

## Multilayer Ferrite Chip Inductors (Surface Mount)

The MCI Series ferrite chip inductors for surface mount are manufactured in the U.S.A., with unique multi-layer process and equipment technologies as well as proprietary materials, including ferrites, internal electrode ink and termination paste.

### Applications

To be used in suppression, timing and smoothing duties in high frequency electronic products such as:

- Computers and peripheral equipment
- Telecommunication equipment
- Personal digital assistants
- Pagers
- Cellular phones
- Automotive electronics
- Remote control devices
- Audio and video appliances

### Features

- Monolith structure for closed magnetic path and high Reliability.
- Standard EIA and EIAJ chip sizes such as 0603, 0805, 1206.
- A Complete set of ferrites and electrode materials provide a wide range of electrical properties.
- Superior termination bonding strength per EIA 198D.
- Nickel barrier, with solder over-coated termination offers excellent solderability and solder leach resistance per EIA 198D. Suitable for both wave and re-flow solder process.

### Part Number Code

The AEM Components Part Number Code consists of six parts: product series, size, material, value, tolerance and packaging.

For Example: 

<u>MCI</u>	<u>0805</u>	<u>H</u>	<u>332</u>	<u>K</u>	<u>T</u>
1	2	3	4	5	6

1. MCI  
Product series code: MCI = Multilayer Ferrite Chip Inductor for surface mount.
2. 0805  
Size code: 0603, 0805, 1206. Other sizes are available; please consult factory.
3. H  
Material code: Material F, G, H, J.
4. 332  
Value code: expressed in nH. The first two digits are significant figures. The last digit specifies number of zeros to follow. Example: 332 = 3300nH = 3.3uH.
5. K  
Tolerance code: j = +5%; K = +10%; M = +20%; P = +25%.
6. T  
Packaging code: B = Bulk, T = Tape & Reel (plastic embossed tape).

- Contact factory for characteristic curves.

## Electrical Characteristics

Part Number	Inductance L, ( $\mu$ H)	Q (min.)	Test Frequency for L, Q (MHz)	Self-Resonant Frequency (MHz)	DC Resistance ( $\Omega$ )	Max. Rated Current (mA)
MCI0603H470	0.047	10	50	260	0.25	50
MCI0603H121	0.12	15	25	205	0.45	50
MCI0603H331	0.33	15	25	125	0.80	35
MCI0603H821	0.82	15	25	75	1.9	35
MCI0603J222	2.2	35	10	50	1.1	20
MCI0603J562	5.6	35	4.0	25	1.5	5.0
MCI0805H470	0.047	15	50	320	0.15	300
MCI0805H121	0.12	25	25	220	0.25	250
MCI0805H331	0.33	25	25	150	0.50	250
MCI0805H821	0.82	20	25	100	1.0	150
MCI0805J222	2.2	45	10	50	0.60	30
MCI0805J562	5.6	50	4.0	30	1.0	15
MCI1206H470	0.047	20	50	320	0.10	300
MCI1206H151	0.15	20	25	200	0.25	250
MCI1206H391	0.39	20	25	135	0.40	200
MCI1206H102	1.0	45	10	75	0.45	100
MCI1206J272	2.7	45	10	45	0.55	50
MCI1206J682	6.8	50	4.0	25	0.80	25
MCI1206J183	18	35	1.0	20	1.2	5.0

Note: Please add Tolerance and packaging Codes to Part Number when ordering.  
Parts with other electrical characteristics can be provided upon customer's request.

