

Wire Wound Chip Inductor Ferrite



**RoHS
Compliant**



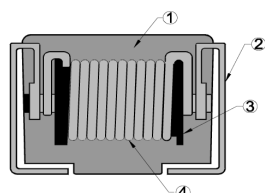
Features:

- Very strong solderability by flow soldering, soldering iron or wave soldering
- Highly accurate dimensions, can be mounted automatically
- Terminals are highly resistant to pull forces
- Highly resistant to mechanical shocks and pressure
- Highly reliable in environments of sudden temperature change and humidity. Super Q characteristics

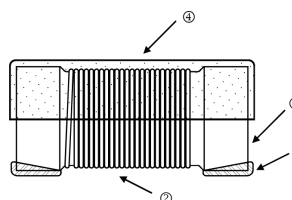
Applications:

Micro Televisions, Liquid Crystal Televisions, Video Cameras, Portable VCRs, Car Radios, Car Stereos, Thin Tape Radios, Television Tuners, Mobile Telephones, Radio and Other Electronic Devices

Construction:



1. Molded resin
2. Electrode (Tinned Copper Wire)
3. Ferrite core
4. Magnet wire



1. Ferrite core
2. Magnet wire
3. Electrode (Ag/Pd+Ni+Sn)
4. UV Glue

Dimensions:

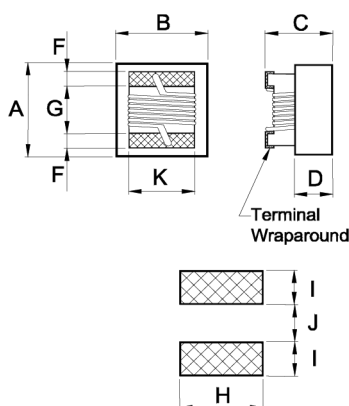


Figure 1

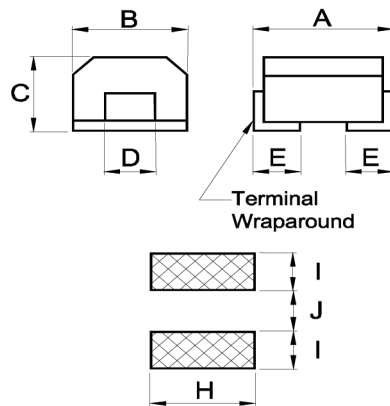


Figure 2

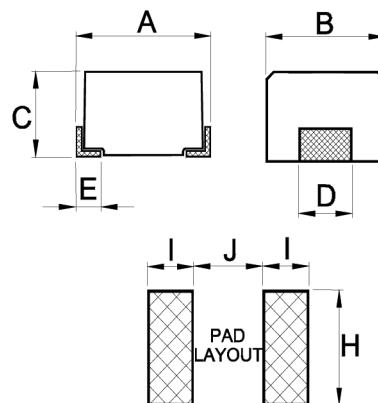


Figure 3

Size (In)	Fig.	A	B	C	D	E	F	G	H	I	J	K	Weight (g) (1000pcs)
0805	1	2.4 max	1.71 max	1.45 max	0.65	-	0.44	1.02	1.78	1.02	0.76	1.27	14
1008	1	2.92 max	2.79 max	2.1 max	1.2	-	0.45	1.52	2.54	1.02	1.27	2.03	30
1210	2	3.2±0.4	2.5±0.2	2.2 ±0.2	1±0.2	0.6 -0/+0.3	-	-	1.4	1	1.8	-	40
1812	2	4.5±0.3	3.2±0.2	3.2 ±0.2	1.2	1 -0/+0.3	-	-	1.6	1.5	2.2	-	160

Dimensions : Millimetres

www.element14.com
www.farnell.com
www.newark.com



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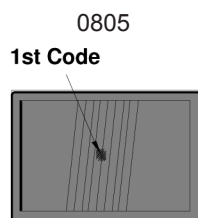


Colour Coding:

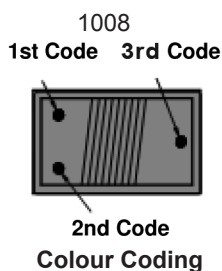
0805 / 1008 Type

Because of small sizes, these parts are marked with a single colour dot.

