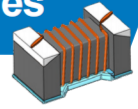


Wire Wound Chip Ferrite Inductor – MWSD – F Series



Operating Temp ◆ $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$

Features

- ◆ Small chip suitable for surface mounting
- ◆ Large inductance with ferrite material
- ◆ Single-sided package, thinner than WL-FS

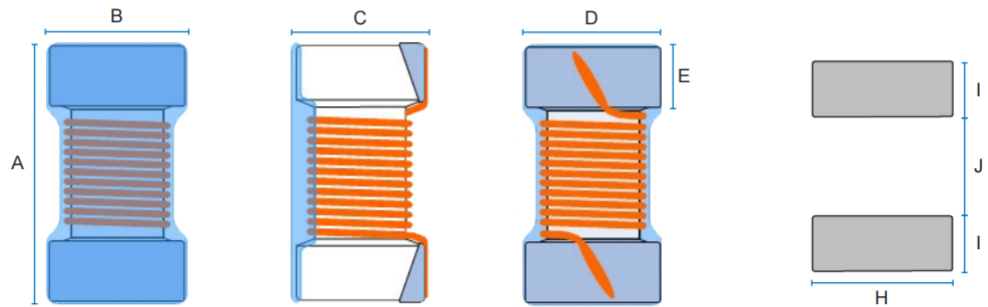
Applications

- ◆ Mobile phones, TWS headsets, smart watches and other portable devices

Product Identification

1	2	3	4	5	6	7
MWSD	1005	F	18N	J	T	□□□
1Type		2External Dimensions		3Material Code		
MWSD	Wire Wound Chip Inductor	0603 [0201]	0.53×0.4	F	Ferrite	
		0703 [026011]	0.76×0.43			
		1005 [0402]	1.0×0.5			
		1608 [0603]	1.6×0.8			
4Nominal Inductance		6Packing				
Example	Nominal Value	B Bulk Package				
1N0	1.0nH	T Tape & Reel				
10N	10nH					
R10	100nH					
1R0	1.0μH					
100	10μH					
		5Inductance Tolerance		7Design Code		
		J	±5%	□□□	Design Code	
		K	±10%	*Standard product is blank		
		M	±20%			

Shape and Dimensions



Unit: mm

Series	A	B	C	D Typ.	E	H Ref.	I Ref.	J Ref.
MWSD0603F	0.53 ± 0.05	0.40 ± 0.05	0.40 ± 0.05	0.39 ± 0.05	0.10 ± 0.05	0.50	0.20	0.23
MWSD0703F	0.76Max.	0.43Max.	0.57Max.	0.28 ± 0.05	0.13 ± 0.05	0.36	0.25	0.41
MWSD1005F	1.10 ± 0.1	0.60 ± 0.1	0.55 ± 0.1	0.50 ± 0.10	0.20 ± 0.10	0.65	0.35	0.50
MWSD1005F-M01	1.10 ± 0.1	0.60 ± 0.1	0.55 ± 0.1	0.50 ± 0.10	0.20 ± 0.10	0.65	0.35	0.50
MWSD1608F	1.6 ± 0.20	0.8 ± 0.20	0.8 ± 0.20	0.80	0.30	1.02	0.64	0.64
MWSD1608F-M01	1.6 ± 0.20	0.8 ± 0.20	0.8 ± 0.20	0.80	0.30	1.02	0.64	0.64
MWSD1608F-B01	1.6 ± 0.20	0.8 ± 0.20	0.7 ± 0.10	0.90	0.30	1.15	0.45	1.10
MWSD1608F-B02	1.6 ± 0.20	0.8 ± 0.20	0.80 ± 0.20	0.80	0.30	1.02	0.64	0.64
MWSD1608F-Y	1.6 ± 0.20	0.8 ± 0.20	0.80 ± 0.20	0.80	0.30	1.02	0.64	0.64

