

Company Overview

AEM, is a global manufacturer redefining the standards of quality and value in the electronic components industry with its leading edge technologies.



History

AEM, was founded in 1986. Phenomenal growth since its inception has ranked AEM three times among the **Inc. 500** listing of "America's Fastest-Growing Private Companies". AEM's outstanding achievements earned a U.S. presidential commendation letter from then President Bill Clinton.

In 1995, AEM merged the key technical staff of Wallace Technical Ceramics, Inc. That same year, AEM acquired the Mepcopal high-reliability thick-film fuse line from Philips/Copal. These mergers and acquisitions represented a logical combination of assets and technical abilities to achieve a full spectrum of passive components with superior multilayer ceramic-based technologies.

Since 1995, AEM has used its technological expertise to successfully grow its current limiting micro-fuse production and holds a dominant position in the circuit protection market in the aerospace industry. In 1996, AEM became the first US corporation to start mass production of ferrite chip beads, power beads, and ferrite/ceramic inductors in its San Diego facility. AEM is also the world's sole manufacturer of high-reliability ferrite chip beads designed for the space and military use.

In 2004, AEM launched a new product line of SolidMatrix[®] surface mount chip fuses which combined AEM's strengths in both circuit protective and multilayer components manufacturing. Today, AEM's Electronic Components Division is poised to become one of the top five global suppliers of SMT multilayer ceramic inductive and circuit protective components in the new millennium.

The Headquarters and Research & Development

The global headquarters and R&D Center of AEM are located in Sorrento Valley, San Diego, California's "Telecomm Valley". The Factory and Engineering locations include the San Diego facility and a new Suzhou Engineering Center and Manufacturing Base in China-Singapore Suzhou Industrial Park.

Products & Services

From satellites in space, to computers and cellular devices on land and sea, AEM's products are used globally for EMI signal filtering and circuit protection in the telecommunication, PC, consumer electronics, automotive, and aerospace industries.

AEM's products and services include the following:

- *Multilayer Ferrite Chip Beads/Power Beads;*
- *Multilayer Ferrite/Ceramic Inductors;*
- *SolidMatrix[®] Surface Mount Chip Fuses;*
- *Multilayer Varistors;*
- *High-reliability Current Limiting Micro-fuses and Fusistors;*
- *High-reliability SMT Fuses;*
- *High-reliability Ferrite Chip Beads & Inductors;*
- *Turn Key COTS Up-Screening Services;*
- *Tin Whisker Mitigation.*

Mission

Our mission goal is to build lasting partnerships with the customers, vendors, employees, and share holders. We are committed to constantly striving for excellence and perfection in providing products and services with the highest quality and values.

Contents

| | |
|--|-----|
| Products Overview and Applications | iii |
| MCB Multilayer Ferrite Chip Beads (General Use) | 1 |
|  0402 (1005) Series | 2 |
|  0603 (1608) Series | 2 |
|  0805 (2012) Series | 2 |
|  1206 (3216) Series | 3 |
|  1210 (3225) Series | 3 |
|  1806 (4516) Series | 3 |
|  1812 (4532) Series | 3 |
| Electrical Characteristics | 4 |
| MCB Multilayer Ferrite Chip Beads (High Speed) | 9 |
|  0402 (1005) Series | 10 |
|  0603 (1608) Series | 10 |
|  0805 (2012) Series | 10 |
|  1206 (3216) Series | 10 |
| Electrical Characteristics | 11 |
| MBA Multilayer Ferrite Chip Bead Arrays | 12 |
|  1206 (3216) Series | 12 |
| MCP Multilayer Ferrite Power Beads (High Current) | 13 |
|  0603 (1608) Series | 14 |
|  0805 (2012) Series | 14 |
|  1206 (3216) Series | 14 |
|  1210 (3225) Series | 15 |
|  1806 (4516) Series | 15 |
|  1812 (4532) Series | 15 |
| Electrical Characteristics | 16 |
| MCI Multilayer Ferrite Inductors (General Use) | 18 |
|  0603 Series | 19 |
|  0805 Series | 20 |
|  1206 Series | 21 |
| Electrical Characteristics | 22 |

Contents (cont.)

| | |
|---|----|
| MHI Multilayer Ceramic Inductors (High Frequency) | 23 |
| 0402 Series | 24 |
| 0603 Series | 25 |
| Electrical Characteristics | 26 |
| TFI Thin Film Chip Inductors | 27 |
| 0201 Series | 28 |
| 0402 Series | 29 |
| 0603 Series | 31 |
| WHI Thin Film Chip Inductors | 32 |
| 0402 C Series | 34 |
| 0603 C Series | 35 |
| 0805 C Series | 37 |
| 1008 C Series | 38 |
| 1206 C Series | 40 |
| 0805 L Series | 41 |
| 1008 L Series | 41 |
| 0603 H Series | 42 |
| 0805 H Series | 42 |
| 1008 H Series | 43 |
| WHI Packaging | 44 |
| Inductor Terminology | 45 |
| Reliability Tests | 46 |
| Soldering Temperature Profiles, Storage Requirements | 49 |
| Packaging and Storage | 50 |
| Cross Reference | 51 |

