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CMCL Series

Multilayer Chip Ferrite Inductor

◆ Features

1、Monolithic structure for high reliability
2、Compact size inductor possible
3、No cross coupling due to magnetic shield
4、Perfect shape for mounting with no directionality
5、Excellent solderability and high heat resistance for reflow soldering or wave soldering
6、RoHS Compliant.

◆ Application

Widely use in Communications, Video and audio equipment, Computer, Remote control, etc.

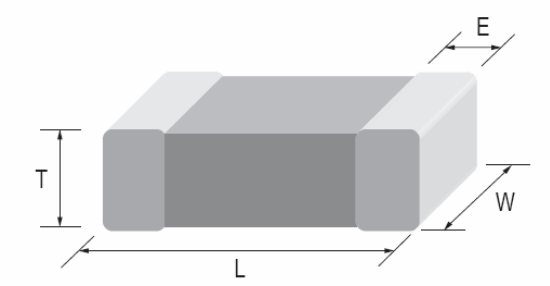
◆ PRODUCT IDENTIFICATION

CMCL	1608	S	1R0	M	S	P
(1)	(2)	(3)	(4)	(5)	(6)	(7)

(1) Series Type
(2) Chip Size（mm）:Length X Width
(3) Material Code
(4) Inductance：47N=0.047μH；R10=0.10μH
1R0=1.0μH；100=10μH
(5) Inductance Tolerance：K=±10%, M=±20%
(6) Company Code
(7) Packaging:P–Embossed paper tape, 7" reel
E- Embossed plastic tape, 7" reel

◆ Dimensions Unit: mm

Size(EIA)	1005 (0402)	1608 (0603)	2012 (0805)	3216 (1206)
L	1.00±0.10	1.60±0.150	2.00±0.20	3.20±0.20
W	0.50±0.10	0.80±0.150	1.25±0.20	1.60±0.20
T	0.50±0.10	0.80±0.150	0.90±0.20	1.10±0.20
E	0.25±0.10	0.30±0.20	0.50±0.30	0.50±0.30



◆Specifications

Part Number	Inductance (μH)	Min. Quality Factor (Q)	L, Q Test Freq.L/Q Freq. (MHz)	Min.Self-resonant Frequency S.R.F(MHz)	Max. DC Resistance DCR(Ω)	Max. Rated Current Ir(mA)
CMCL1005 Series						
CMCL1005L47NKSP	0.047	10	50	220	0.45	25
CMCL1005L68NKSP	0.068	10	50	210	0.45	25
CMCL1005L82NKSP	0.082	10	50	200	0.45	25
CMCL1005LR10KSP	0.10	10	25	200	0.8	25
CMCL1005LR12KSP	0.12	10	25	165	0.8	25
CMCL1005LR15KSP	0.15	10	25	140	0.9	25
CMCL1005LR18KSP	0.18	10	25	120	0.9	25
CMCL1005LR22KSP	0.22	10	25	110	1.2	25
CMCL1005LR27KSP	0.27	15	25	95	1.2	25
CMCL1005LR33KSP	0.33	15	25	85	1.25	18
CMCL1005QR39KSP	0.39	20	10	85	0.6	15
CMCL1005QR47KSP	0.47	20	10	80	0.7	15
CMCL1005QR56KSP	0.56	20	10	75	0.8	15
CMCL1005QR68KSP	0.68	20	10	70	0.9	15
CMCL1005QR82KSP	0.82	20	10	65	0.9	15
CMCL1005Q1R0KSP	1.0	20	10	40	0.9	15
CMCL1005Q1R2KSP	1.2	20	10	35	1.2	15
CMCL1005Q1R5KSP	1.5	20	10	30	1.2	15
CMCL1005Q1R8KSP	1.8	20	10	30	1.45	15
CMCL1005Q2R2KSP	2.2	20	10	28	1.7	10
CMCL1005Q2R7KSP	2.7	20	10	28	2.4	10
CMCL1005Q3R3KSP	3.3	20	10	28	2.7	10
CMCL1608 Series						
CMCL1608L47NKSP	0.047	10	50	260	0.3	50
CMCL1608L68NKSP	0.068	10	50	250	0.3	50
CMCL1608L82NKSP	0.082	10	50	245	0.3	50
CMCL1608LR10KSP	0.10	15	25	240	0.5	50
CMCL1608LR12KSP	0.12	15	25	205	0.5	50
CMCL1608LR15KSP	0.15	15	25	180	0.6	50
CMCL1608LR18KSP	0.18	15	25	165	0.6	50
CMCL1608LR22KSP	0.22	15	25	150	0.8	50
CMCL1608LR27KSP	0.27	15	25	136	0.8	50
CMCL1608LR33KSP	0.33	15	25	125	0.85	35
CMCL1608LR39KSP	0.39	15	25	110	1	35

