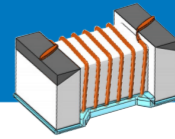


# Wire Wound Chip Ceramic Inductor – MWSD – C – M Series



Operating temp. : -40°C ~+125°C

## FEATURES

- ◆ Small chip suitable for surface mounting
- ◆ High Q value and high self-resonant frequency with ceramic material
- ◆ Tight inductance tolerance and high reliability
- ◆ Single-sided package, thinner than SDWL-C-M series

## APPLICATIONS

- ◆ High frequency line of communication equipment and wireless module
- ◆ Mobile phones, smart watches and other portable electronic devices
- ◆ Bluetooth, W-LAN, Broadband network

## PRODUCT IDENTIFICATION

1	2	3	4	5	6	7
MWSD	1005	C	10N	□	T	M01

1	Type
MWSD	Wire Wound Chip Inductor

2	External Dimensions	
1005 [0402]	1.1×0.6	
1608 [0603]	1.6×0.8	

3	Material Code	
C	Ceramic	

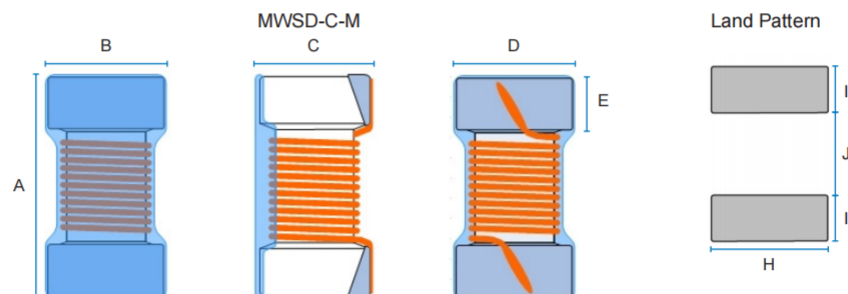
4	Nominal Inductance	
Example	Nominal Value	
4N7	4.7nH	
10N	10nH	
R10	100nH	

5	Inductance Tolerance	
B	±0.1nH	
C	±0.2nH	
D	±0.5nH	
G	±2%	
H	±3%	
J	±5%	

6	Packing	
B	Package	
T	Tape & Reel	

7	Internal Code	
M01/M11	Internal Code	

## SHAPE AND DIMENSIONS



Series	A	B	C	D	E	H REF.	I REF.	J REF.
MWSD1005C-M	1.1±0.1	0.6±0.1	0.55±0.1	0.5±0.1	0.2±0.1	0.65	0.35	0.50
MWSD1608C-M	1.60±0.20	0.80±0.20	0.80±0.20	0.80	0.30	1.02	0.64	0.64

