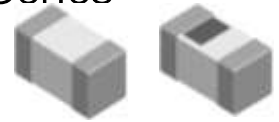


# Multilayer Chip Ceramic Inductor —ASDCL-D Series

Operating Temp. : -55°C~+125°C



## FEATURES

- Monolithic structure for high reliability
- High self-resonant frequency
- Excellent solderability and high heat resistance
- AEC-Q200 verified

## APPLICATIONS

- Infotainment system
- Passive keyless entry
- Tire pressure monitoring system

## PRODUCT IDENTIFICATION

<u>ASDCL</u> ①	<u>0603</u> ②	<u>Q</u> ③	<u>10N</u> ④	<u>J</u> ⑤	<u>I</u> ⑥	<u>02</u> ⑦	<u>B03</u> ⑧
① Type ASDCL Chip Ceramic Inductor for Automotive		② External Dimensions (L×W) (mm) 0603 [0201] 0.6×0.3		③ Characteristics Code Q			
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 G ±2% H ±3% J ±5%		⑥ Packing T Tape & Reel			
				⑦ Serial Code 02			
				⑧ Internal Code B03			

<u>ASDCL</u> ①	<u>1608</u> ②	<u>C</u> ③	<u>10N</u> ④	<u>J</u> ⑤	<u>I</u> ⑥	<u>D</u> ⑦	<u>F</u> ⑧
① Type ASDCL Chip Ceramic Inductor for Automotive		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

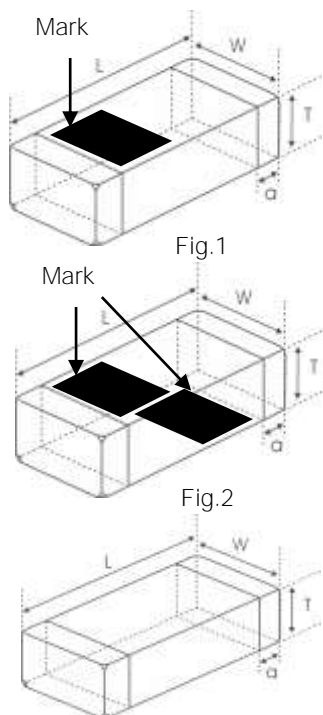


Fig. 3

Unit: mm [inch]

Type	L	W	T	a	≤10nH	≥12nH
ASDCL0603 [0201]	0.6±0.03 [.024±.0012]	0.3±0.03 [.012±.0012]	0.3±0.03 [.012±.0012]	0.12±0.05 [.005±.002]	Fig.1	Fig.1
ASDCL1005 [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.2	Fig.3
ASDCL1608 [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.3	Fig.3
	1.65±0.15 [.065±.006]					

## SPECIFICATIONS

### ASDCL0603Q-02B03 TYPE

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq. L/Q	Typical Q @ Freq. (GHz)					Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
				0.5	0.8	1.8	2.0	2.4			
Units	nH	-	MHz	-					MHz	Ω	mA
Symbol	L	Q	Freq.	Q					S.R.F	DCR	I <sub>r</sub>
ASDCL0603Q0N6□T02B03	0.6	13	500	>24	>32	>54	>57	>65	20000	0.06	850
ASDCL0603Q0N7□T02B03	0.7	13	500	>24	>32	>54	>57	>65	20000	0.06	800
ASDCL0603Q0N8□T02B03	0.8	13	500	>24	>32	>54	>57	>65	18000	0.07	800
ASDCL0603Q0N9□T02B03	0.9	13	500	>24	>32	>54	>57	>65	18000	0.07	750
ASDCL0603Q1N0□T02B03	1.0	13	500	24	32	54	57	65	17000	0.08	750
ASDCL0603Q1N1□T02B03	1.1	13	500	19	26	45	47	55	17000	0.10	750
ASDCL0603Q1N2□T02B03	1.2	13	500	19	25	43	44	52	17000	0.10	750
ASDCL0603Q1N3□T02B03	1.3	13	500	19	25	40	42	47	17000	0.12	600
ASDCL0603Q1N4□T02B03	1.4	13	500	19	24	39	41	47	16000	0.12	600
ASDCL0603Q1N5□T02B03	1.5	13	500	19	24	39	41	46	15000	0.12	600
ASDCL0603Q1N6□T02B03	1.6	13	500	19	24	39	41	46	15000	0.13	600
ASDCL0603Q1N7□T02B03	1.7	13	500	19	24	39	41	46	15000	0.15	600
ASDCL0603Q1N8□T02B03	1.8	13	500	19	24	39	41	46	15000	0.15	600
ASDCL0603Q1N9□T02B03	1.9	13	500	18	24	38	40	45	12500	0.15	600
ASDCL0603Q2N0□T02B03	2.0	13	500	17	24	38	39	44	12500	0.15	600
ASDCL0603Q2N1□T02B03	2.1	13	500	17	24	37	39	44	11000	0.15	600
ASDCL0603Q2N2□T02B03	2.2	13	500	17	24	38	40	43	11000	0.15	600
ASDCL0603Q2N3□T02B03	2.3	13	500	17	24	37	39	43	10000	0.20	500
ASDCL0603Q2N4□T02B03	2.4	13	500	17	23	36	38	42	10000	0.20	500