The inductance value represented by the dot is shown on the data page for each type.



Colour Coding



Standard Electrical Specifications:

0805 Wire Wound Chip Inductors (Ferrite / Open Type) / Standard Type

Part Number	Inductance (μH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.	Colour Code
MCFT000152	0.15	±5, ±10%	20	25.2	900	0.18	1100	Gray
MCFT000153	0.22	±5, ±10%	20	25.2	550	0.25	700	Brown
MCFT000154	0.33	±5, ±10%	20	25.2	550	0.35	650	Orange
MCFT000155	0.47	±5, ±10%	20	25.2	350	0.45	600	Green
MCFT000156	0.68	±5, ±10%	20	25.2	300	0.6	500	Violet
MCFT000157	1	±5, ±10%	15	7.96	280	0.8	450	White
MCFT000158	1.5	±5, ±10%	15	7.96	250	1.05	350	Brown
MCFT000159	2.2	±5, ±10%	15	7.96	110	1.1	320	Orange
MCFT000160	3.3	±5, ±10%	15	7.96	60	1.5	300	Green
MCFT000161	4.7	±5, ±10%	15	7.96	45	2.1	200	Violet
MCFT000162	6.8	±5, ±10%	15	7.96	36	2.7	200	White
MCFT000163	10	±5, ±10%	10	2.52	30	4.5	180	Brown

Standard Electrical Specifications:

1008 Wire Wound Chip Inductors (Ferrite / Open Type) / Standard Type

Part Number	Inductance (μH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.	Colour Code		
MCFT000165	0.22	±5, ±10%	27	25.2	600	0.4	880	Red	Red	Brown
MCFT000166	0.33	±5, ±10%	30	25.2	400	0.42	900	Orange	Orange	Brown
MCFT000167	0.47	±5, ±10%	30	25.2	350	0.5	900	Yellow	Violet	Brown

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Part Number	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.	Colour Code		
MCFT000168	0.68	±5, ±10%	30	25.2	300	0.55	800	Blue	Gray	Brown
MCFT000169	1	±5, ±10%	25	7.96	245	0.6	600	Brown	Black	Red
MCFT000170	1.5	±5, ±10%	25	7.96	182	0.85	550	Brown	Green	Red
MCFT000171	2.2	±5, ±10%	25	7.96	105	1.1	500	Red	Red	Red
MCFT000172	3.3	±5, ±10%	25	7.96	55	1.37	350	Orange	Orange	Red
MCFT000173	4.7	±5, ±10%	25	7.96	43	1.68	300	Yellow	Violet	Red
MCFT000174	6.8	±5, ±10%	25	7.96	39	1.85	300	Blue	Gray	Red
MCFT000175	10	±5, ±10%	20	2.52	33	2.32	250	Brown	Black	Orange
MCFT000176	15	±5, ±10%	15	2.52	24	3.42	200	Brown	Green	Orange
MCFT000177	22	±5, ±10%	15	2.52	18	5.12	180	Red	Red	Orange
MCFT000178	33	±5, ±10%	15	2.52	16	6.44	120	Orange	Orange	Orange
MCFT000179	47	±5, ±10%	14	2.52	13	9.94	110	Yellow	Violet	Orange
MCFT000180	68	±5, ±10%	14	2.52	8	12.8	90	Blue	Gray	Orange
MCFT000181	100	±5, ±10%	8	1	7	19.6	120	Brown	Black	Yellow

Standard Electrical Specifications:

