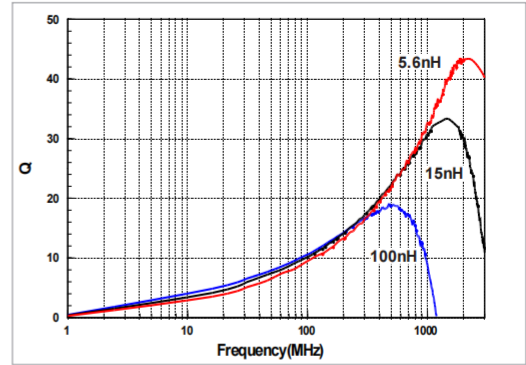
※: Please refer to "Measurement Notice For RF Inductors".

TYPICAL ELECTRICAL CHARACTERISTICS

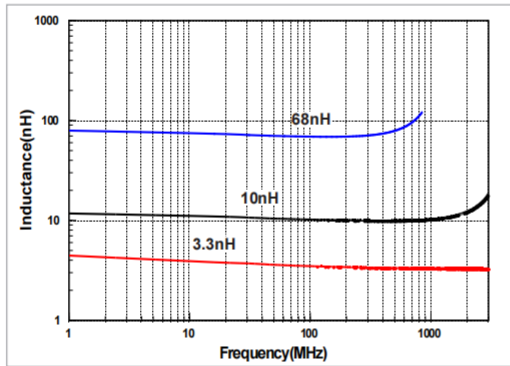
SDCL1005-D Series  
Inductance vs. Frequency Characteristics



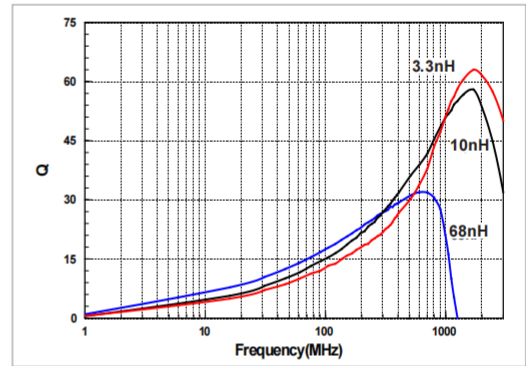
Q vs. Frequency Characteristics



SDCL1608-D Series  
Inductance vs. Frequency Characteristics



Q vs. Frequency Characteristics



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