Unit: mm

## SPECIFICATIONS MWSD1005C-M01 TYPE

Part Number	Inductance	Tolerance	Min. Quality Factor	L/Q Test Freq.	Min.Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
Units	nH	-	-	MHz	MHz	$\Omega$	mA
Symbol	L	-	Q	Freq.	S.R.F	DCR	I <sub>r</sub>
MWSD1005C1N5 □ TM01	1.5	B,C,D	10	100/250	>6000	0.03	1000
MWSD1005C1N6 □ TM01	1.6	C,D	10	100/250	>6000	0.07	750
MWSD1005C1N7 □ TM01	1.7	C,D	10	100/250	>6000	0.10	640
MWSD1005C1N8 □ TM01	1.8	C,D	10	100/250	>6000	0.16	460
MWSD1005C2N4 □ TM01	2.4	B,C,D	20	100/250	>6000	0.05	850
MWSD1005C2N5 □ TM01	2.5	B,C,D	20	100/250	>6000	0.05	850
MWSD1005C2N6 □ TM01	2.6	B,C,D	20	100/250	>6000	0.05	850
MWSD1005C2N7 □ TM01	2.7	B,C,D	20	100/250	>6000	0.05	850
MWSD1005C2N8 □ TM01	2.8	B,C,D	20	100/250	>6000	0.05	850
MWSD1005C2N9 □ TM01	2.9	B,C,D	20	100/250	>6000	0.07	750
MWSD1005C3N0 □ TM01	3.0	B,C,D	20	100/250	>6000	0.07	750
MWSD1005C3N1 □ TM01	3.1	B,C,D	20	100/250	>6000	0.13	570
MWSD1005C3N2 □ TM01	3.2	B,C,D	15	100/250	>6000	0.17	500
MWSD1005C3N9 □ TM01	3.9	C,D	25	100/250	>6000	0.07	750
MWSD1005C4N1 □ TM01	4.1	B,C,D	25	100/250	>6000	0.07	750
MWSD1005C4N3 □ TM01	4.3	B,C,D	25	100/250	>6000	0.07	750
MWSD1005C4N4 □ TM01	4.4	B,C,D	25	100/250	>6000	0.07	750
MWSD1005C4N5 □ TM01	4.5	B,C,D	25	100/250	>6000	0.07	750
MWSD1005C4N6 □ TM01	4.6	B,C,D	25	100/250	>6000	0.07	750
MWSD1005C4N7 □ TM01	4.7	B,C,D	25	100/250	>6000	0.07	750
MWSD1005C4N8 □ TM01	4.8	B,C,D	25	100/250	>6000	0.07	750
MWSD1005C4N9 □ TM01	4.9	B,C,D	25	100/250	>6000	0.12	600
MWSD1005C5N0 □ TM01	5.0	B,C,D	25	100/250	>6000	0.12	600
MWSD1005C5N1 □ TM01	5.1	B,C,D	25	100/250	>6000	0.12	600
MWSD1005C5N8 □ TM01	5.8	B,C,D	25	100/250	>6000	0.12	700
MWSD1005C6N2 □ TM01	6.2	B,C,D	25	100/250	>6000	0.09	700
MWSD1005C6N3 □ TM01	6.3	B,C,D	25	100/250	6000	0.09	700
MWSD1005C6N4 □ TM01	6.4	B,C,D	25	100/250	6000	0.09	700
MWSD1005C6N5 □ TM01	6.5	B,C,D	25	100/250	6000	0.09	700
MWSD1005C6N6 □ TM01	6.6	B,C,D	25	100/250	6000	0.09	700
MWSD1005C6N7 □ TM01	6.7	B,C,D	25	100/250	6000	0.09	700
MWSD1005C6N8 □ TM01	6.8	G,H,J	25	100/250	6000	0.09	700
MWSD1005C6N9 □ TM01	6.9	G,H,J	25	100/250	6000	0.13	570
MWSD1005C7N0 □ TM01	7.0	G,H,J	25	100/250	6000	0.13	570
MWSD1005C7N1 □ TM01	7.1	G,H,J	25	100/250	6000	0.13	570
MWSD1005C7N2 □ TM01	7.2	G,H,J	25	100/250	6000	0.13	570
MWSD1005C7N3 □ TM01	7.3	G,H,J	25	100/250	6000	0.13	570
MWSD1005C7N5 □ TM01	7.5	G,H,J	25	100/250	6000	0.13	570
MWSD1005C8N2 □ TM01	8.2	G,H,J	25	100/250	5500	0.14	540
MWSD1005C8N6 □ TM01	8.6	G,H,J	25	100/250	5500	0.14	540
MWSD1005C8N7 □ TM01	8.7	G,H,J	25	100/250	5500	0.14	540
MWSD1005C8N8 □ TM01	8.8	G,H,J	25	100/250	5500	0.14	540
MWSD1005C8N9 □ TM01	8.9	G,H,J	25	100/250	5500	0.14	540
MWSD1005C9N0 □ TM01	9.0	G,H,J	25	100/250	5500	0.14	540
MWSD1005C9N1 □ TM01	9.1	G,H,J	25	100/250	5500	0.14	540
MWSD1005C9N2 □ TM01	9.2	G,H,J	25	100/250	5500	0.14	540
MWSD1005C9N3 □ TM01	9.3	G,H,J	25	100/250	5500	0.14	540
MWSD1005C9N4 □ TM01	9.4	G,H,J	25	100/250	5500	0.14	540
MWSD1005C9N5 □ TM01	9.5	G,H,J	25	100/250	5500	0.14	540
MWSD1005C9N6 □ TM01	9.6	G,H,J	25	100/250	5500	0.14	540
MWSD1005C9N7 □ TM01	9.7	G,H,J	25	100/250	5500	0.14	540