◆Specifications

Part Number	Inductance (μH)	Min. Quality Factor (Q)	L, Q Test Freq.L/Q Freq. (MHz)	Min.Self-resonant Frequency S.R.F(MHz)	Max. DC Resistance DCR(Ω)	Max. Rated Current Ir(mA)
CMCL1608 Series						
CMCL1608LR47KSP	0.47	15	25	105	1.35	35
CMCL1608LR56KSP	0.56	15	25	95	1.55	35
CMCL1608LR68KSP	0.68	15	25	90	1.7	35
CMCL1608LR82KSP	0.82	15	25	85	2.1	35
CMCL1608Q1R0KSP	1.0	35	10	75	0.6	25
CMCL1608Q1R1KSP	1.1	35	10	75	0.6	25
CMCL1608Q1R2KSP	1.2	35	10	65	0.8	25
CMCL1608Q1R5KSP	1.5	35	10	60	0.8	25
CMCL1608Q1R8KSP	1.8	35	10	55	0.95	25
CMCL1608Q2R2KSP	2.2	35	10	50	1.15	15
CMCL1608Q2R7KSP	2.7	35	10	45	1.35	15
CMCL1608Q3R3KSP	3.3	35	10	40	1.55	15
CMCL1608Q3R9KSP	3.9	35	10	35	1.7	15
CMCL1608Q4R7KSP	4.7	35	10	33	2.1	15
CMCL1608S5R6KSP	5.6	35	4	22	1.55	5
CMCL1608S6R8KSP	6.8	35	4	20	1.7	5
CMCL1608S8R2KSP	8.2	35	4	18	2.1	5
CMCL1608S100KSP	10	30	2	17	1.85	3
CMCL1608S120KSP	12	30	2	15	2.1	3
CMCL1608T150KSP	15	20	1	14	1.7	1
CMCL1608T180KSP	18	20	1	13	1.85	1
CMCL1608T220KSP	22	20	1	11	2.1	1
CMCL1608T270KSP	27	20	1	10	2.75	1
CMCL1608T330KSP	33	20	1	9	2.95	1
CMCL2012 Series						
CMCL2012L47NKSP	0.047	15	50	320	0.2	300
CMCL2012L68NKSP	0.068	15	50	280	0.2	300
CMCL2012L82NKSP	0.082	15	50	255	0.2	300
CMCL2012LR10KSP	0.10	20	25	235	0.3	250
CMCL2012LR12KSP	0.12	20	25	220	0.3	250
CMCL2012LR15KSP	0.15	20	25	200	0.4	250
CMCL2012LR18KSP	0.18	20	25	185	0.4	250
CMCL2012LR22KSP	0.22	20	25	170	0.5	250
CMCL2012LR27KSP	0.27	20	25	150	0.5	250
CMCL2012LR33KSP	0.33	20	25	145	0.55	250