Products Overview and Applications

AEM was the first in the U.S. to start mass production of ferrite beads and ferrite/ceramic inductors using a wet multilayer process. AEM's proprietary materials (inks and pastes), patented processes (US Patent Number 5,650,199) and custom production equipment are the cornerstones for mass producing high quality ferrite and ceramic inductive components.

Features

Monolithic structure for closed magnetic path and high reliability

Standard EIA/EIAJ chip sizes such as 0402/1005, 0603/1608, 0805/2012, and 1206/3216

A complete set of ferrite/ceramics and electrode materials providing a wide range of electrical properties

Superior termination bonding strength

Nickel barrier with solder overlaid termination offering excellent solderability and solder leach resistance, suitable for both wave and reflow soldering processes

Applications

Computers and Peripherals

Video cards, sound cards, fax/modem cards, printers, keyboards, network interface cards, PDAs (personal digital assistants), and notebook computers

Tele Communications

Multi-port modems, frame relays, central office relays, subscription group carrier, T1 & E1 MUXs, EA PBX equipment, cellular phones, mobile telephone switching, cellular phone base station and switching, PHS (personal handy phones), and residential and business phones

Data Communications

Bridges, LANs, modems, repeaters, routers, hubs, concentrators, network I/F cards, and data switches

Consumer Electronics

VCRs, audio, electronic entertainment equipment, car navigation systems, radar detectors, CB & FM radios, CATV, set-top boxes, DSS set-top boxes, electronic games, digital TVs, and DVDs

AEM's inductive components are used for noise limiting and separation, tuning and matching circuits, and in many other circuits requiring inductance.

AEM's ferrite chip beads have high impedance at 100 MHz and are used for noise suppression. Ferrite beads installed in series with signal and/or power circuits suppress high frequency noise. The noise is converted into heat because of the hysteresis loss in the ferrite material. By selecting the appropriate impedance value, an insertion loss between 3 to 18 dB can be achieved using a single chip bead without the need for a ground termination. Typical chip bead suppression frequency ranges from 1 to 1,000 MHz and rated currents are from 0.1 to 4.0 amps.

AEM's ferrite chip inductors have been used in T, Pi, or L type LC noise separation circuits with capacitors. Because of the tight tolerances and high Q values of AEM's inductors, very steep attenuation and high insertion losses of up to 100 dB can be achieved. Our ferrite inductors have Q values from 15 to 45, measured at frequencies from 0.4 to 50 MHz and self-resonant frequencies in a range from 13 to 320 MHz.

The ceramic chip inductors can be used at frequencies up to 8 GHz with Q values from 10 to 15 at 100 MHz and from 16 to 46 at 800 MHz.

Multilayer Ferrite Chip Beads



Features

- Monolithic structure for closed magnetic path and high reliability
- Standard EIA/EIAJ chip sizes such as 0402/1005, 0603/1608, 0805/2012, and 1206/3216
- A complete set of ferrite and electrode materials providing a wide range of electrical properties
- Superior termination bonding strength
- Nickel barrier with solder overlated termination offering excellent solderability and solder leach resistance, suitable for both wave and reflow soldering processes
- RoHS compliant when -T option is specified

Applications

- Noise suppression in computers and peripherals
- Noise suppression in telecommunications
- Noise suppression in data communications
- Noise suppression in consumer electronics

Recommended PC Board Land Patterns

| CHIP SIZE EIA/EIAJ | L INCH (mm) | G INCH (mm) | H INCH (mm) |
|-----------------------|----------------|----------------|----------------|
| 0402(1005) | 0.063 (1.60) | 0.016 (0.40) | 0.024 (0.60) |
| 0603(1608) | 0.102 (2.60) | 0.022 (0.55) | 0.037 (0.94) |
| 0805(2012) | 0.118 (3.00) | 0.026 (0.66) | 0.057 (1.45) |
| 1206(3216) | 0.173 (4.40) | 0.059 (1.50) | 0.071 (1.80) |
| 1210(3225) | 0.173 (4.40) | 0.059 (1.50) | 0.106 (2.70) |