# SPECIFICATIONS

## ASDCL0603Q-02B03 TYPE

Part Number	Inductance	Min. Quality Factor	L, Q Test Freq. L/Q	Typical Q @ Freq. (GHz)					Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
				0.5	0.8	1.8	2.0	2.4			
Units	nH	-	MHz	-					MHz	$\Omega$	mA
Symbol	L	Q	Freq.	Q					S.R.F	DCR	I <sub>r</sub>
ASDCL0603Q2N5□T02B03	2.5	13	500	17	23	35	36	40	10000	0.20	500
ASDCL0603Q2N6□T02B03	2.6	13	500	17	22	34	35	39	10000	0.20	500
ASDCL0603Q2N7□T02B03	2.7	13	500	17	22	34	35	39	10000	0.20	500
ASDCL0603Q2N8□T02B03	2.8	13	500	17	22	34	35	39	9500	0.20	500
ASDCL0603Q2N9□T02B03	2.9	13	500	17	22	34	35	39	9500	0.20	500
ASDCL0603Q3N0□T02B03	3.0	13	500	17	22	34	35	39	9500	0.25	450
ASDCL0603Q3N1□T02B03	3.1	13	500	17	22	34	35	39	8500	0.25	450
ASDCL0603Q3N2□T02B03	3.2	13	500	17	22	33	35	39	8200	0.25	450
ASDCL0603Q3N3□T02B03	3.3	13	500	18	23	34	36	40	8100	0.25	450
ASDCL0603Q3N4□T02B03	3.4	13	500	17	23	33	35	39	8000	0.25	450
ASDCL0603Q3N5□T02B03	3.5	13	500	17	23	33	35	39	7900	0.25	450
ASDCL0603Q3N6□T02B03	3.6	13	500	16	23	33	35	39	7700	0.30	400
ASDCL0603Q3N7□T02B03	3.7	13	500	16	23	33	35	38	7600	0.30	400
ASDCL0603Q3N8□T02B03	3.8	13	500	16	22	33	35	38	7500	0.30	400
ASDCL0603Q3N9□T02B03	3.9	13	500	16	22	33	35	38	7400	0.30	400
ASDCL0603Q4N3□T02B03	4.3	13	500	16	21	32	34	37	6800	0.40	350
ASDCL0603Q4N7□T02B03	4.7	13	500	16	22	33	35	38	6200	0.40	350
ASDCL0603Q5N1□T02B03	5.1	13	500	17	22	34	36	38	5900	0.40	350
ASDCL0603Q5N6□T02B03	5.6	13	500	16	21	33	34	37	5500	0.40	350
ASDCL0603Q6N2□T02B03	6.2	13	500	18	23	34	35	37	5100	0.48	300
ASDCL0603Q6N8□T02B03	6.8	13	500	17	22	32	33	35	5500	0.50	300
ASDCL0603Q7N5□T02B03	7.5	13	500	16	21	31	33	34	4700	0.50	300
ASDCL0603Q8N2□T02B03	8.2	13	500	16	21	31	32	34	4300	0.56	250
ASDCL0603Q9N1□T02B03	9.1	13	500	16	20	30	31	32	4100	0.70	250
ASDCL0603Q10N□T02B03	10	13	500	16	20	28	29	31	3800	0.70	250
ASDCL0603Q12N□T02B03	12	13	500	16	20	27	28	28	3400	0.70	250
ASDCL0603Q15N□T02B03	15	13	500	15	19	24	24	23	2600	0.70	250
ASDCL0603Q18N□T02B03	18	13	500	15	19	23	24	22	2300	0.80	200
ASDCL0603Q22N□T02B03	22	13	500	15	19	22	23	20	2200	1.20	150
ASDCL0603Q27N□T02B03	27	13	500	15	19	15	13	8	2000	1.60	140
ASDCL0603Q33N□T02B03	33	11	300	14	15	8	5		2000	2.20	120
ASDCL0603Q39N□T02B03	39	11	300	14	15	6			1600	2.30	120
ASDCL0603Q47N□T02B03	47	11	300	14	15				1500	2.60	100
ASDCL0603Q56N□T02B03	56	11	300	13	13				1400	2.80	100
ASDCL0603Q68N□T02B03	68	11	300	13	11				1200	3.20	100
ASDCL0603Q82N□T02B03	82	10	300	12	10				1100	3.80	100
ASDCL0603QR10□T02B03	100	10	300	12	10				1000	4.00	80
ASDCL0603QR12□T02B03	120	9	300	12	8				1000	5.00	80