## SPECIFICATIONS MWSD1005C-M01 TYPE

Part Number	Inductance	Tolerance	Min. Quality Factor	L/Q Test Freq.	Min.Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
Units	nH	-	-	MHz	MHz	$\Omega$	mA
Symbol	L	-	Q	Freq.	S.R.F	DCR	I <sub>r</sub>
MWSD1005C9N8 □ TM01	9.8	G,H,J	25	100/250	5500	0.14	540
MWSD1005C9N9 □ TM01	9.9	G,H,J	25	100/250	5500	0.14	540
MWSD1005C10N □ TM01	10	G,H,J	25	100/250	5500	0.17	500
MWSD1005C11N □ TM01	11	G,H,J	30	100/250	5500	0.14	500
MWSD1005C12N □ TM01	12	G,H,J	30	100/250	5500	0.14	500
MWSD1005C13N □ TM01	13	G,H,J	25	100/250	5000	0.21	430
MWSD1005C15N □ TM01	15	G,H,J	30	100/250	5000	0.16	460
MWSD1005C16N □ TM01	16	G,H,J	25	100/250	4500	0.24	370
MWSD1005C18N □ TM01	18	G,H,J	25	100/250	4500	0.27	370
MWSD1005C19N □ TM01	19	G,H,J	25	100/250	4500	0.27	370
MWSD1005C20N □ TM01	20	G,H,J	25	100/250	4000	0.27	370
MWSD1005C22N □ TM01	22	G,H,J	25	100/250	4000	0.30	310
MWSD1005C23N □ TM01	23	G,H,J	25	100/250	3800	0.30	310
MWSD1005C24N □ TM01	24	G,H,J	25	100/250	3500	0.52	280
MWSD1005C27N □ TM01	27	G,H,J	25	100/250	3500	0.52	280
MWSD1005C30N □ TM01	30	G,H,J	25	100/250	3300	0.58	270
MWSD1005C33N □ TM01	33	G,H,J	25	100/250	3200	0.63	260
MWSD1005C36N □ TM01	36	G,H,J	25	100/250	3100	0.63	260
MWSD1005C39N □ TM01	39	G,H,J	25	100/250	3000	0.70	250
MWSD1005C40N □ TM01	40	G,H,J	25	100/250	3000	0.70	250
MWSD1005C43N □ TM01	43	G,H,J	25	100/250	3000	0.70	250
MWSD1005C47N □ TM01	47	G,H,J	25	100/200	2900	1.08	210
MWSD1005C51N □ TM01	51	G,H,J	25	100/200	2850	1.08	210
MWSD1005C56N □ TM01	56	G,H,J	25	100/200	2800	1.17	200
MWSD1005C62N □ TM01	62	G,H,J	20	100/200	2600	1.82	145
MWSD1005C68N □ TM01	68	G,H,J	20	100/200	2500	1.96	140
MWSD1005C72N □ TM01	72	G,H,J	20	100/150	2500	2.10	135
MWSD1005C75N □ TM01	75	G,H,J	20	100/150	2400	2.10	135
MWSD1005C82N □ TM01	82	G,H,J	20	100/150	2300	2.24	130
MWSD1005C91N □ TM01	91	G,H,J	20	100/150	2100	2.38	125
MWSD1005CR10 □ TM01	100	G,H,J	20	100/150	1500	2.52	120
MWSD1005CR12 □ TM01	120	G,H,J	20	100/150	1000	2.66	110