Operating Temperature

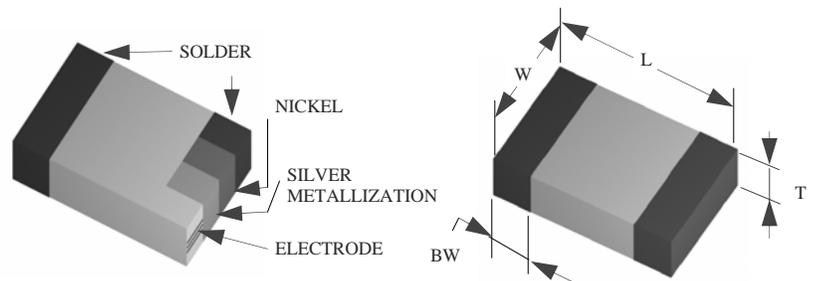
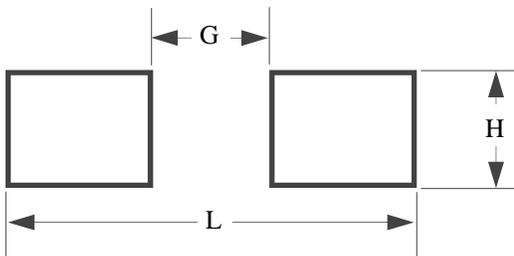
-55°C — +125°C

Product Identification

MCB 0805 G 101 P I - I
(1) (2) (3) (4) (5) (6) (7)

- (1) Series code:
MCB: Multilayer Ferrite Chip Bead
- (2) Dimensions: L x W inches
The first two digits: L (length)
The last two digits: W (width)
- (3) Characteristic code: F, G
- (4) Value code: Impedance (ohms at 100 MHz)
The first two digits are significant. The last digit specifies the number of zeros to follow.
- (5) Tolerance code:
P = ±25%
Other tolerances may be available upon request.
- (6) Package code:
T = Tape & Reel
B = Bulk
- (7) Termination type code:
T = 100% Sn plating

Shape and Dimensions



| CHIP SIZE EIA/EIAJ | LENGTH (L) INCH (mm) | WIDTH (W) INCH (mm) | THICKNESS (T) INCH (mm) | TERMINATION (BW) INCH (mm) |
|-----------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 0402/1005 | 0.039 ± 0.004 (1.00 ± 0.10) | 0.020 ± 0.004 (0.50 ± 0.10) | 0.020 ± 0.004 (0.50 ± 0.10) | 0.010 ± 0.004 (0.25 ± 0.10) |
| 0603/1608 | 0.063 ± 0.006 (1.60 ± 0.15) | 0.031 ± 0.006 (0.80 ± 0.15) | 0.031 ± 0.006 (0.80 ± 0.15) | 0.014 ± 0.006 (0.36 ± 0.15) |
| 0805/2012 | 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 ± 0.012 (0.51 ± 0.30) |
| 1206/3216 | 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 ± 0.012 (0.51 ± 0.30) |
| 1210/3225 | 0.126 ± 0.008 (3.20 ± 0.20) | 0.098 ± 0.008 (2.50 ± 0.20) | 0.051 ± 0.008 (1.30 ± 0.20) | 0.020 ± 0.012 (0.51 ± 0.30) |

Other sizes and values may be available upon customer's request.

MCB Series (General Use)