※□: Please specify the inductance tolerance. For  $L \leq 4.2\text{nH}$ , choose  $B = \pm 0.1\text{nH}$ ,  $C = \pm 0.2\text{nH}$  or  $S = \pm 0.3\text{nH}$ ; For  $4.2\text{nH} < L < 5.6\text{nH}$ , choose  $H = \pm 3\%$ ,  $J = \pm 5\%$  or  $S = \pm 0.3\text{nH}$ ; For  $L \geq 5.6\text{nH}$ , choose  $H = \pm 3\%$ ,  $J = \pm 5\%$

# SPECIFICATIONS

## ASDCL1005-D TYPE

Part Number	Inductance	Min. Quality Factor	L/Q Test Freq. L/Q	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>
ASDCL1005C0N6□TDF	0.6	4	100	6	35	41	10000	0.10	800
ASDCL1005C1N0□TDF	1.0	8	100	11	34	36	10000	0.10	400
ASDCL1005C1N1□TDF	1.1	8	100	11	34	36	10000	0.10	400
ASDCL1005C1N2□TDF	1.2	8	100	11	34	36	10000	0.10	400
ASDCL1005C1N3□TDF	1.3	8	100	11	34	36	10000	0.10	400
ASDCL1005C1N5□TDF	1.5	8	100	11	34	36	6000	0.10	300
ASDCL1005C1N6□TDF	1.6	8	100	11	32	35	6000	0.10	300
ASDCL1005C1N8□TDF	1.8	8	100	11	30	34	6000	0.10	300
ASDCL1005C2N0□TDF	2.0	8	100	10	29	33	6000	0.20	300
ASDCL1005C2N2□TDF	2.2	8	100	10	29	33	6000	0.20	300
ASDCL1005C2N4□TDF	2.4	8	100	10	29	32	6000	0.20	300
ASDCL1005C2N7□TDF	2.7	8	100	10	29	32	6000	0.20	300
ASDCL1005C3N0□TDF	3.0	8	100	10	29	32	6000	0.20	300
ASDCL1005C3N3□TDF	3.3	8	100	10	29	32	6000	0.20	300
ASDCL1005C3N6□TDF	3.6	8	100	10	28	31	4000	0.20	300
ASDCL1005C3N9□TDF	3.9	8	100	10	28	31	4000	0.20	300
ASDCL1005C4N3□TDF	4.3	8	100	10	28	31	4000	0.20	300
ASDCL1005C4N7□TDF	4.7	8	100	10	28	31	4000	0.20	300
ASDCL1005C5N1□TDF	5.1	8	100	10	28	30	4000	0.30	300
ASDCL1005C5N6□TDF	5.6	8	100	10	28	30	4000	0.30	300
ASDCL1005C6N2□TDF	6.2	8	100	10	27	30	3900	0.30	300
ASDCL1005C6N8□TDF	6.8	8	100	10	27	30	3900	0.30	300
ASDCL1005C7N5□TDF	7.5	8	100	10	27	30	3700	0.40	300
ASDCL1005C8N2□TDF	8.2	8	100	10	27	30	3600	0.40	300
ASDCL1005C9N1□TDF	9.1	8	100	10	27	30	3400	0.40	300
ASDCL1005C10N□TDF	10	8	100	10	27	30	3200	0.40	300
ASDCL1005C12N□TDF	12	8	100	10	26	29	2700	0.50	300
ASDCL1005C15N□TDF	15	8	100	10	26	28	2300	0.50	300
ASDCL1005C18N□TDF	18	8	100	10	25	27	2100	0.60	300
ASDCL1005C20N□TDF	20	8	100	10	25	26	2000	0.60	300
ASDCL1005C22N□TDF	22	8	100	10	25	25	1900	0.60	300
ASDCL1005C27N□TDF	27	8	100	10	25	23	1600	0.70	300
ASDCL1005C33N□TDF	33	8	100	10	22	22	1300	0.80	200
ASDCL1005C39N□TDF	39	8	100	10	22	19	1200	1.00	200
ASDCL1005C43N□TDF	43	8	100	10	21	16	1100	1.10	200
ASDCL1005C47N□TDF	47	8	100	10	21	16	1000	1.10	200
ASDCL1005C56N□TDF	56	8	100	10	18	13	750	1.20	200
ASDCL1005C68N□TDF	68	8	100	10	18	9	750	1.40	180
ASDCL1005C82N□TDF	82	8	100	10	13	-	750	2.40	150
ASDCL1005CR10□TDF	100	8	100	10	12	-	700	2.60	150
ASDCL1005CR12□TDF	120	8	100	10	-	-	600	2.80	150
ASDCL1005CR15□TDF	150	8	100	10	-	-	550	3.20	100
ASDCL1005CR18□TDF	180	8	100	10	-	-	500	3.70	100
ASDCL1005CR22□TDF	220	8	100	12	-	-	450	4.00	100
ASDCL1005CR27□TDF	270	8	100	12	-	-	400	4.50	100
ASDCL1005CR30□TDF	300	8	100	12	-	-	400	4.50	100
ASDCL1005CR33□TDF	330	6	50	8	-	-	350	7.00	50
ASDCL1005CR36□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%.