◆Specifications

Part Number	Inductance (μH)	Min. Quality Factor (Q)	L, Q Test Freq.L/Q Freq. (MHz)	Min.Self-resonant Frequency S.R.F(MHz)	Max. DC Resistance DCR(Ω)	Max. Rated Current Ir(mA)
CMCL2012 Series						
CMCL2012LR39KSP	0.39	25	25	135	0.65	200
CMCL2012LR47KSP	0.47	25	25	125	0.65	200
CMCL2012LR56KSP	0.56	25	25	115	0.75	150
CMCL2012LR68KSP	0.68	25	25	105	0.8	150
CMCL2012LR82KSP	0.82	25	25	100	1	150
CMCL2012Q1R0KSP	1.0	45	10	75	0.4	50
CMCL2012Q1R1KSP	1.1	45	10	65	0.5	50
CMCL2012Q1R2KSP	1.2	45	10	65	0.5	50
CMCL2012Q1R5KSP	1.5	45	10	60	0.5	50
CMCL2012Q1R8KSP	1.8	45	10	55	0.6	50
CMCL2012Q2R2KSP	2.2	45	10	50	0.65	30
CMCL2012Q2R4KSP	2.4	45	10	47	0.7	30
CMCL2012Q2R7KSP	2.7	45	10	45	0.75	30
CMCL2012Q3R3KSP	3.3	45	10	41	0.8	30
CMCL2012Q3R9KSP	3.9	45	10	38	0.9	30
CMCL2012Q4R7KSP	4.7	45	10	35	1	30
CMCL2012S5R6KSP	5.6	50	4	32	0.9	15
CMCL2012S6R8KSP	6.8	50	4	29	1	15
CMCL2012S8R2KSP	8.2	50	4	26	1.1	15
CMCL2012S100KSP	10	50	2	24	1.15	15
CMCL2012S120KSP	12	50	2	22	1.25	15
CMCL2012T150KSP	15	30	1	19	0.8	5
CMCL2012T180KSP	18	30	1	18	0.9	5
CMCL2012T220KSP	22	30	1	16	1.1	5
CMCL2012T270KSP	27	30	1	14	1.15	5
CMCL2012T330KSP	33	30	0.4	13	1.25	5
CMCL2012T390KSP	39	35	2	8	2.9	4
CMCL2012T470KSP	47	35	2	7.5	3.0	4
CMCL2012T560KSP	56	35	2	7.0	3.1	4
CMCL2012T680KSP	68	25	1	6.5	2.9	2
CMCL2012T820KSP	82	25	1	6.0	3.0	2
CMCL2012T101KSP	100	25	1	5.5	3.1	2

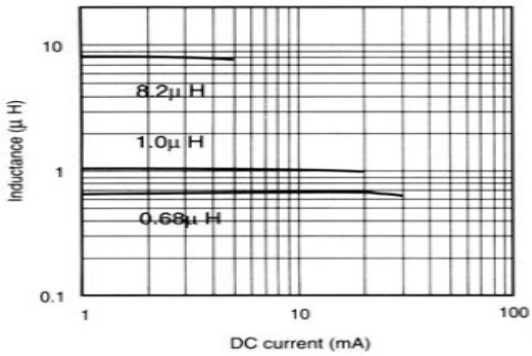
◆Specifications

Part Number	Inductance (μH)	Min. Quality Factor (Q)	L, Q Test Freq.L/Q Freq. (MHz)	Min.Self-resonant Frequency S.R.F(MHz)	Max. DC Resistance DCR(Ω)	Max. Rated Current Ir(mA)
CMCL3216 Series						
CMCL3216L47NKSP	0.047	20	50	320	0.15	300
CMCL3216L68NKSP	0.068	20	50	280	0.25	300
CMCL3216LR10KSP	0.10	20	25	235	0.25	250
CMCL3216LR12KSP	0.12	20	25	220	0.3	250
CMCL3216LR15KSP	0.15	20	25	200	0.3	250
CMCL3216LR18KSP	0.18	20	25	185	0.4	250
CMCL3216LR22KSP	0.22	20	25	170	0.4	250
CMCL3216LR27KSP	0.27	20	25	150	0.5	250
CMCL3216LR33KSP	0.33	20	25	145	0.5	250
CMCL3216LR39KSP	0.39	25	25	135	0.5	200
CMCL3216LR47KSP	0.47	25	25	125	0.6	200
CMCL3216LR56KSP	0.56	25	25	115	0.7	150
CMCL3216LR68KSP	0.68	25	25	105	0.8	150
CMCL3216LR82KSP	0.82	25	25	100	0.9	150
CMCL3216Q1R0KSP	1.0	45	10	75	0.4	100
CMCL3216Q1R2KSP	1.2	45	10	65	0.5	100
CMCL3216Q1R5KSP	1.5	45	10	60	0.5	50
CMCL3216Q1R8KSP	1.8	45	10	55	0.5	50
CMCL3216Q2R2KSP	2.2	45	10	50	0.6	50
CMCL3216Q2R7KSP	2.7	45	10	45	0.6	50
CMCL3216Q3R3KSP	3.3	45	10	41	0.7	50
CMCL3216Q3R9KSP	3.9	45	10	38	0.8	50
CMCL3216Q4R7KSP	4.7	45	10	35	0.9	50
CMCL3216S5R6KSP	5.6	50	4	32	0.7	25
CMCL3216S6R8KSP	6.8	50	4	29	0.8	25
CMCL3216S8R2KSP	8.2	50	4	26	0.9	25
CMCL3216S100KSP	10	50	2	24	1	25
CMCL3216S120KSP	12	50	2	22	1.05	15
CMCL3216T150KSP	15	35	1	19	0.7	5
CMCL3216T180KSP	18	35	1	18	0.7	5
CMCL3216T220KSP	22	35	1	16	0.9	5
CMCL3216T270KSP	27	35	1	14	0.9	5
CMCL3216T330KSP	33	35	0.4	13	1.05	5
CMCL3216T390KSP	39	40	2	11	3	5
CMCL3216T470KSP	47	40	2	10	3.4	5

