

CM Series



Due to accurate wire winding technology, these chip inductors are designed for filtering impedance matching, resonance and choke circuits for RF designer. Both standard series and custom designs are available.

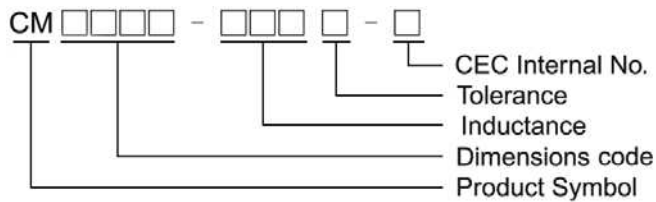
Features

- RoHS Compliant
- Ceramic body and wire wound construction provide high SRFs
- Exceptional Q value even at high frequencies
- Ceramic construction delivers the highest possible SRFs as well as high Q value
- Low DC resistance design supports low loss, high output and low power consumption
- CM series is standard for RF designers

Applications

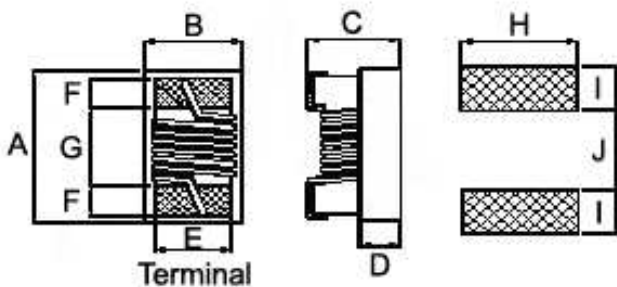
- RF products for cellular phone
- GPS receiver
- Base Station
- Repeater
- Wireless LAN/ mouse/ keyboard/ earphone
- Remote control
- Security system and other RF modules

Product Identification

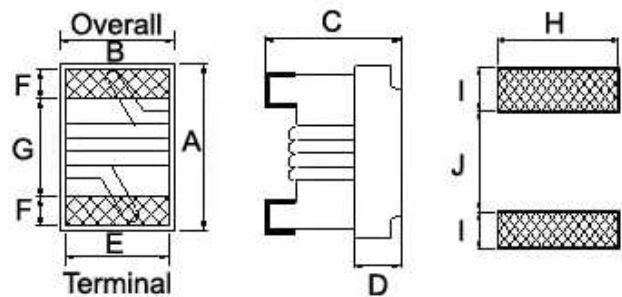


Shape and Dimensions / Recommended Pattern

CM0402



CM0603



Dimensions

		A Max	B Max	C Max	D	E	F	G	H	I	J
CM0402	mm	1.05 ± 0.05	0.60 ± 0.05	0.5 ± 0.05	0.25	0.40	0.20	0.54	0.56	0.36	0.46
	inch	0.071	0.044	0.040	0.016	0.028	0.012	0.037	0.040	0.021	0.033
CM0603	mm	1.80	1.12	1.02	0.40	0.70	0.30	0.95	1.02	0.54	0.84
	inch	0.071	0.044	0.040	0.016	0.028	0.012	0.037	0.040	0.021	0.033