## MWSD1005C-M11 TYPE

Part Number	Inductance	Tolerance	Min. Quality Factor	L/Q Test Freq.	Min.Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
Units	nH	-	-	MHz	MHz	$\Omega$	mA
Symbol	L	-	Q	Freq.	S.R.F	DCR	I <sub>r</sub>
MWSD1005C1N3 □ TM11	1.3	C,D	20	100/250	>6000	0.017	1200
MWSD1005C2N2 □ TM11	2.2	C,D	25	100/250	>6000	0.027	1000
MWSD1005C2N4 □ TM11	2.4	C,D	25	100/250	>6000	0.027	1000
MWSD1005C3N3 □ TM11	3.3	C,D	30	100/250	>6000	0.040	900
MWSD1005C3N4 □ TM11	3.4	C,D	30	100/250	>6000	0.040	900
MWSD1005C3N6 □ TM11	3.6	C,D	30	100/250	>6000	0.040	900
MWSD1005C3N9 □ TM11	3.9	C,D	30	100/250	>6000	0.040	900
MWSD1005C4N7 □ TM11	4.7	C,D	30	100/250	>6000	0.051	800
MWSD1005C5N1 □ TM11	5.1	D	30	100/250	>6000	0.051	800
MWSD1005C5N6 □ TM11	5.6	C,D	30	100/250	>6000	0.051	800

## SPECIFICATIONS MWSD1608C-M01 TYPE

Part Number	Inductance	Tolerance	Min. Quality Factor	L/Q Test Freq.	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
Units	nH	-	-	MHz	MHz	$\Omega$	mA
Symbol	L	-	Q	Freq.	S.R.F	DCR	I <sub>r</sub>
MWSD1608C2N2 □ TM01	2.2	D	16	100/250	6000	0.042	700
MWSD1608C3N6 □ TM01	3.6	C,D	25	100/250	6000	0.059	850
MWSD1608C3N9 □ TM01	3.9	C,D	35	100/250	6000	0.059	850
MWSD1608C4N3 □ TM01	4.3	C,D	35	100/250	6000	0.059	850
MWSD1608C4N7 □ TM01	4.7	D	35	100/250	6000	0.059	850
MWSD1608C5N6 □ TM01	5.6	C,D	35	100/250	6000	0.082	750
MWSD1608C6N2 □ TM01	6.2	C,D	35	100/250	6000	0.082	750
MWSD1608C6N8 □ TM01	6.8	C,D	35	100/250	6000	0.082	750
MWSD1608C7N5 □ TM01	7.5	C,D	35	100/250	6000	0.082	750
MWSD1608C8N2 □ TM01	8.2	C,D	35	100/250	6000	0.11	650
MWSD1608C8N7 □ TM01	8.7	C,D	35	100/250	6000	0.11	650
MWSD1608C9N1 □ TM01	9.1	C,D	35	100/250	6000	0.11	650
MWSD1608C9N5 □ TM01	9.5	D	35	100/250	6000	0.11	650
MWSD1608C10N □ TM01	10	G,J	35	100/250	6000	0.11	650
MWSD1608C11N □ TM01	11	G,J	35	100/250	6000	0.11	650
MWSD1608C12N □ TM01	12	G,J	35	100/250	6000	0.13	600
MWSD1608C13N □ TM01	13	G,J	35	100/250	6000	0.13	600
MWSD1608C15N □ TM01	15	G,J	40	100/250	5500	0.13	600
MWSD1608C16N □ TM01	16	G,J	40	100/250	5500	0.16	550
MWSD1608C18N □ TM01	18	G,J	40	100/250	5000	0.16	550
MWSD1608C20N □ TM01	20	G,J	40	100/250	4300	0.16	550
MWSD1608C22N □ TM01	22	G,J	40	100/250	3900	0.17	500
MWSD1608C24N □ TM01	24	G,J	40	100/250	3800	0.21	500
MWSD1608C27N □ TM01	27	G,J	40	100/250	3700	0.21	440
MWSD1608C30N □ TM01	30	G,J	40	100/250	3300	0.23	420
MWSD1608C33N □ TM01	33	G,J	40	100/250	3200	0.23	420
MWSD1608C36N □ TM01	36	G,J	40	100/250	2900	0.26	400
MWSD1608C39N □ TM01	39	G,J	40	100/250	2800	0.26	400
MWSD1608C43N □ TM01	43	G,J	40	100/200	2700	0.29	380
MWSD1608C47N □ TM01	47	G,J	38	100/200	2600	0.29	380
MWSD1608C51N □ TM01	51	G,J	38	100/200	2500	0.33	370
MWSD1608C56N □ TM01	56	G,J	38	100/200	2400	0.35	360
MWSD1608C62N □ TM01	62	G,J	38	100/200	2300	0.51	280
MWSD1608C68N □ TM01	68	G,J	38	100/200	2200	0.38	340
MWSD1608C72N □ TM01	72	G,J	34	100/150	2100	0.56	270
MWSD1608C75N □ TM01	75	G,J	34	100/150	2050	0.56	270
MWSD1608C82N □ TM01	82	G,J	34	100/150	2000	0.60	250
MWSD1608C91N □ TM01	91	G,J	34	100/150	1900	0.64	230
MWSD1608CR10 □ TM01	100	G,J	34	100/150	1800	0.68	220
MWSD1608CR11 □ TM01	110	G,J	32	100/150	1700	1.20	200
MWSD1608CR12 □ TM01	120	G,J	32	100/150	1600	1.30	180
MWSD1608CR13 □ TM01	130	G,J	32	100/150	1450	1.40	170
MWSD1608CR15 □ TM01	150	G,J	32	100/150	1400	1.50	160
MWSD1608CR16 □ TM01	160	G,J	32	100/150	1350	2.10	150
MWSD1608CR18 □ TM01	180	G,J	25	100/100	1300	2.20	140
MWSD1608CR20 □ TM01	200	G,J	25	100/100	1250	2.40	120
MWSD1608CR22 □ TM01	220	G,J	25	100/100	1200	2.50	120
MWSD1608CR27 □ TM01	270	G,J	30	100/100	960	3.40	110
MWSD1608CR33 □ TM01	330	G,J	30	100/100	800	5.50	85
MWSD1608CR39 □ TM01	390	G,J	30	100/100	800	6.20	80
MWSD1608CR47 □ TM01	470	G,J	30	100/100	700	7.00	75