# SPECIFICATIONS

## ASDCL1608-D TYPE

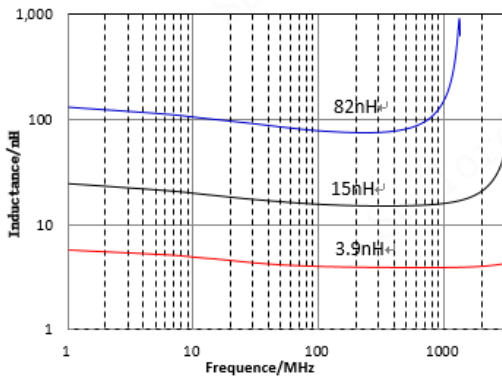
Part Number	Inductance	Min. Quality Factor	L/Q Test Freq. L/Q	Typical Q @ Freq. (MHz)			Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
				100	800	1000			
Units	nH	-	MHz	-			MHz	$\Omega$	mA
Symbol	L	Q	Freq	Q			S.R.F	DCR	I <sub>r</sub>
ASDCL1608C1N0□TDF	1.0	8	100	13	70	80	10000	0.05	500
ASDCL1608C1N2□TDF	1.2	8	100	13	60	70	10000	0.05	500
ASDCL1608C1N5□TDF	1.5	8	100	13	47	68	6000	0.10	500
ASDCL1608C1N8□TDF	1.8	8	100	13	45	61	6000	0.10	500
ASDCL1608C2N2□TDF	2.2	8	100	13	45	60	6000	0.10	500
ASDCL1608C2N7□TDF	2.7	10	100	13	44	55	6000	0.12	500
ASDCL1608C3N3□TDF	3.3	10	100	13	43	50	6000	0.15	500
ASDCL1608C3N9□TDF	3.9	10	100	13	43	50	6000	0.16	500
ASDCL1608C4N7□TDF	4.7	10	100	13	43	50	6000	0.20	500
ASDCL1608C5N6□TDF	5.6	10	100	14	42	48	5000	0.25	500
ASDCL1608C6N8□TDF	6.8	10	100	14	43	50	5000	0.30	500
ASDCL1608C8N2□TDF	8.2	10	100	14	43	48	4500	0.35	500
ASDCL1608C10N□TDF	10	12	100	15	45	50	3500	0.40	300
ASDCL1608C12N□TDF	12	12	100	18	48	50	3000	0.45	300
ASDCL1608C15N□TDF	15	12	100	18	48	50	2300	0.50	300
ASDCL1608C18N□TDF	18	12	100	16	48	51	2200	0.55	300
ASDCL1608C22N□TDF	22	12	100	16	45	48	2000	0.60	300
ASDCL1608C27N□TDF	27	12	100	16	45	45	1700	0.65	300
ASDCL1608C33N□TDF	33	12	100	16	45	41	1500	0.70	300
ASDCL1608C39N□TDF	39	12	100	17	40	48	1400	0.70	300
ASDCL1608C47N□TDF	47	12	100	17	35	35	1200	0.70	300
ASDCL1608C56N□TDF	56	12	100	17	35	30	1100	0.75	300
ASDCL1608C68N□TDF	68	12	100	17	30	20	900	0.85	300
ASDCL1608C82N□TDF	82	8	100	15	22	-	800	1.00	300
ASDCL1608CR10□TDF	100	8	100	15	16	-	700	1.20	300
ASDCL1608CR12□TDF*	120	8	50	15	-	-	600	1.40	200
ASDCL1608CR15□TDF*	150	8	50	15	-	-	500	1.60	200
ASDCL1608CR18□TDF*	180	8	50	15	-	-	400	1.90	200
ASDCL1608CR22□TDF*	220	8	50	15	-	-	350	2.40	200
ASDCL1608CR27□TDF*	270	8	50	16	-	-	350	2.60	150
ASDCL1608CR33□TDF*	330	8	50	16	-	-	350	2.80	150
ASDCL1608CR39□TDF*	390	8	50	16	-	-	300	3.20	150
ASDCL1608CR43□TDF*	430	8	50	16	-	-	280	3.40	150
ASDCL1608CR47□TDF*	470	8	50	15	-	-	250	3.60	150
ASDCL1608CR56□TDF*	560	8	50	15	-	-	250	4.00	100
ASDCL1608CR68□TDF*	680	8	50	15	-	-	250	4.50	100