| <i>AEM Part</i> | <i>Z@100MHz</i> | <i>Tolerance</i> | <i>Max. R_{DC}</i> | <i>Max. I</i> |
|-----------------|-----------------|------------------|----------------------------|---------------|
| MCB0402G100 | 10 | P | 0.05 | 0.60 |
| MCB0402G300 | 30 | P | 0.30 | 0.50 |
| MCB0402G600 | 60 | P | 0.40 | 0.35 |
| MCB0402G700 | 70 | P | 0.40 | 0.35 |
| MCB0402G800 | 80 | P | 0.40 | 0.35 |
| MCB0402G121 | 120 | P | 0.50 | 0.30 |
| MCB0402G221 | 220 | P | 0.70 | 0.20 |
| MCB0402G301 | 300 | P | 0.80 | 0.20 |
| MCB0402G451 | 450 | P | 0.80 | 0.20 |
| MCB0402G601 | 600 | P | 1.00 | 0.15 |
| MCB0402G102 | 1000 | P | 1.50 | 0.10 |
| MCB0603G100 | 10 | P | 0.10 | 0.60 |
| MCB0603G300 | 30 | P | 0.10 | 0.60 |
| MCB0603G600 | 60 | P | 0.20 | 0.60 |
| MCB0603G800 | 80 | P | 0.20 | 0.60 |
| MCB0603G101 | 100 | P | 0.25 | 0.40 |
| MCB0603G121 | 120 | P | 0.25 | 0.40 |
| MCB0603G141 | 140 | P | 0.30 | 0.40 |
| MCB0603G151 | 150 | P | 0.30 | 0.40 |
| MCB0603G181 | 180 | P | 0.30 | 0.40 |
| MCB0603G221 | 220 | P | 0.30 | 0.40 |
| MCB0603G301 | 300 | P | 0.40 | 0.30 |
| MCB0603G421 | 420 | P | 0.40 | 0.30 |
| MCB0603G451 | 450 | P | 0.50 | 0.30 |
| MCB0603G601 | 600 | P | 0.50 | 0.30 |
| MCB0603G102 | 1000 | P | 0.70 | 0.25 |
| MCB0603G152 | 1500 | P | 1.00 | 0.15 |
| MCB0603G202 | 2000 | P | 1.20 | 0.15 |
| MCB0805F110 | 11 | P | 0.10 | 0.80 |
| MCB0805F300 | 30 | P | 0.10 | 0.80 |
| MCB0805F500 | 50 | P | 0.10 | 0.80 |
| MCB0805F600 | 60 | P | 0.10 | 0.80 |
| MCB0805F800 | 80 | P | 0.15 | 0.60 |
| MCB0805G101 | 100 | P | 0.15 | 0.60 |
| MCB0805G121 | 120 | P | 0.15 | 0.60 |
| MCB0805G151 | 150 | P | 0.25 | 0.50 |
| MCB0805G201 | 200 | P | 0.30 | 0.40 |
| MCB0805G221 | 220 | P | 0.30 | 0.40 |
| MCB0805G301 | 300 | P | 0.30 | 0.40 |
| MCB0805G501 | 500 | P | 0.30 | 0.40 |
| MCB0805G601 | 600 | P | 0.30 | 0.40 |
| MCB0805G102 | 1000 | P | 0.40 | 0.30 |
| MCB0805G152 | 1500 | P | 0.55 | 0.20 |
| MCB0805G202 | 2000 | P | 0.70 | 0.20 |

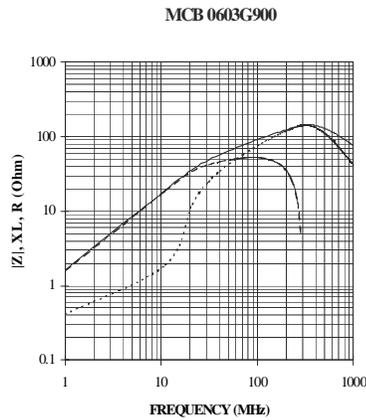
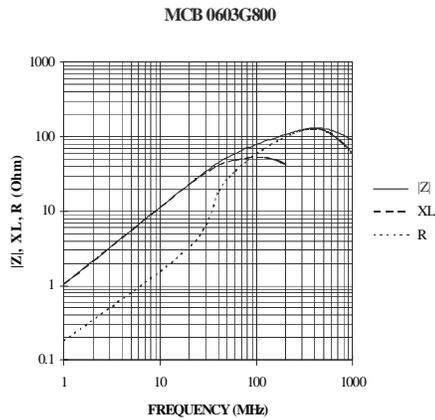
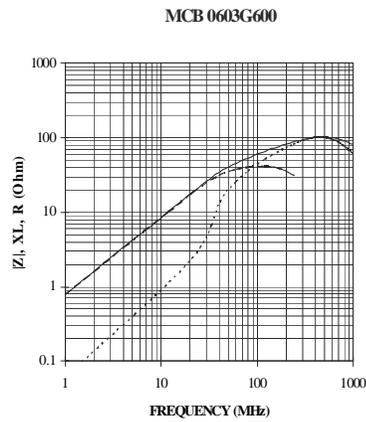
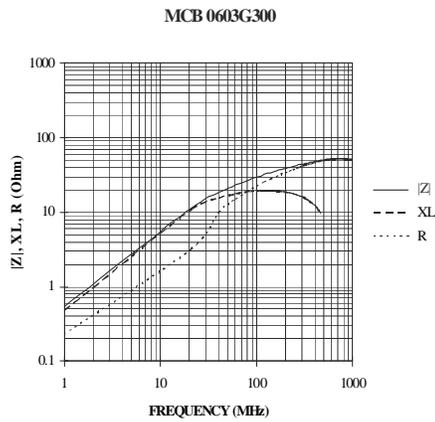
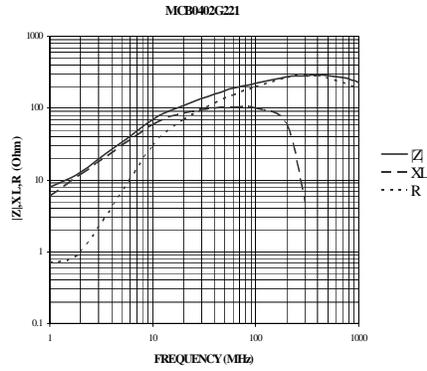
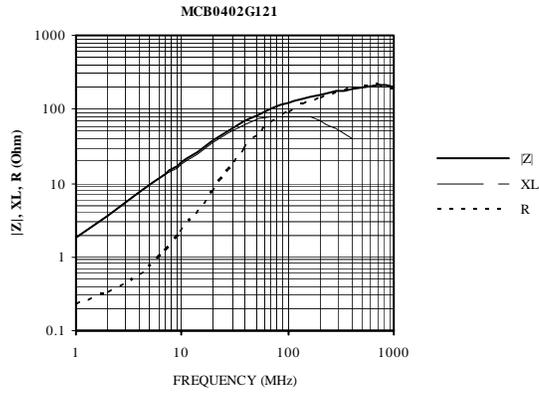
MCB Series (General Use)