1210 Wire Wound Chip Inductors (Ferrite / Open Type) / Standard Type

Part Number	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
MCFT000182	1	±10%	30	7.96	120	0.7	400
MCFT000183	1.5	±10%	30	7.96	85	0.85	370
MCFT000184	2.2	±10%	30	7.96	75	1	320
MCFT000185	3.3	±10%	30	7.96	60	1.2	260
MCFT000186	4.7	±10%	30	7.96	50	1.5	220
MCFT000187	6.8	±10%	30	7.96	40	1.8	180
MCFT000187	10	±10%	30	2.52	30	2.1	150
MCFT000189	15	±10%	30	2.52	20	2.8	130
MCFT000190	22	±10%	30	2.52	20	3.7	110
MCFT000191	33	±10%	30	2.52	17	5.6	70
MCFT000191	47	±10%	30	2.52	15	7	60
MCFT000193	68	±10%	30	2.52	12	9	50
MCFT000194	100	±10%	20	0.796	10	10	40
MCFT000195	150	±10%	20	0.796	8	15	65

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Standard Electrical Specifications:

1812 Wire Wound Chip Inductors (Ferrite / Open Type) / Standard Type

Part Number	Inductance (μ H)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
MCFT000197	1	$\pm 10\%$	50	7.96	100	0.5	450
MCFT000198	1.5	$\pm 10\%$	50	7.96	70	0.6	410
MCFT000199	2.2	$\pm 10\%$	50	7.96	55	0.7	380
MCFT000200	3.3	$\pm 10\%$	50	7.96	45	0.8	355
MCFT000201	4.7	$\pm 10\%$	50	7.96	35	1	315
MCFT000202	6.8	$\pm 10\%$	50	7.96	27	1.2	285
MCFT000203	10	$\pm 10\%$	50	2.52	20	1.6	250
MCFT000204	15	$\pm 10\%$	50	2.52	17	2.5	200
MCFT000205	22	$\pm 10\%$	50	2.52	13	3.2	180
MCFT000206	33	$\pm 10\%$	50	2.52	11	4	160
MCFT000207	47	$\pm 10\%$	50	2.52	10	5	140
MCFT000208	68	$\pm 10\%$	50	2.52	9	6	130
MCFT000209	100	$\pm 10\%$	40	0.796	8	8	110
MCFT000210	150	$\pm 10\%$	40	0.796	5	9	105
MCFT000211	220	$\pm 10\%$	40	0.796	4	10	100
MCFT000212	330	$\pm 10\%$	30	0.796	3.5	15	85
MCFT000213	470	$\pm 10\%$	30	0.796	3	26	62
MCFT000214	680	$\pm 10\%$	30	0.796	3	30	50

Low Profile Electrical Specifications:

0805 Wound Chip Inductors (Ferrite / Open Type) / Low Profile Type

Part Number	Inductance (μ H)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
MCFT000157	1	$\pm 5, \pm 10\%$	15	L: 7.96 / Q: 25.2	115	0.9	450
MCFT000160	3.3	$\pm 5, \pm 10\%$	13	7.96	70	1.4	450
MCFT000161	4.7	$\pm 5, \pm 10\%$	15	7.96	65	1.9	400
MCFT000162	6.8	$\pm 5, \pm 10\%$	15	7.96	41	2.4	400
MCFT000163	10	$\pm 5, \pm 10\%$	14	7.96	31	2.7	400

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Large Current Electrical Specifications:

0805 Wound Chip Inductors (Ferrite / Open Type) / Large Current Type

Part Number	Inductance (µH)	Tolerance	Q typ.	Test Freq. (MHz)	SRF (MHz) typ.	DCR (Ω) max.	IDC (mA) max.	Colour Code
MCFT000155	0.47	±10, ±20%	14	25.2	850	0.156	1,400	Blue
MCFT000156	0.68	±10, ±20%	14	25.2	765	0.195	1,200	Gray
MCFT000157	1	±10, ±20%	14	7.96	208	0.169	1,100	Black
MCFT000158	1.5	±10, ±20%	14	7.96	159	0.221	920	Brown
MCFT000159	2.2	±10, ±20%	13	7.96	87	0.286	740	Red
MCFT000160	3.3	±10, ±20%	12	7.96	70	0.364	620	Orange
MCFT000161	4.7	±10, ±20%	14	7.96	51	0.559	520	Yellow
MCFT000162	6.8	±10, ±20%	14	7.96	46	0.884	420	Green
MCFT000163	10	±5, ±10, ±20%	14	2.52	31	1.105	360	Blue