Specifications

MWSD0603F TYPE

Part Number	Inductance	Tolerance	L Test Freq.	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
Units	nH	-	MHz	MHz	Ω	mA
Symbol	L	-	Freq.	S.R.F	DCR	I _r
MWSD0603F33N □ T	33	K	7.9	3400	0.15	340
MWSD0603F51N □ T	51	K	7.9	2900	0.30	280
MWSD0603F68N □ T	68	K	7.9	2600	0.33	220
MWSD0603F91N □ T	91	K	7.9	2350	0.37	200
MWSD0603FR11 □ T	110	K	7.9	2100	0.48	170
MWSD0603FR14 □ T	140	K	7.9	2000	0.65	160
MWSD0603FR17 □ T	170	K	7.9	1850	0.86	140
MWSD0603FR20 □ T	200	K	7.9	1700	1.25	110

MWSD0703F TYPE

Part Number	Inductance	Tolerance	L Test Freq.	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
Units	nH	-	MHz	MHz	Ω	mA
Symbol	L	-	Freq.	S.R.F	DCR	I _r
MWSD0703F27N □ T	27	J	7.9	3900	0.11	480
MWSD0703F72N □ T	72	J	7.9	2600	0.40	210
MWSD0703FR10 □ T	100	J	7.9	2300	0.50	200
MWSD0703FR15 □ T	150	J	7.9	1800	0.60	190
MWSD0703FR27 □ T	270	J	7.9	1600	1.15	130
MWSD0703FR43 □ T	430	J	7.9	900	1.85	100
MWSD0703FR56 □ T	560	J	7.9	1000	2.80	90

MWSD1005F TYPE

Part Number	Inductance	Tolerance	L Test Freq.	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
Units	nH	-	MHz	MHz	Ω	mA
Symbol	L	-	Freq.	S.R.F	DCR	I _r
MWSD1005F20N □ T	20	J,K,M	7.9	2600	0.050	1600
MWSD1005F22N □ T	22	J,K,M	7.9	2500	0.065	1300
MWSD1005F33N □ T	33	J,K,M	7.9	2300	0.060	1400
MWSD1005F36N □ T	36	J,K,M	7.9	2300	0.075	1300
MWSD1005F39N □ T	39	J,K,M	7.9	2200	0.115	830
MWSD1005F51N □ T	51	J,K,M	7.9	1930	0.070	1100
MWSD1005F56N □ T	56	J,K,M	7.9	1900	0.095	1000
MWSD1005F72N □ T	72	J,K,M	7.9	1650	0.100	1000
MWSD1005F78N □ T	78	J,K,M	7.9	1600	0.130	970
MWSD1005F82N □ T	82	J,K,M	7.9	1600	0.130	970
MWSD1005F85N □ T	85	J,K,M	7.9	1600	0.130	970
MWSD1005F96N □ T	96	J	100	1100	0.160	730
MWSD1005FR10 □ T	100	J,K,M	7.9	1400	0.160	900
MWSD1005FR14 □ T	140	J,K,M	7.9	1220	0.260	630
MWSD1005FR18 □ T	180	J,K,M	7.9	1150	0.280	560
MWSD1005FR20 □ T	200	J,K,M	7.9	1000	0.440	400
MWSD1005FR22 □ T	220	J,K,M	7.9	1150	0.530	380
MWSD1005FR25 □ T	250	J,K,M	7.9	900	0.450	520
MWSD1005FR27 □ T	270	J,K,M	7.9	860	0.550	360
MWSD1005FR30 □ T	300	J,K,M	7.9	860	0.410	420
MWSD1005FR33 □ T	330	J,K,M	7.9	820	0.560	350
MWSD1005FR36 □ T	360	J,K,M	7.9	810	0.575	360