| AEM Part Number | Z@100MHz Ω | Tolerance | Max. R_{DC} Ω | Max. I A |
|------------------------|---|------------------|---|---------------------|
| MCB1206F190 | 19 | P | 0.05 | 0.80 |
| MCB1206F300 | 30 | P | 0.05 | 0.80 |
| MCB1206F500 | 50 | P | 0.10 | 0.60 |
| MCB1206F600 | 60 | P | 0.10 | 0.60 |
| MCB1206F800 | 80 | P | 0.20 | 0.60 |
| MCB1206F101 | 100 | P | 0.15 | 0.60 |
| MCB1206F121 | 120 | P | 0.15 | 0.60 |
| MCB1206F151 | 150 | P | 0.15 | 0.60 |
| MCB1206F201 | 200 | P | 0.20 | 0.50 |
| MCB1206F221 | 220 | P | 0.20 | 0.50 |
| MCB1206F301 | 300 | P | 0.20 | 0.50 |
| MCB1206F501 | 500 | P | 0.20 | 0.50 |
| MCB1206F601 | 600 | P | 0.30 | 0.40 |
| MCB1206G102 | 1000 | P | 0.40 | 0.30 |
| MCB1206G152 | 1500@50MHz | P | 0.70 | 0.30 |
| MCB1206F202 | 2000@50MHz | P | 0.70 | 0.30 |
| MCB1210G600 | 60 | P | 0.10 | 0.80 |

Please add tolerance, packaging and termination type codes when ordering.

Electrical Characteristics

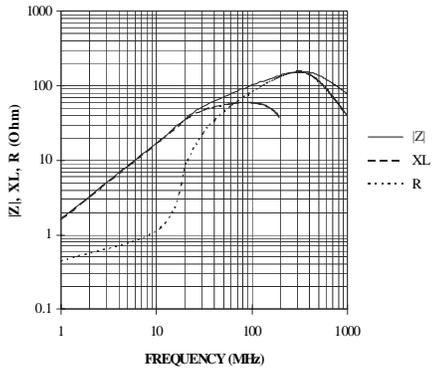
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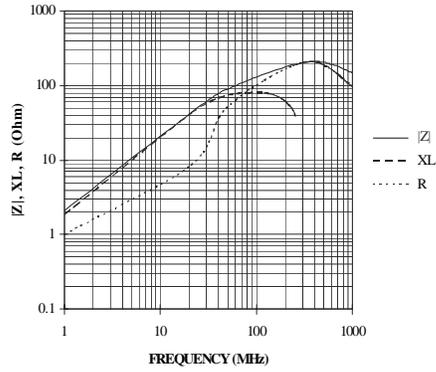
Electrical Characteristics

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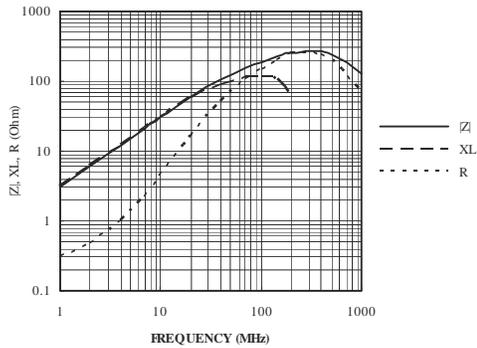
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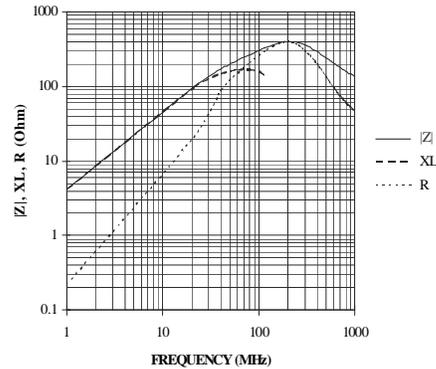
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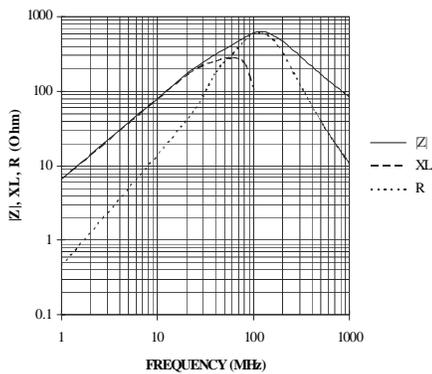
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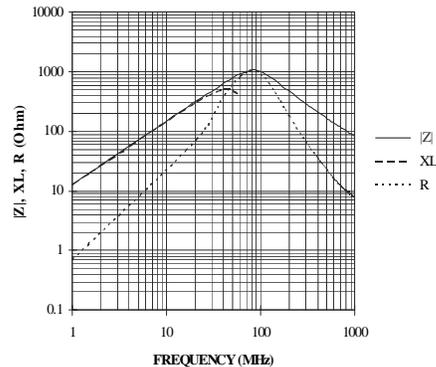
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MCB 0603G601