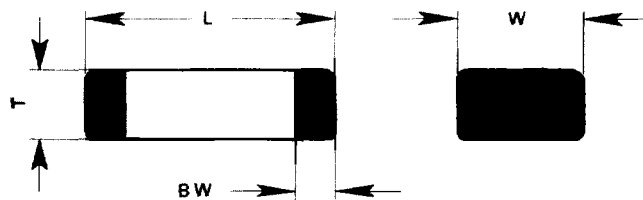
## Electrical Characteristics

AEM Part Number	Impedance Ohm at 100 MHz	Max. DCR Ohm	Max. Current mA	Operating Temperature
MCB0603G300	30	0.3	400	From -25°C ↓ To +85°C
MCB0603G600	60	0.4	300	
MCB0603G800	80	0.5	300	
MCB0603G900	90	0.6	200	
MCB0603G101	100	0.7	200	
MCB0603G121	120	0.8	200	
MCB0603G151	150	0.9	200	
MCB0603G301	300	1.2	150	
MCB0603G601	600	1.8	150	
MCB0603G102	1000	2.0	100	
MCB0805F300	30	0.1	600	
MCB0805F500	50	0.1	500	
MCB0805F600	60	0.2	400	
MCB0805G900	90	0.2	400	
MCB0805G101	100	0.2	400	
MCB0805G121	120	0.3	300	
MCB0805G301	300	0.3	200	
MCB0805G601	600	0.6	200	
MCB0805G102	1000	0.8	150	
MCB0805G152	1500	1.0	100	
MCB1206F300	30	0.1	600	
MCB1206F500	50	0.1	600	
MCB1206F600	60	0.2	500	
MCB1206F700	70	0.2	400	
MCB1206F800	80	0.2	400	
MCB1206F900	90	0.2	400	
MCB1206F101	100	0.2	400	
MCB1206F121	120	0.2	300	
MCB1206F201	200	0.3	300	
MCB1206F301	300	0.4	300	
MCB1206F601	600	0.5	200	
MCB1206G102	1000	0.7	150	
MCB1206G152	1500	0.9	100	
MCB1806F600	60	0.1	700	
MCB1806F700	70	0.1	700	
MCB1806F800	80	0.1	600	
MCB1806F101	100	0.1	600	
MCB1806F151	150	0.2	500	
MCB1806F301	300	0.2	300	
MCB1806F601	600	0.3	300	
MCB1806G152	1500	0.6	200	

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# Chip Dimension & Packaging

## Chip Bead Dimensions



Part Number	Length (L) Inch (mm)	Width (W) Inch (mm)	Thickness (T) Inch (mm)	Termination (BW) Inch (mm)
MCB0805 series	0.079 ± 0.008 (2.00 ± 0.20)	0.049 ± 0.008 (1.25 ± 0.20)	0.035 ± 0.008 (0.90 ± 0.20)	0.020 ± 0.010 (0.51 ± 0.25)
MCB1206 series	0.126 ± 0.008 (3.20 ± 0.20)	0.063 ± 0.008 (1.60 ± 0.20)	0.043 ± 0.008 (1.10 ± 0.20)	0.020 ± 0.010 (0.51 ± 0.25)
MCB1806 series	0.177 ± 0.010 (4.50 ± 0.25)	0.063 ± 0.010 (1.60 ± 0.25)	0.063 ± 0.010 (1.60 ± 0.25)	0.020 ± 0.010 (0.51 ± 0.25)

## Dimensions of Plastic Embossed Tape in Inches (mm)

Package	A	B	C	D	E	F max.	G max.	H min.	I min.
0805	0.059 ± .008 (1.5 ± 0.2)	0.091 ± .008 (2.3 ± 0.2)	0.157 ± .004 (4.0 ± 0.1)	0.157 ± .004 (4.0 ± 0.1)	0.315 ± .012 (8.0 ± 0.3)	0.012 (0.3)	0.079 (2.0)	0.02 (0.5)	0.02 (0.5)
1206	0.075 ± .008 (1.9 ± 0.2)	0.138 ± .008 (3.5 ± 0.2)	0.157 ± .004 (4.0 ± 0.1)	0.157 ± .004 (4.0 ± 0.1)	0.315 ± .012 (8.0 ± 0.3)	0.012 (0.3)	0.079 (2.0)	0.02 (0.5)	0.02 (0.5)