Specifications

MWSD1005F TYPE

Part Number	Inductance	Tolerance	L Test Freq.	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
Units	nH	-	MHz	MHz	Ω	mA
Symbol	L	-	Freq.	S.R.F	DCR	Ir
MWSD1005FR39 □ T	390	J,K,M	7.9	760	0.750	300
MWSD1005FR42 □ T	420	J,K,M	7.9	700	0.700	340
MWSD1005FR47 □ T	470	J,K,M	7.9	650	0.730	310
MWSD1005FR56 □ T	560	J,K,M	7.9	600	0.920	200
MWSD1005F1R0 □ T	1000	J,K,M	7.9	235	1.050	190
MWSD1005F1R5 □ T	1500	J,K,M	1.0	120	1.500	190
MWSD1005F1R8 □ T	1800	J,K,M	10.0	120	1.590	200
MWSD1005F2R0 □ T	2000	J,K,M	10.0	120	1.600	180
MWSD1005F2R2 □ T	2200	K,M	1.0	100	1.800	170

MWSD1005F-M01 TYPE

Part Number	Inductance	Tolerance	L Test Freq.	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
Units	nH	-	MHz	MHz	Ω	mA
Symbol	L	-	Freq.	S.R.F	DCR	Ir
MWSD1005F18N □ TM01	18	J,K,M	100	3000	0.046	1400
MWSD1005F20N □ TM01	20	J,K,M	100	3000	0.028	2200
MWSD1005F33N □ TM01	33	J,K,M	100	1800	0.065	1300
MWSD1005F34N □ TM01	34	J,K,M	100	2500	0.036	1800
MWSD1005F48N □ TM01	48	J,K,M	100	1400	0.078	1100
MWSD1005F53N □ TM01	53	J,K,M	100	2000	0.060	1300
MWSD1005F59N □ TM01	59	J,K,M	10	1700	0.095	1000
MWSD1005F68N □ TM01	68	J,K,M	100	1300	0.120	820
MWSD1005F70N □ TM01	70	J,K,M	100	1300	0.120	820
MWSD1005F77N □ TM01	77	J,K,M	100	2000	0.090	1100
MWSD1005F96N □ TM01	96	J,K,M	100	1100	0.160	730
MWSD1005FR11 □ TM01	106	J,K,M	100	1500	0.144	850
MWSD1005FR13 □ TM01	130	J,K,M	100	1000	0.230	640
MWSD1005FR14 □ TM01	140	J,K,M	100	1000	0.216	650
MWSD1005FR16 □ TM01	160	J,K,M	100	900	0.330	480
MWSD1005FR18 □ TM01	180	J,K,M	100	1000	0.312	560
MWSD1005FR20 □ TM01	200	J,K,M	100	800	0.470	390
MWSD1005FR22 □ TM01	220	J,K,M	100	1100	0.470	450
MWSD1005FR27 □ TM01	270	J,K,M	100	730	0.520	420
MWSD1005FR33 □ TM01	330	J,K,M	100	520	0.560	390
MWSD1005FR39 □ TM01	390	J,K,M	100	350	0.620	370
MWSD1005FR42 □ TM01	420	J,K,M	10	320	0.620	370
MWSD1005FR47 □ TM01	470	J,K,M	10	380	0.660	350
MWSD1005FR56 □ TM01	560	K,M	10	300	0.710	300
MWSD1005FR68 □ TM01	680	J,K,M	1	350	0.750	400
MWSD1005FR82 □ TM01	820	J,K,M	1	240	0.840	380
MWSD1005F1R0 □ TM01	1000	J,K,M	1	210	0.750	410
MWSD1005F1R5 □ TM01	1500	J,K,M	1	140	1.200	320
MWSD1005F2R2 □ TM01	2200	K,M	1	100	1.800	170
MWSD1005F3R3 □ TM01	3300	J,K,M	1	90	2.000	240
MWSD1005F4R7 □ TM01	4700	J,K,M	1	60	5.500	250