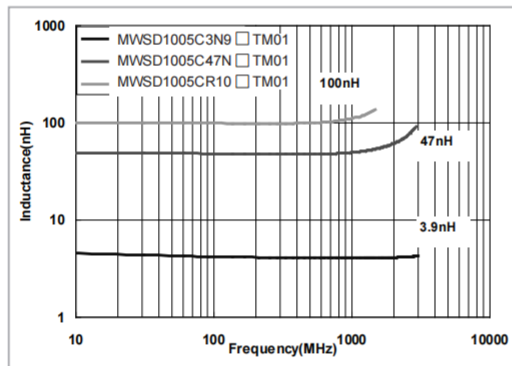
**SPECIFICATIONS** MWSD1608C-M11 TYPE

Part Number	Inductance	Tolerance	Min. Quality Factor	L/Q Test Freq.	Min.Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
Units	nH	-	-	MHz	MHz	$\Omega$	mA
Symbol	L	-	Q	Freq.	S.R.F	DCR	I <sub>r</sub>
MWSD1608C2N2 □ TM11	2.2	C,D	18	100/250	>6000	0.018	1400
MWSD1608C3N9 □ TM11	3.9	C,D	38	100/250	>6000	0.032	1000
MWSD1608C5N6 □ TM11	5.6	C,D	38	100/250	>6000	0.045	900
MWSD1608C6N8 □ TM11	6.8	C,D	38	100/250	>6000	0.045	900
MWSD1608C8N2 □ TM11	8.2	S,D	38	100/250	>6000	0.058	800
MWSD1608C10N □ TM11	10	G,J	38	100/250	5000	0.070	800
MWSD1608C12N □ TM11	12	G,J	38	100/250	5000	0.071	750
MWSD1608C15N □ TM11	15	G,J	42	100/250	4500	0.085	700
MWSD1608C18N □ TM11	18	G,J	42	100/250	3500	0.085	700
MWSD1608C22N □ TM11	22	G,J	42	100/250	3200	0.099	640
MWSD1608C27N □ TM11	27	G,J	42	100/250	2800	0.116	590
MWSD1608C33N □ TM11	33	J	42	100/250	2500	0.132	550

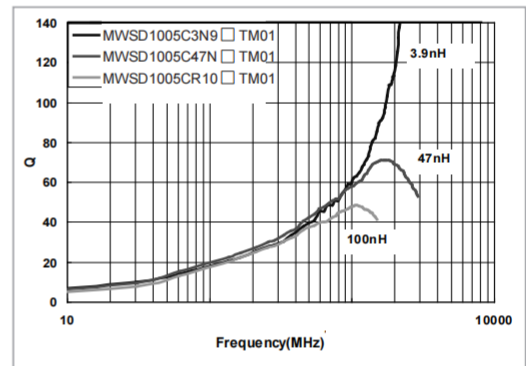
※: Please refer to "Measurement Notice for RF Inductors".