Large Current Electrical Specifications:

1008 Wound Chip Inductors (Ferrite / Open Type) / Large Current Type

Part Number	Inductance (µH)	Tolerance	Q typ.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.	Colour Code		
								1st	2nd	3rd
MCFT000165	0.22	±5, ±10%	35	25.2	800	0.15	2600	Red	Red	Brown
MCFT000167	0.47	±10%	35	25.2	460	0.2	2400	Yellow	Violet	Brown
MCFT000168	0.68	±5, ±10%	35	25.2	400	0.3	1700	Blue	Gray	Brown
MCFT000169	1	±10%	22	7.96	245	0.35	800	Brown	Black	Red
MCFT000170	1.5	±5, ±10%	25	7.96	182	0.45	550	Brown	Green	Red
MCFT000171	2.2	±5, ±10%	22	7.96	105	0.6	500	Red	Red	Red
MCFT000172	3.3	±5, ±10%	22	7.96	55	0.75	450	Orange	Orange	Red
MCFT000173	4.7	±5, ±10%	22	7.96	45	0.9	400	Yellow	Violet	Red
MCFT000174	6.8	±5, ±10%	22	7.96	40	1.05	400	Blue	Gray	Red
MCFT000175	10	±5, ±10%	20	2.52	35	1.55	300	Brown	Black	Orange
MCFT000176	15	±5, ±10%	20	2.52	24	2.38	250	Brown	Green	Orange
MCFT000177	22	±5, ±10%	20	2.52	18	2.92	200	Red	Red	Orange
MCFT000178	33	±5, ±10%	20	2.52	16	4.1	180	Orange	Orange	Orange
MCFT000179	47	±5, ±10%	23	2.52	17	7.8	350	Yellow	Violet	Orange
MCFT000181	100	±5, ±10%	13	1	4	13.2	200	Brown	Black	Yellow

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1210 Wire Wound Chip Inductors (Ferrite / Molding Type) / Large Current Type

Part Number	Inductance (μH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
MCFT000182	1	±20%	10	7.96	100	0.156	770
MCFT000183	1.5	±20%	10	7.96	80	0.195	580
MCFT000184	2.2	±20%	10	7.96	65	0.26	480
MCFT000184	3.3	±20%	10	7.96	55	0.325	400
MCFT000186	4.7	±20%	10	7.96	45	0.52	320
MCFT000187	6.8	±20%	10	7.96	35	0.65	280
MCFT000188	10	±10%	15	2.52	28	1.105	220
MCFT000189	15	±10%	15	2.52	25	1.69	180
MCFT000190	22	±10%	15	2.52	20	2.6	145
MCFT000191	33	±10%	15	2.52	15	3.64	115
MCFT000192	47	±10%	20	2.52	13	5.46	105
MCFT000193	68	±10%	20	2.52	10	8.45	85
MCFT000194	100	±10%	20	0.796	8	10.14	75

Large Current Electrical Specifications:

1812 Wound Chip Inductors (Ferrite / Open Type) / Large Current Type

Codes	Inductance (μH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
MCFT000197	1	±10%	10	7.96	200	0.11	1,050
MCFT000198	1.5	±10%	10	7.96	130	0.15	950
MCFT000199	2.2	±10%	10	7.96	80	0.18	850
MCFT000200	3.3	±10%	10	7.96	45	0.22	750
MCFT000201	4.7	±10%	10	7.96	35	0.27	650
MCFT000202	6.8	±10%	10	7.96	28	0.35	600
MCFT000203	10	±10%	10	2.52	22	0.5	550
MCFT000204	15	±10%	10	2.52	20	0.7	450
MCFT000205	22	±10%	10	2.52	18	0.9	370
MCFT000206	33	±10%	10	2.52	14	1.4	300
MCFT000207	47	±10%	10	2.52	11.5	1.9	260
MCFT000208	68	±10%	10	2.52	10	2.6	220
MCFT000209	100	±10%	20	0.796	8	4	180
MCFT000210	150	±10%	20	0.796	7	6.5	140
MCFT000211	220	±10%	20	0.796	5.5	9	120
MCFT000212	330	±10%	20	0.796	4	13	90
MCFT000213	470	±10%	20	0.796	3.5	26	75
MCFT000214	680	±10%	20	0.796	2.6	40	65