SMD Wire Wound Ceramic Chip Inductors - CM Series

Electrical Characteristics

Part Number	Inductance (nH)	Test Frequency (MHz)	Tolerance (±%)	Q Min	Test Frequency (MHz)	SRF (GHz) Min	Rdc (Ω) Max	Irms (mA) Max
CM0402-1N5□-N	1.5	100	±0.1nH/±0.2nH/±0.5nH	10	250	18.0	0.03	1000
CM0402-2N4□-N	2.4	100	±0.1nH/±0.2nH/±0.5nH	20	250	15.0	0.05	850
CM0402-2N5□-N	2.5	100	±0.1nH/±0.2nH/±0.5nH	20	250	15.0	0.05	850
CM0402-2N7□-N	2.7	100	±0.1nH/±0.2nH/±0.5nH	20	250	15.0	0.05	850
CM0402-2N9□-N	2.9	100	±0.1nH/±0.2nH/±0.5nH	20	250	15.0	0.07	750
CM0402-3N9□-N	3.9	100	3 / 5	25	250	10.0	0.07	750
CM0402-4N1□-N	4.1	100	3 / 5	25	250	10.0	0.07	750
CM0402-4N3□-N	4.3	100	3 / 5	25	250	10.0	0.07	750
CM0402-4N7□-N	4.7	100	3 / 5	25	250	8.0	0.07	750
CM0402-5N1□-N	5.1	100	3 / 5	25	250	8.0	0.12	600
CM0402-5N8□-N	5.8	100	3 / 5	25	250	8.0	0.12	700
CM0402-6N2□-N	6.2	100	3 / 5	25	250	8.0	0.09	700
CM0402-6N8□-N	6.8	100	3 / 5	25	250	6.0	0.09	700
CM0402-7N3□-N	7.3	100	3 / 5	25	250	6.0	0.13	570
CM0402-7N5□-N	7.5	100	3 / 5	25	250	6.0	0.13	570
CM0402-8N2□-N	8.2	100	3 / 5	25	250	5.5	0.14	540
CM0402-8N7□-N	8.7	100	3 / 5	25	250	5.5	0.14	540
CM0402-9N1□-N	9.1	100	3 / 5	25	250	5.5	0.14	540
CM0402-9N5□-N	9.5	100	3 / 5	25	250	5.5	0.14	540
CM0402-10N□-N	10	100	2 / 3 / 5	25	250	5.5	0.17	500
CM0402-11N□-N	11	100	2 / 3 / 5	30	250	5.5	0.14	500
CM0402-12N□-N	12	100	2 / 3 / 5	30	250	5.5	0.14	500
CM0402-13N□-N	13	100	2 / 3 / 5	25	250	5.0	0.21	430
CM0402-15N□-N	15	100	2 / 3 / 5	30	250	5.0	0.16	460
CM0402-16N□-N	16	100	2 / 3 / 5	25	250	4.5	0.24	370
CM0402-18N□-N	18	100	2 / 3 / 5	25	250	4.5	0.27	370
CM0402-19N□-N	19	100	2 / 3 / 5	25	250	4.5	0.27	370
CM0402-20N□-N	20	100	2 / 3 / 5	25	250	4.0	0.27	370
CM0402-22N□-N	22	100	2 / 3 / 5	25	250	4.0	0.30	310
CM0402-23N□-N	23	100	2 / 3 / 5	25	250	3.8	0.30	310
CM0402-24N□-N	24	100	2 / 3 / 5	25	250	3.5	0.52	280
CM0402-27N□-N	27	100	2 / 3 / 5	25	250	3.5	0.52	280
CM0402-30N□-N	30	100	2 / 3 / 5	25	250	3.3	0.58	270
CM0402-33N□-N	33	100	2 / 3 / 5	25	250	3.2	0.63	260
CM0402-36N□-N	36	100	2 / 3 / 5	25	250	3.1	0.63	260
CM0402-39N□-N	39	100	2 / 3 / 5	25	250	3.0	0.70	250
CM0402-40N□-N	40	100	2 / 3 / 5	25	250	3.0	0.70	250
CM0402-47N□-N	47	100	2 / 3 / 5	25	200	2.9	1.08	210
CM0402-51N□-N	51	100	2 / 3 / 5	25	200	2.85	1.08	210
CM0402-56N□-N	56	100	2 / 3 / 5	25	200	2.80	1.17	200
CM0402-62N□-N	62	100	2 / 3 / 5	20	200	2.60	1.82	145

- When ordering, please specify tolerance and packaging codes.
- Tolerance : G = ±2% , H = ±2% , J = ±5% , B = ±0.1nH , C = ±0.2nH , D = ±0.5nH
- L , Q : Agilent E4991A + Agilent HP16197A
- SRF : Agilent/HP8753D / Agilent/HP8722ES
- Rdc : Chroma16502
- Irms for a 15°C rise above 25°C ambient.
- Operating temperature range from -40°C to 125°C. (Including self - temperature rise)

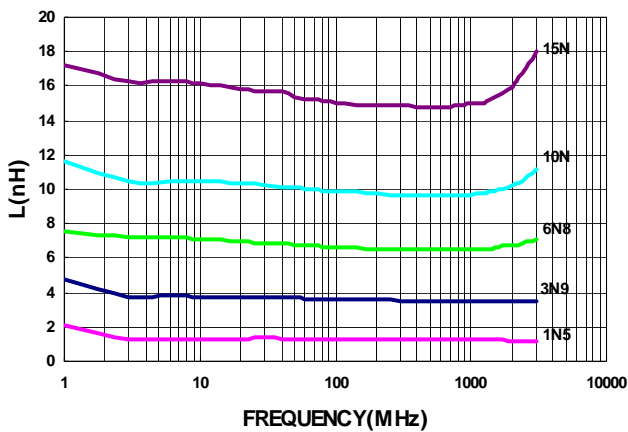
SMD Wire Wound Ceramic Chip Inductors - CM Series