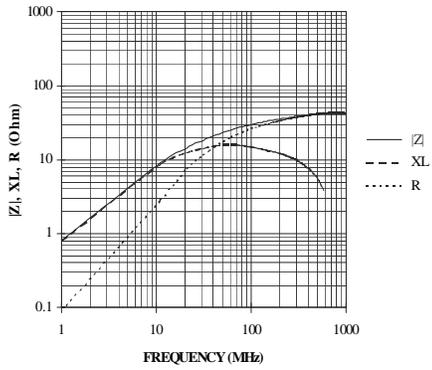
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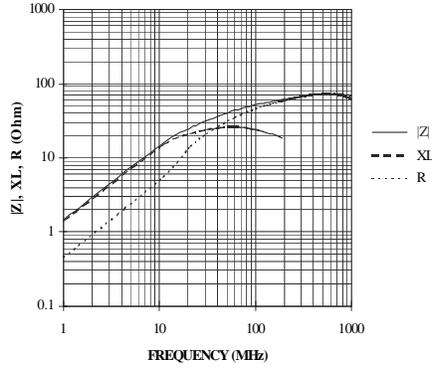
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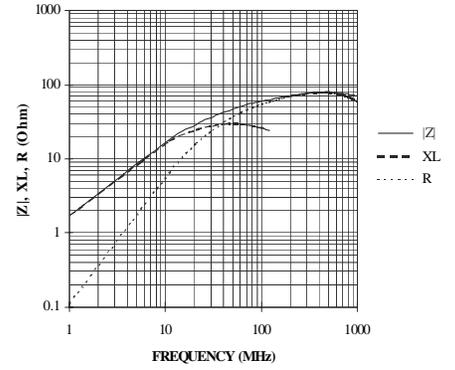
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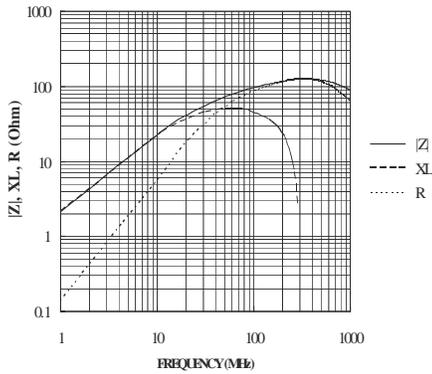
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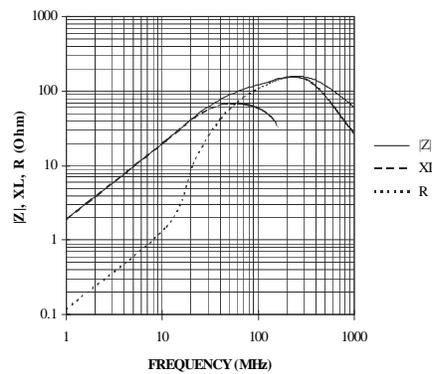
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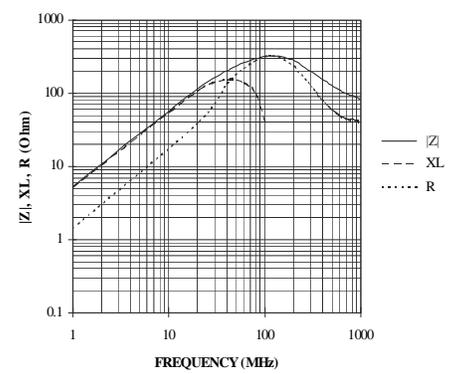
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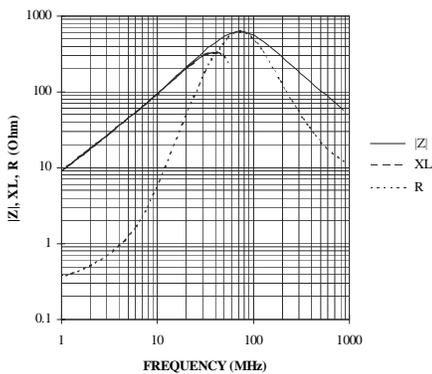
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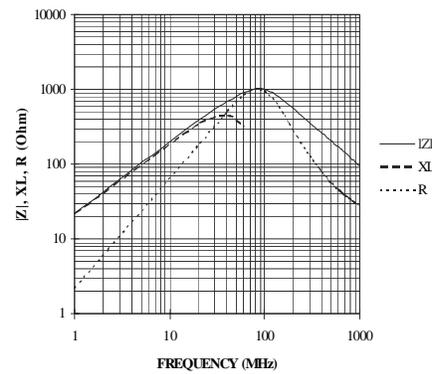
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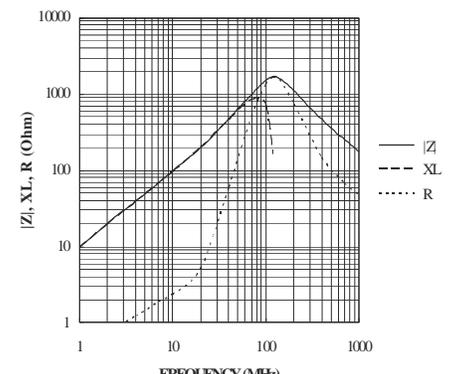
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MCB 0805G102