Wire Wound Chip Inductor Ferrite



Environmental Characteristics:

Electrical Performance Test

Item	Requirement	Test Method
Inductance	Refer to standard electrical characteristic spec.	HP4291 or HP4284
Q		HP4291 or HP4284
SRF		HP4291
DC Resistance DCR		Agilent 34401A
Rated Current IDC		Applied the current to coils, The inductance change should be less than 10% to initial value

Mechanical Performance Test

Item	Requirement	Test Method
Solderability	The electrodes shall be at least 90% covered with new solder coating	Lead-free inductor: after fluxing(alpha 100 or equiv), inductor shall be dipped in a melted solder bath at 245±5°C, 5±0.5 seconds
Resistance to Soldering Heat	Appearance: No damage	Pre-heating: 150°C, 1min. Solder Temperature: 260±5°C Immersion Time: 10±1 seconds
Vibration	Appearance: No damage L change: within±10% Q change: within±30% DCR: within specification	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1 min. Amplitude: 1.5mm Time: 2 hrs for each axis (X, Y & Z), total 6 hrs

Climatic Test

Item	Requirement	Test Method															
Temperature Cycle	Appearance: No damage L change: within±10% Q change: within±30% DCR: within specification	One cycle: <table><tr><th>Step</th><th>Temperature (°C)</th><th>Time (min.)</th></tr><tr><td>1</td><td>-25±3</td><td>30</td></tr><tr><td>2</td><td>25±2</td><td>3</td></tr><tr><td>3</td><td>85±3</td><td>30</td></tr><tr><td>4</td><td>25±2</td><td>3</td></tr></table>	Step	Temperature (°C)	Time (min.)	1	-25±3	30	2	25±2	3	3	85±3	30	4	25±2	3
Step		Temperature (°C)	Time (min.)														
1		-25±3	30														
2		25±2	3														
3		85±3	30														
4	25±2	3															
Damp Heat with Load	Total: 100 cycles Measured after exposure in the room condition for 24hrs																
High Temperature Storage	Temperature: 40±2°C Relative Humidity: 90 to 95%; Time: 1,000hrs Measured after exposure in the room condition for 24hrs																
Low Temperature Storage	Temperature: 85±3°C Applied Current: Rated Current Time: 1,000hrs Measured after exposure in the room condition for 24hrs																
		Temperature: -25±3°C Time: 1,000hrs Measured after exposure in the room condition for 24hrs															

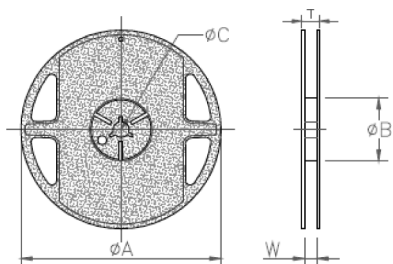
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Storage Temperature : 25±3°C; Humidity <80%RH
Operating Temperature Range : -40°C to +85°C

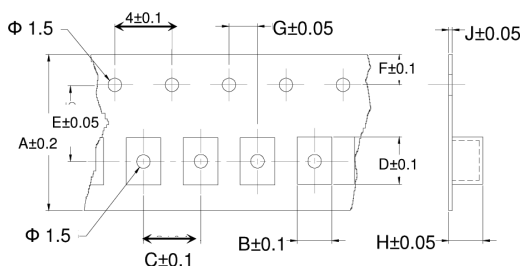
Packaging:

Packaging Quantity & Reel Specifications



Type	A	B	C	W	T	Quantity (EA)
MCNL05	178±2	60±0.5	13±0.3	9±0.3	12±1	2,000
MCNL08	178±2	60±0.5	13±0.3	9±0.3	12±1	2,000
MCNL10	178±2	60±0.5	13±0.3	9±0.3	12±1	2,000
MCNL12	178±2	80±0.5	13±0.3	13.2±0.3	16±1	500

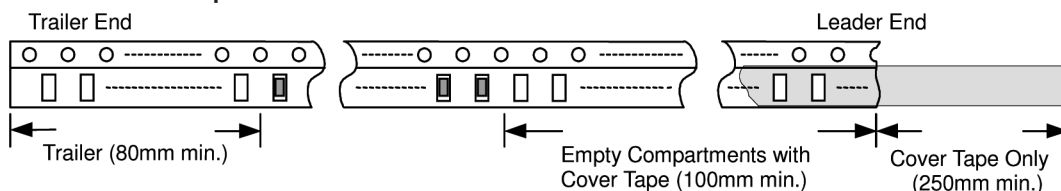
Embossed Plastic Tape Specifications:



Type	A	B	C	D	E	F	G	H	J
MCNL05	8	1.85	4	2.55	3.5	1.75	2	1.45	0.23
MCNL08	8	2.8	4	2.95	3.5	1.75	2	2.22	0.23
MCNL10	8	2.96	4	3.6	3.5	1.75	2	2.4	0.23
MCNL12	12	3.3	8	5	5.5	1.75	2	3.5	0.3

Dimensions : Millimetres

Leader / Trailer Tape:



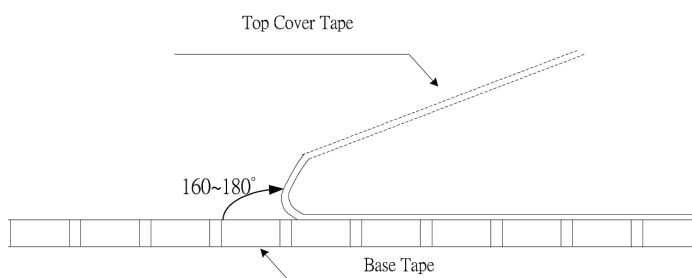
Cover Tape Peel Strength:

The force for tearing off cover tape is 0.1 to 0.6 (N) in the arrow direction at the following conditions:

Temperature : 5°C to 35°C

Humidity : 45% to 85%

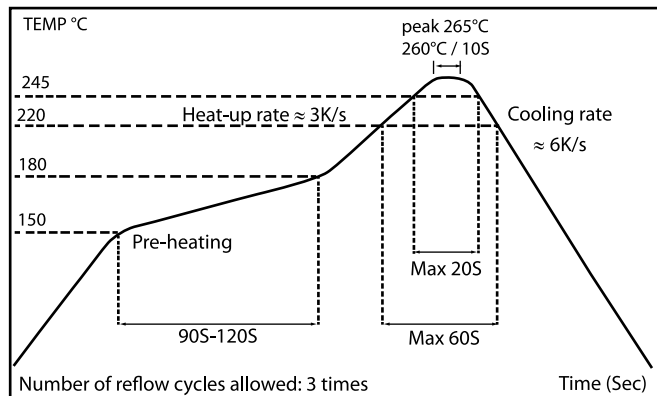
Atmospheric pressure : 860 to 1,060hpa



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Reflow:



Part Number Table

Description	Part Number
Inductor, Ferrite, 0805, 0.15 μ H	MCFT000152
Inductor, Ferrite, 0805, 0.22 μ H	MCFT000153
Inductor, Ferrite, 0805, 0.33 μ H	MCFT000154
Inductor, Ferrite, 0805, 0.47 μ H	MCFT000155
Inductor, Ferrite, 0805, 0.68 μ H	MCFT000156
Inductor, Ferrite, 0805, 1 μ H	MCFT000157
Inductor, Ferrite, 0805, 1.5 μ H	MCFT000158
Inductor, Ferrite, 0805, 2.2 μ H	MCFT000159
Inductor, Ferrite, 0805, 3.3 μ H	MCFT000160
Inductor, Ferrite, 0805, 4.7 μ H	MCFT000161
Inductor, Ferrite, 0805, 6.8 μ H	MCFT000162
Inductor, Ferrite, 0805, 10 μ H	MCFT000163
Inductor, Ferrite, 1008, 0.22 μ H	MCFT000165
Inductor, Ferrite, 1008, 0.33 μ H	MCFT000166
Inductor, Ferrite, 1008, 0.47 μ H	MCFT000167
Inductor, Ferrite, 1008, 0.68 μ H	MCFT000168
Inductor, Ferrite, 1008, 1 μ H	MCFT000169
Inductor, Ferrite, 1008, 1.5 μ H	MCFT000170
Inductor, Ferrite, 1008, 2.2 μ H	MCFT000171
Inductor, Ferrite, 1008, 3.3 μ H	MCFT000172
Inductor, Ferrite, 1008, 4.7 μ H	MCFT000173
Inductor, Ferrite, 1008, 6.8 μ H	MCFT000174
Inductor, Ferrite, 1008, 10 μ H	MCFT000175

Description	Part Number
Inductor, Ferrite, 1008, 15 μ H	MCFT000176
Inductor, Ferrite, 1008, 22 μ H	MCFT000177
Inductor, Ferrite, 1008, 33 μ H	MCFT000178
Inductor, Ferrite, 1008, 47 μ H	MCFT000179
Inductor, Ferrite, 1008, 68 μ H	MCFT000180
Inductor, Ferrite, 1008, 100 μ H	MCFT000181
Inductor, Ferrite, 1210, 1 μ H	MCFT000182
Inductor, Ferrite, 1210, 1.5 μ H	MCFT000183
Inductor, Ferrite, 1210, 2.2 μ H	MCFT000184
Inductor, Ferrite, 1210, 3.3 μ H	MCFT000185
Inductor, Ferrite, 1210, 4.7 μ H	MCFT000186
Inductor, Ferrite, 1210, 6.8 μ H	MCFT000187
Inductor, Ferrite, 1210, 10 μ H	MCFT000188
Inductor, Ferrite, 1210, 15 μ H	MCFT000189
Inductor, Ferrite, 1210, 22 μ H	MCFT000190
Inductor, Ferrite, 1210, 33 μ H	MCFT000191
Inductor, Ferrite, 1210, 47 μ H	MCFT000192
Inductor, Ferrite, 1210, 68 μ H	MCFT000193
Inductor, Ferrite, 1210, 100 μ H	MCFT000194
Inductor, Ferrite, 1210, 150 μ H	MCFT000195
Inductor, Ferrite, 1812, 1 μ H	MCFT000197
Inductor, Ferrite, 1812, 1.5 μ H	MCFT000198
Inductor, Ferrite, 1812, 2.2 μ H	MCFT000199

Wire Wound Chip Inductor Ferrite



Description	Part Number
Inductor, Ferrite, 1812, 3.3 μ H	MCFT000200
Inductor, Ferrite, 1812, 4.7 μ H	MCFT000201
Inductor, Ferrite, 1812, 6.8 μ H	MCFT000202
Inductor, Ferrite, 1812, 10 μ H	MCFT000203
Inductor, Ferrite, 1812, 15 μ H	MCFT000204
Inductor, Ferrite, 1812, 22 μ H	MCFT000205
Inductor, Ferrite, 1812, 33 μ H	MCFT000206
Inductor, Ferrite, 1812, 47 μ H	MCFT000207

Description	Part Number
Inductor, Ferrite, 1812, 68 μ H	MCFT000208
Inductor, Ferrite, 1812, 100 μ H	MCFT000209
Inductor, Ferrite, 1812, 150 μ H	MCFT000210
Inductor, Ferrite, 1812, 220 μ H	MCFT000211
Inductor, Ferrite, 1812, 330 μ H	MCFT000212
Inductor, Ferrite, 1812, 470 μ H	MCFT000213
Inductor, Ferrite, 1812, 680 μ H	MCFT000214

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