Electrical Characteristics

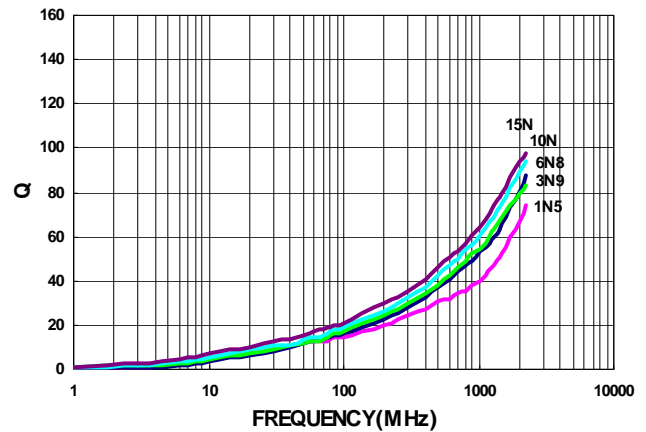
Part Number	Inductance (nH)	Test Frequency (MHz)	Tolerance (±%)	Q Min	Test Frequency (MHz)	SRF (GHz) Min	Rdc (Ω) Max	Irms (mA) Max
CM0402-68N□-N	68	100	2 / 3 / 5	20	200	2.50	1.96	140
CM0402-72N□-N	72	100	2 / 3 / 5	20	150	2.50	2.10	135
CM0402-75N□-N	75	100	2 / 3 / 5	20	150	2.40	2.10	135
CM0402-82N□-N	82	100	2 / 3 / 5	20	150	2.30	2.24	130
CM0402-91N□-N	91	100	2 / 3 / 5	20	150	2.10	2.38	125
CM0402-R10□-N	100	100	2 / 3 / 5	20	150	1.50	2.52	120
CM0402-R12□-N	120	100	2 / 3 / 5	20	150	1.00	2.66	110

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- L , Q : Agilent E4991A + Agilent HP16197A
- SRF : Agilent/HP8753D / Agilent/HP8722ES
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Typical L vs. Frequency



Typical Q vs. Frequency



SMD Wire Wound Ceramic Chip Inductors - CM Series

Electrical Characteristics

Part Number	Inductance (nH)	Test Frequency (MHz)	Tolerance (±%)	Q Min	Test Frequency (MHz)	SRF (GHz) Min	Rdc (Ω) Max	Irms (mA) Max
CM0603-2N2□-N	2.2	100	±0.1nH±0.2nH±0.5nH	16	250	6.0	0.049	700
CM0603-3N6□-N	3.6	100	3 / 5	25	250	6.0	0.059	850
CM0603-3N9□-N	3.9	100	3 / 5	35	250	6.0	0.059	850
CM0603-4N3□-N	4.3	100	3 / 5	35	250	6.0	0.059	850
CM0603-4N7□-N	4.7	100	3 / 5	35	250	6.0	0.059	850
CM0603-5N6□-N	5.6	100	3 / 5	35	250	6.0	0.082	750
CM0603-6N2□-N	6.2	100	3 / 5	35	250	6.0	0.082	750
CM0603-6N8□-N	6.8	100	3 / 5	35	250	6.0	0.082	750
CM0603-7N5□-N	7.5	100	3 / 5	35	250	6.0	0.082	750
CM0603-8N2□-N	8.2	100	3 / 5	35	250	6.0	0.110	650
CM0603-8N7□-N	8.7	100	3 / 5	35	250	6.0	0.110	650
CM0603-9N1□-N	9.1	100	3 / 5	35	250	6.0	0.110	650
CM0603-9N5□-N	9.5	100	3 / 5	35	250	6.0	0.110	650
CM0603-10N□-N	10	100	2 / 3 / 5	35	250	6.0	0.110	650
CM0603-11N□-N	11	100	2 / 3 / 5	35	250	6.0	0.110	650
CM0603-12N□-N	12	100	2 / 3 / 5	35	250	6.0	0.130	600
CM0603-13N□-N	13	100	2 / 3 / 5	35	250	6.0	0.130	600
CM0603-15N□-N	15	100	2 / 3 / 5	40	250	6.0	0.130	600
CM0603-16N□-N	16	100	2 / 3 / 5	40	250	5.5	0.160	550
CM0603-18N□-N	18	100	2 / 3 / 5	40	250	5.5	0.160	550
CM0603-20N□-N	20	100	2 / 3 / 5	40	250	4.9	0.160	550
CM0603-22N□-N	22	100	2 / 3 / 5	40	250	4.6	0.170	500
CM0603-24N□-N	24	100	2 / 3 / 5	40	250	3.8	0.210	500
CM0603-27N□-N	27	100	2 / 3 / 5	40	250	3.7	0.210	440
CM0603-30N□-N	30	100	2 / 3 / 5	40	250	3.3	0.230	420
CM0603-33N□-N	33	100	2 / 3 / 5	40	250	3.2	0.230	420
CM0603-36N□-N	36	100	2 / 3 / 5	40	250	2.9	0.260	400
CM0603-39N□-N	39	100	2 / 3 / 5	40	250	2.8	0.260	400
CM0603-43N□-N	43	100	2 / 3 / 5	40	200	2.7	0.290	380
CM0603-47N□-N	47	100	2 / 3 / 5	38	200	2.6	0.290	380
CM0603-51N□-N	51	100	2 / 3 / 5	38	200	2.5	0.330	370
CM0603-56N□-N	56	100	2 / 3 / 5	38	200	2.4	0.350	360
CM0603-62N□-N	62	100	2 / 3 / 5	38	200	2.3	0.510	280
CM0603-68N□-N	68	100	2 / 3 / 5	38	200	2.2	0.380	340
CM0603-72N□-N	72	100	2 / 3 / 5	38	150	2.1	0.560	270
CM0603-75N□-N	75	100	2 / 3 / 5	34	150	2.05	0.560	270
CM0603-82N□-N	82	100	2 / 3 / 5	34	150	2.00	0.600	250
CM0603-91N□-N	91	100	2 / 3 / 5	34	150	1.90	0.640	230
CM0603-R10□-N	100	100	2 / 3 / 5	34	150	1.80	0.680	220
CM0603-R11□-N	110	100	2 / 3 / 5	32	150	1.70	1.200	200
CM0603-R12□-N	120	100	2 / 3 / 5	32	150	1.60	1.300	180
CM0603-R13□-N	130	100	2 / 3 / 5	32	150	1.45	1.400	170
CM0603-R15□-N	150	100	2 / 3 / 5	32	150	1.40	1.500	160