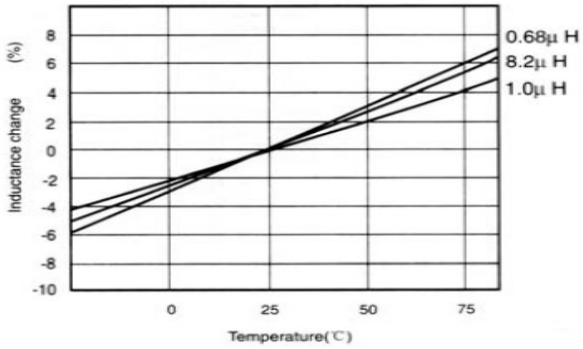
◆TYPICAL ELECTRICAL CHARACTERISTICS

CMCL1005 Series

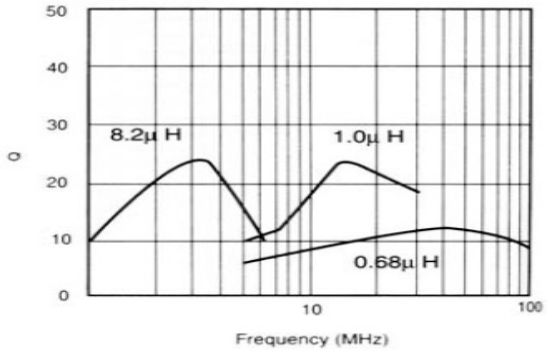
Inductance vs. DC Current Characteristics



Inductance vs. Temperature Characteristics

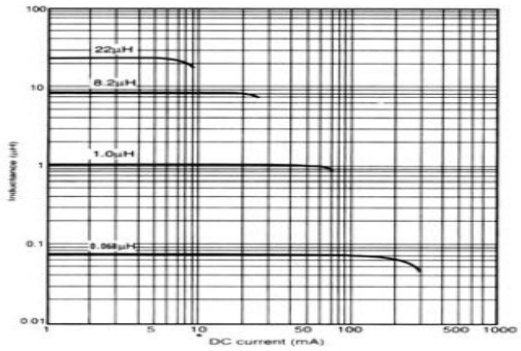


Q vs. Frequency Characteristics

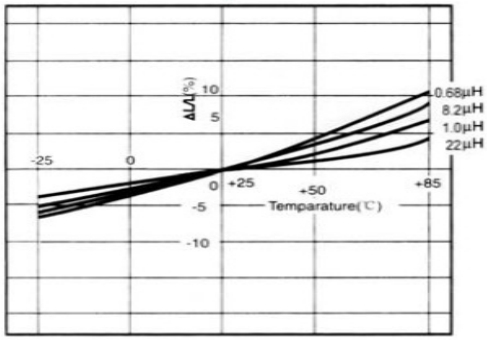


CMCL1608 Series

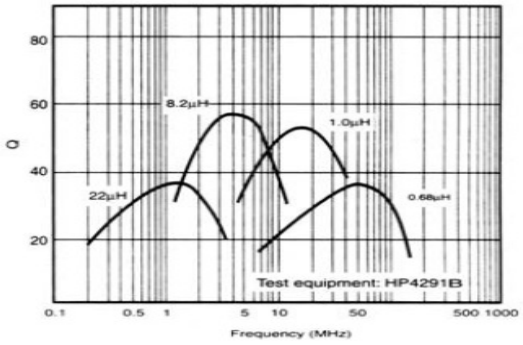
Inductance vs. DC Current Characteristics