Specifications

MWSD1608F TYPE

Part Number	Inductance	Tolerance	L Test Freq.	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
Units	nH	-	MHz	MHz	Ω	mA
Symbol	L	-	Freq.	S.R.F	DCR	I _r
MWSD1608F47N □ T	47	J,K,M	7.9	2350	0.06	1200
MWSD1608F51N □ T	51	J,K,M	7.9	2300	0.07	1050
MWSD1608F56N □ T	56	J,K,M	7.9	2200	0.04	1850
MWSD1608FR10 □ T	100	K,M	7.9	1370	0.11	850
MWSD1608FR12 □ T	120	J,K,M	7.9	1340	0.18	670
MWSD1608FR18 □ T	180	J,K,M	7.9	1060	0.19	670
MWSD1608FR20 □ T	200	J,K,M	7.9	1030	0.14	740
MWSD1608FR22 □ T	220	J,K,M	7.9	850	0.20	650
MWSD1608FR27 □ T	270	J,K,M	7.9	780	0.24	630
MWSD1608FR33 □ T	330	J,K,M	7.9	730	0.29	510
MWSD1608FR39 □ T	390	J,K,M	7.9	750	0.33	490
MWSD1608FR47 □ T	470	J,K,M	7.9	670	0.37	470
MWSD1608FR50 □ T	500	J,K,M	7.9	610	0.45	410
MWSD1608FR56 □ T	560	J,K,M	7.9	590	0.51	380
MWSD1608FR62 □ T	620	J,K,M	7.9	570	0.48	390
MWSD1608FR65 □ T	650	J,K,M	7.9	550	0.61	350
MWSD1608FR68 □ T	680	J,K,M	7.9	520	0.77	310
MWSD1608FR78 □ T	780	J,K,M	7.9	480	0.83	300
MWSD1608FR82 □ T	820	J,K,M	7.9	540	0.75	320
MWSD1608FR100 □ T	1000	J,K,M	7.9	410	0.94	280
MWSD1608FR120 □ T	1200	J,K,M	7.9	370	1.10	260
MWSD1608FR680 □ T	6800	J,K,M	7.9	40	4.00	130
MWSD1608FR780 □ T	7800	J,K,M	7.9	40	4.40	120
MWSD1608FR820 □ T	8200	J,K,M	7.9	40	4.50	110
MWSD1608FR1000 □ T	10000	J,K,M	2.5	30	5.00	100
MWSD1608FR1500 □ T	15000	J,K,M	2.5	20	9.50	90
MWSD1608FR1800 □ T	18000	J,K,M	2.5	20	10.40	80
MWSD1608FR2200 □ T	22000	J,K,M	2.5	20	11.40	70

MWSD1608F-M01 TYPE

Part Number	Inductance	Tolerance	L Test Freq.	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
Units	nH	-	MHz	MHz	Ω	mA
Symbol	L	-	Freq.	S.R.F	DCR	I _r
MWSD1608F4N9 □ TM01	4.9	M	10	2300	0.015	2600
MWSD1608F15N □ TM01	15	J,K,M	10	2000	0.025	2200
MWSD1608F32N □ TM01	32	J,K,M	10	1800	0.030	2000
MWSD1608F33N □ TM01	33	J,K,M	10	1800	0.035	1700
MWSD1608F55N □ TM01	55	J,K,M	10	1600	0.045	1500
MWSD1608F85N □ TM01	85	J,K,M	10	1380	0.060	1400
MWSD1608FR10 □ TM01	100	K,M	10	1260	0.100	1000
MWSD1608FR12 □ TM01	120	J,K,M	10	1200	0.085	1100
MWSD1608FR16 □ TM01	160	J,K,M	10	900	0.100	1000
MWSD1608FR21 □ TM01	210	J,K,M	10	720	0.150	800
MWSD1608FR27 □ TM01	270	J,K,M	10	660	0.160	750
MWSD1608FR33 □ TM01	330	J,K,M	10	600	0.250	630
MWSD1608FR39 □ TM01	390	J,K,M	10	570	0.280	620
MWSD1608FR47 □ TM01	470	J,K,M	10	555	0.450	500
MWSD1608FR56 □ TM01	560	J,K,M	10	540	0.480	450
MWSD1608FR65 □ TM01	650	J,K,M	10	510	0.520	430