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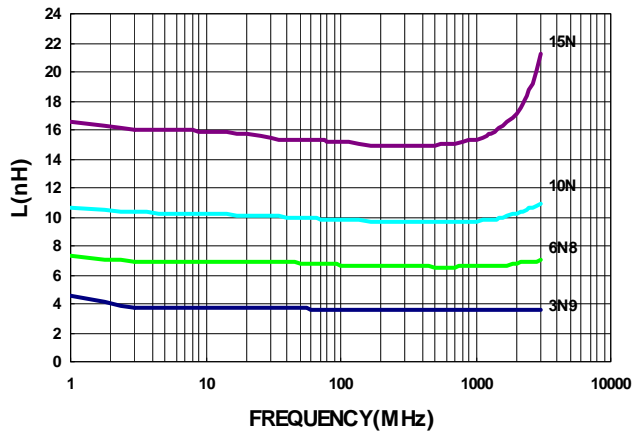
SMD Wire Wound Ceramic Chip Inductors - CM Series

Electrical Characteristics

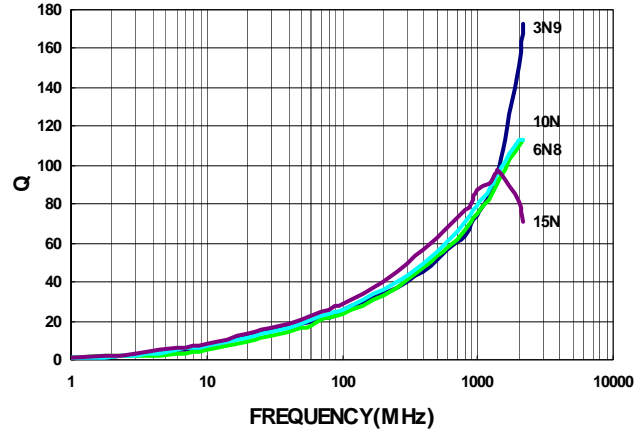
Part Number	Inductance (Nh)	Test Frequency (MHz)	Tolerance (±%)	Q Min	Test Frequency (MHz)	SRF (GHz) Min	Rdc (Ω) Max	Irms (mA) Max
CM0603-R16□-N	160	100	2 / 3 / 5	25	100	1.35	2.100	150
CM0603-R18□-N	180	100	2 / 3 / 5	25	100	1.30	2.200	140
CM0603-R20□-N	200	100	2 / 3 / 5	25	100	1.25	2.400	120
CM0603-R22□-N	220	100	2 / 3 / 5	25	100	1.20	2.500	120
CM0603-R27□-N	270	100	2 / 3 / 5	30	100	0.96	3.400	110
CM0603-R33□-N	330	100	2 / 3 / 5	30	100	0.80	5.500	85
CM0603-R39□-N	390	100	2 / 3 / 5	30	100	0.80	6.200	80
CM0603-R47□-N	470	100	2 / 3 / 5	30	100	0.70	7.000	75