**TYPICAL ELECTRICAL CHARACTERISTICS**

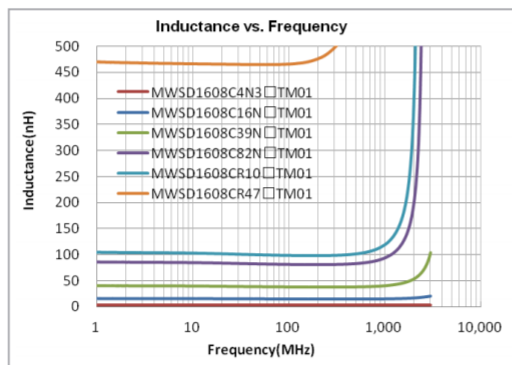
MWSD1005C-M TYPE  
Inductance vs. Frequency Characteristics



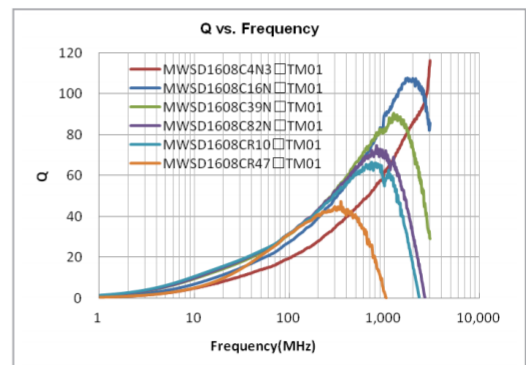
Q vs. Frequency Characteristics



MWSD1608C-M01 TYPE  
Inductance vs. Frequency Characteristics



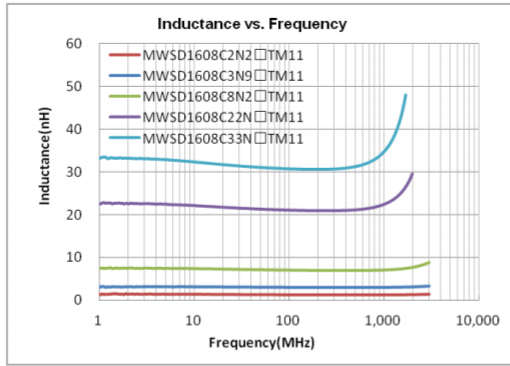
Q vs. Frequency Characteristics



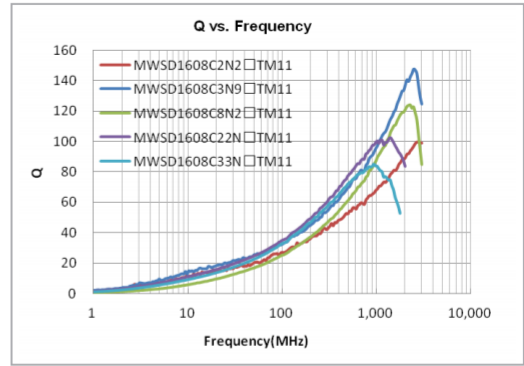
Multilayer Chip Ferrite Inductor  
Multilayer Chip Inductor for Choke  
Multilayer Chip Power Inductor  
Multilayer Ultra High Q Chip Ceramic Inductor  
Multilayer High Q Chip Ceramic Inductor  
Multilayer Chip Ceramic Inductor  
Multilayer High Frequency Chip Ceramic Inductor  
Wire Wound Chip Ferrite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

**DETAIL  
ELECTRICAL  
CHARACTERISTICS**

**MWSD1608C-M11 TYPE  
Inductance vs. Frequency Characteristics**



**Q vs. Frequency Characteristics**



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