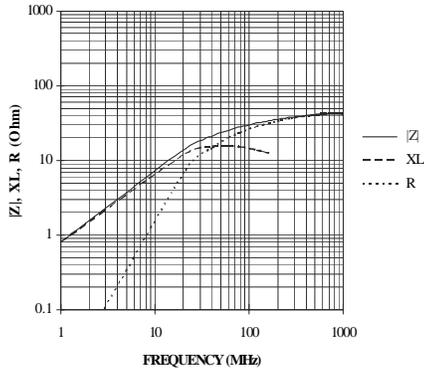
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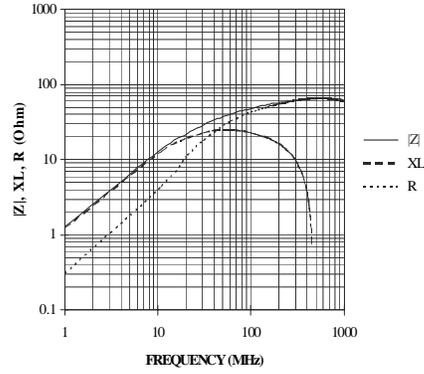
Electrical Characteristics

(Curves not listed are available upon request)

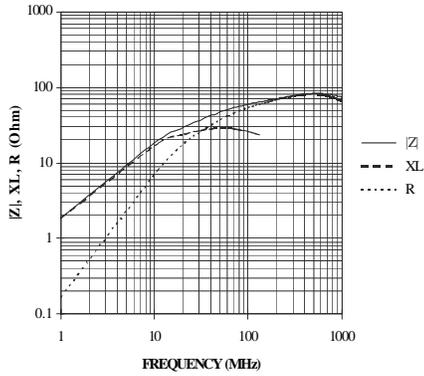
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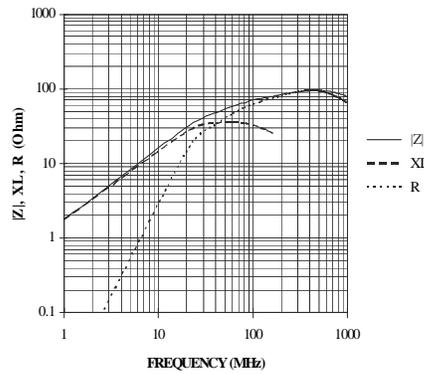
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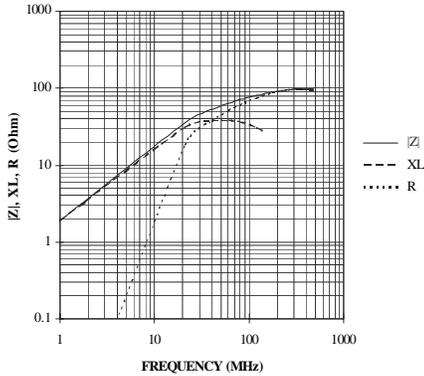
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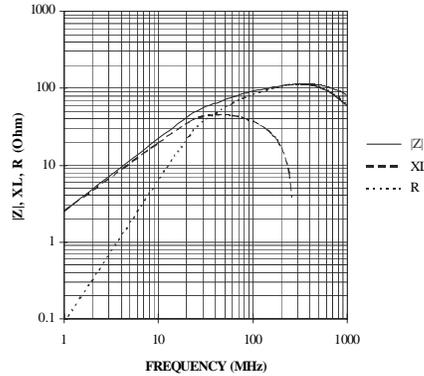
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MCB 1206F800