※□: Please specify the inductance tolerance code (J=±5%, K=±10%). The product with tolerance less than ±5%, ±10% is also available. Please contact your local sales.

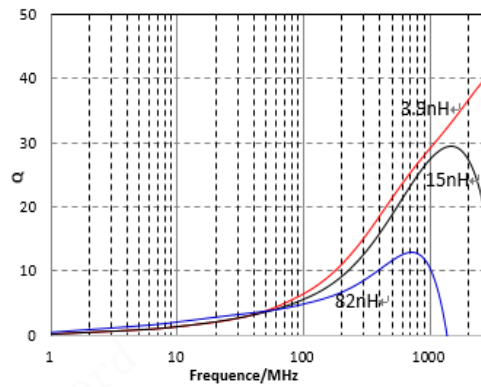
※\*: The length: 1.65±0.15mm, for others: 1.60±0.15mm.

# TYPICAL ELECTRICAL CHARACTERISTICS

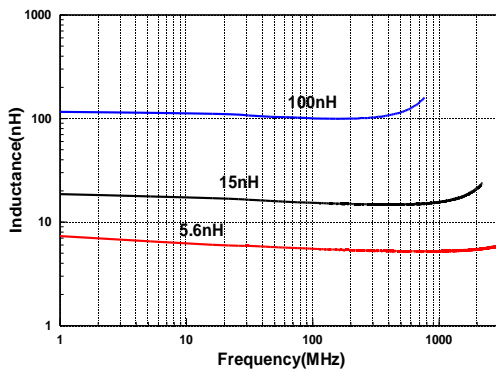
Inductance vs. Frequency Characteristics  
ASDCL0603Q-02B03 TYPE



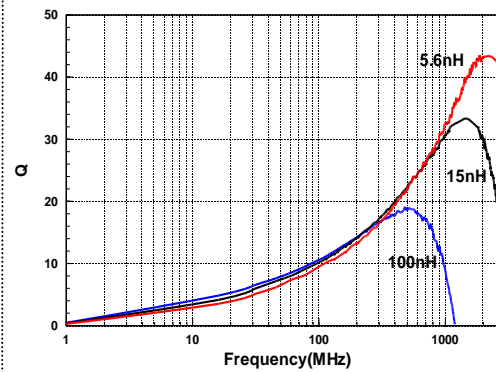
Q vs. Frequency Characteristics  
ASDCL0603Q-02B03 TYPE



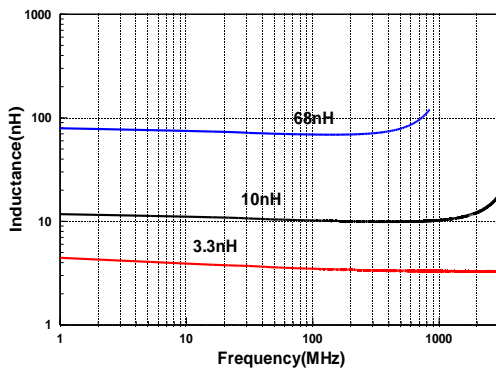
ASDCL1005-D TYPE



ASDCL1005-D TYPE



ASDCL1608-D TYPE



ASDCL1608-D TYPE