Specifications

MWSD1608F-B01 TYPE

Part Number	Inductance	Tolerance	L Test Freq.	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
Units	nH	-	MHz	MHz	Ω	mA
Symbol	L	-	Freq.	S.R.F	DCR	Ir
MWSD1608F1R8 □ TB01	1800	J,K,M	7.9	190	1.40	230
MWSD1608F4R7 □ TB01	4700	J,K,M	7.9	50	2.70	160
MWSD1608F100 □ TB01	10000	J,K,M	2.5	30	5.00	100
MWSD1608F150 □ TB01	15000	J,K,M	10	20	4.00	100
MWSD1608F220 □ TB01	22000	J,K,M	2.5	20	11.40	70
MWSD1608F470 □ TB01	47000	J,K,M	2.5	11	24.00	50

MWSD1608F-B02 TYPE

Part Number	Inductance	Tolerance	L Test Freq.	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
Units	nH	-	MHz	MHz	Ω	mA
Symbol	L	-	Freq.	S.R.F	DCR	Ir
MWSD1608F3R3 □ TB02	3300	J,K,M	7.9	60	1.80	200

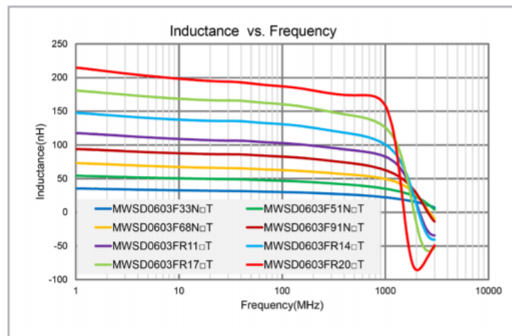
MWSD1608F-Y TYPE

Part Number	Inductance	Tolerance	L Test Freq.	Min. Self-resonant Frequency	Max. DC Resistance	Max. Rated Current
Units	nH	-	MHz	MHz	Ω	mA
Symbol	L	-	Freq.	S.R.F	DCR	Ir
MWSD1608FR30 □ TY01	300	J,K,M	7.9	800	0.38	470
MWSD1608F120 □ TY01	12000	J,K,M	2.5	25	5.40	110
MWSD1608F150 □ TY01	15000	J,K,M	2.5	20	7.00	100
MWSD1608F150 □ TY04	15000	J,K,M	2.5	20	7.00	120