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Typical **L** vs. **Frequency**



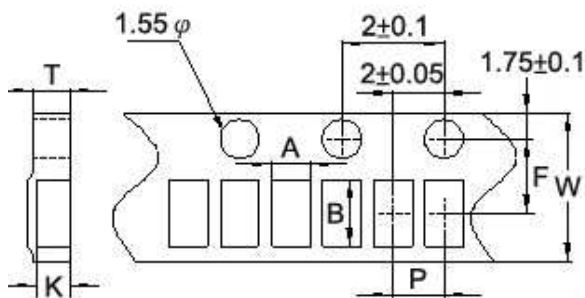
Typical **Q** vs. **Frequency**



Packaging Specifications

Tape Dimensions

Figure 1



Tape Material

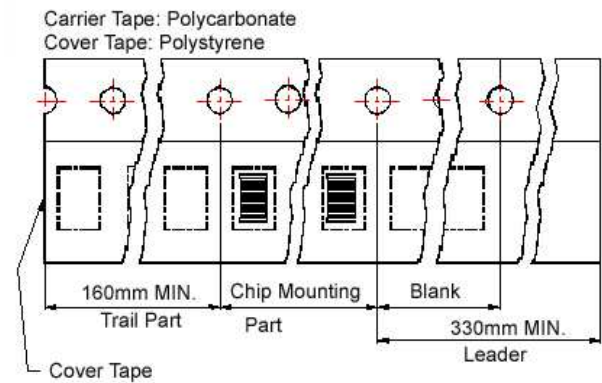
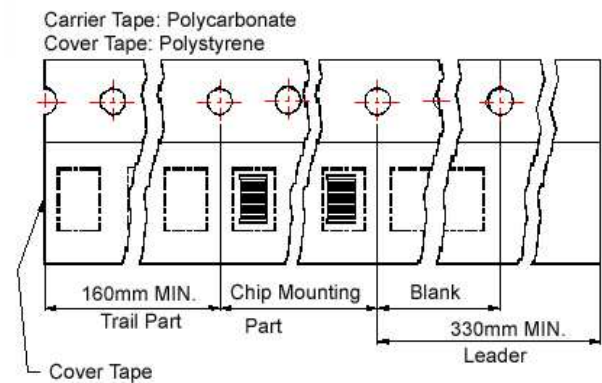
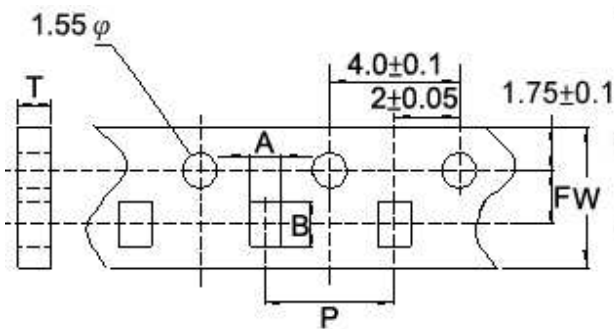
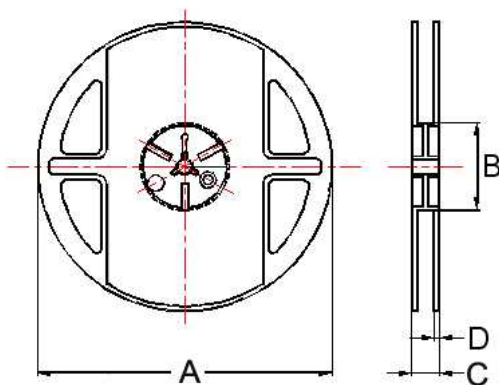


Figure 2



Reel Dimensions



Dimensions in mm

TYPE	Fig.	Tape Dimensions							Reel Dimensions				Quantity PCS / Reel
		A	B	T	W	P	F	K	A	B	C	D	
CM0402	1	0.67	1.20	0.75	8	2	3.5	0.53	178	60	12	1.5	4000
CM0603	2	1.20	1.80	0.97	8	4	3.5	-	178	60	12	1.5	4000