Inductance vs. Temperature Characteristics



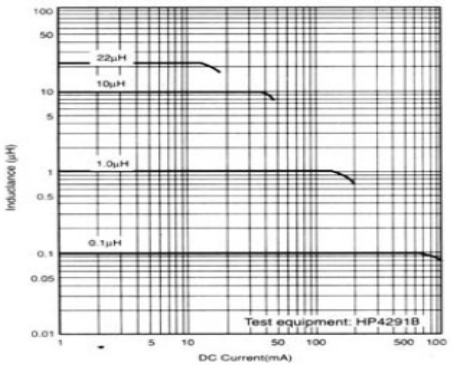
Q vs. Frequency Characteristics



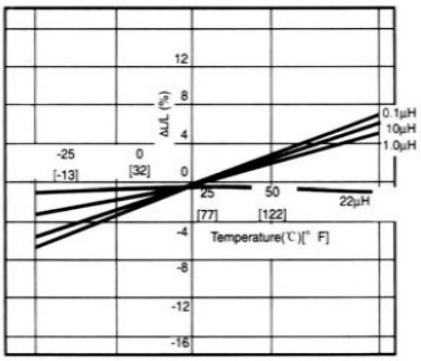
◆ TYPICAL ELECTRICAL CHARACTERISTICS

CMCL2012 Series

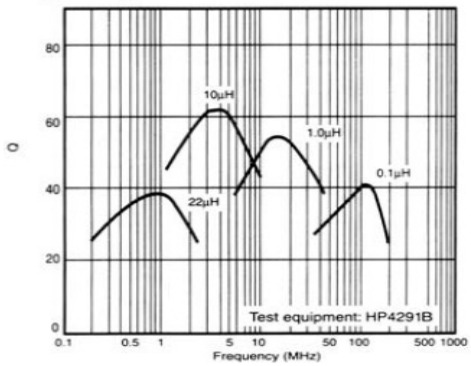
Inductance vs. DC Current Characteristics



Inductance vs. Temperature Characteristics

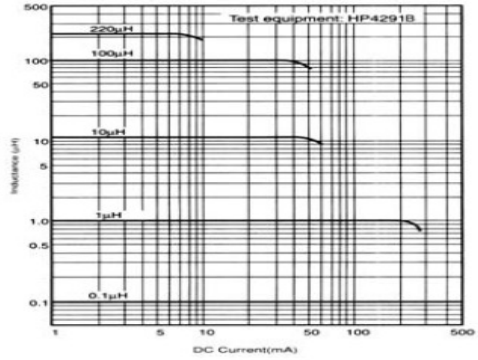


Q vs. Frequency Characteristics

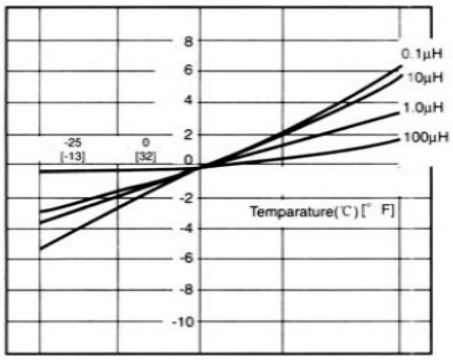


CMCL3216 Series

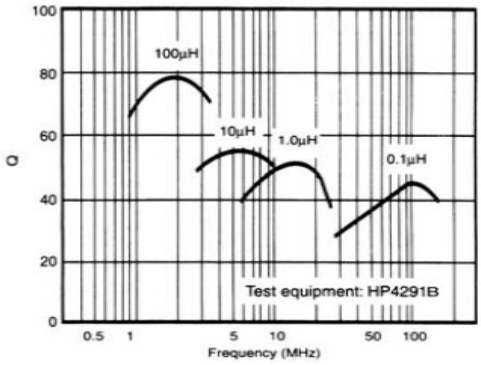
Inductance vs. DC Current Characteristics



Inductance vs. Temperature Characteristics



Q vs. Frequency Characteristics



◆ Package

Size EIA (EIA)	1005 (0402)	1608 (0603)	2012 (0805)	3216(1206)
Standard Packing Quantity (pcs / reel)	10,000	4,000	4,000	4,000