Typical Electrical Characteristics

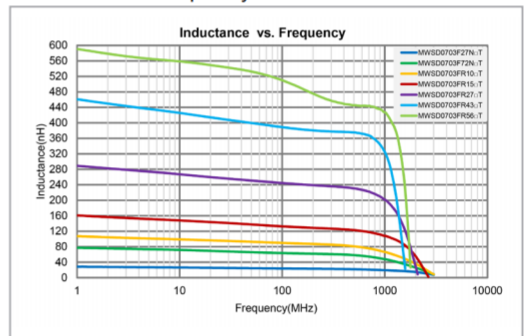
MWSD0603F TYPE

Inductance vs. Frequency Characteristics



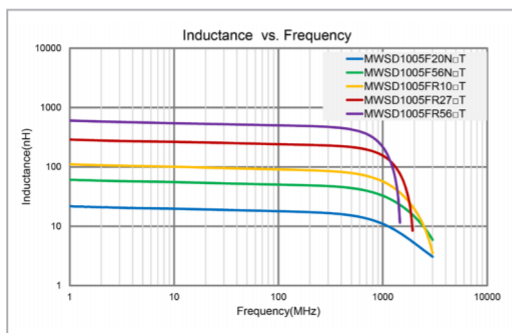
MWSD0703F TYPE

Inductance vs. Frequency Characteristics

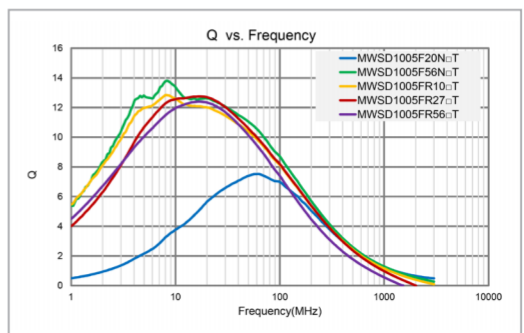


MWSD1005F TYPE

Inductance vs. Frequency Characteristics



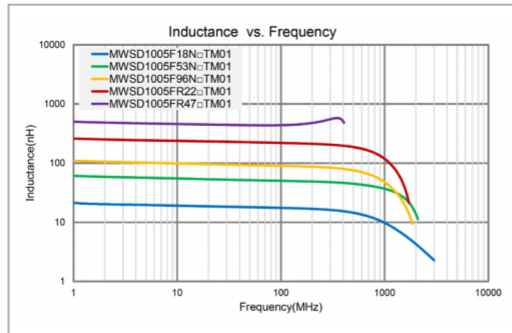
Q vs. Frequency Characteristics



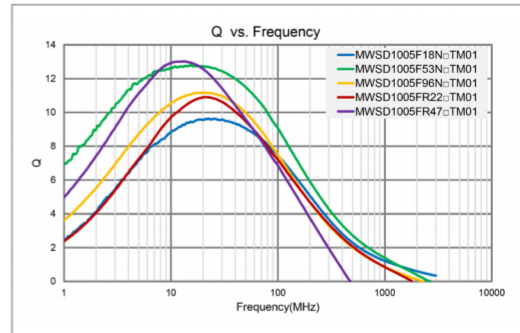
Typical Electrical Characteristics

MWSD1005F-M01 TYPE

Inductance vs. Frequency Characteristics

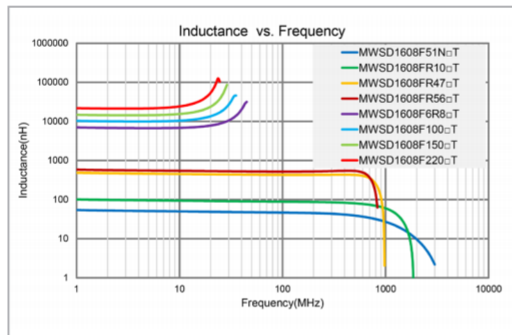


Q vs. Frequency Characteristics



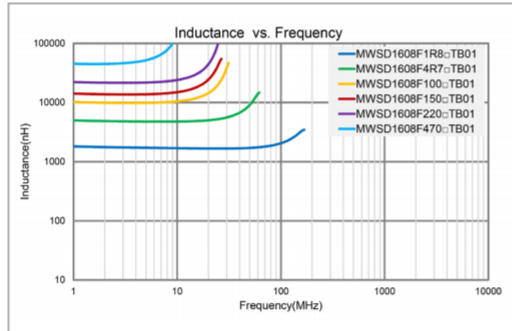
MWSD1608F TYPE

Inductance vs. Frequency Characteristics



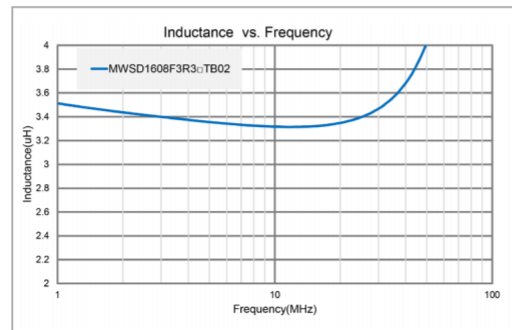
MWSD1608F-B01 TYPE

Inductance vs. Frequency Characteristics



MWSD1608F-B02 TYPE

Inductance vs. Frequency Characteristics



Typical
Electrical
Characteristics

MWSD1608F-Y TYPE
Inductance vs. Frequency Characteristics