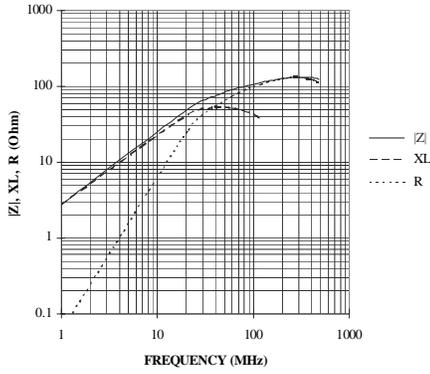
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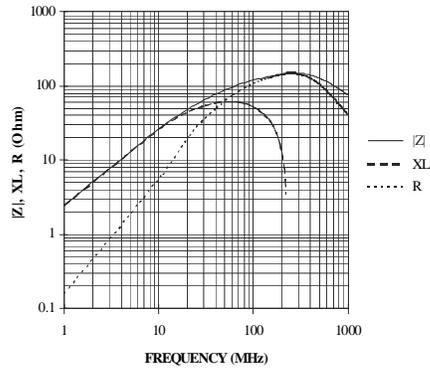
Electrical Characteristics

(Curves not listed are available upon request)

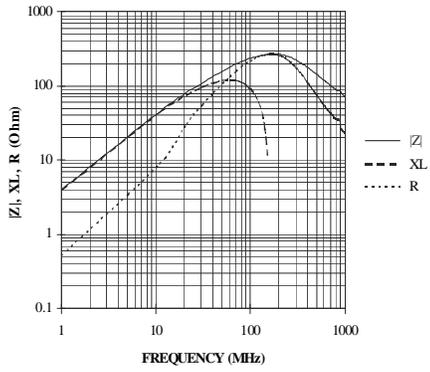
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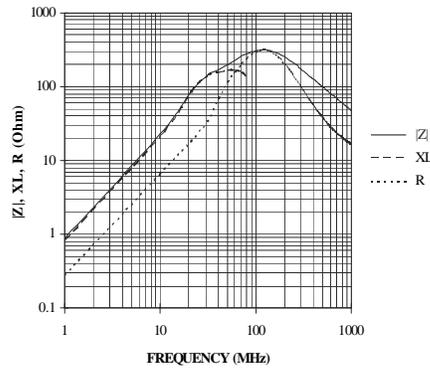
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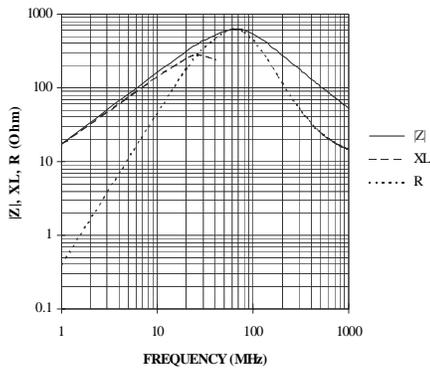
MCB 1206F201



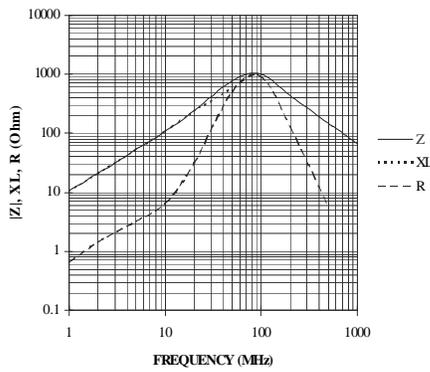
MCB 1206F301



MCB 1206F601



MCB 1206G102





Multilayer Ferrite Chip Beads (High Speed)

Features

- Monolithic structure for closed magnetic path and high reliability
- Standard EIA/EIAJ chip sizes such as 0402/1005, 0603/1608, 0805/2012, and 1206/3216
- Superior termination bonding strength
- Nickel barrier with solder overlaid termination offering excellent solderability and solder leach resistance, suitable for both wave and reflow soldering processes
- RoHS compliant when -T option is specified

Applications

- High frequency noise suppression in computers and peripherals
- High frequency noise suppression in telecommunications
- High frequency noise suppression in data communications
- High frequency noise suppression in consumer electronics

Recommended PC Board Land Patterns

| CHIP SIZE EIA/EIAJ | L INCH (mm) | G INCH (mm) | H INCH (mm) |
|-----------------------|----------------|----------------|----------------|
| 0402(1005) | 0.063 (1.60) | 0.016 (0.40) | 0.024 (0.60) |
| 0603(1608) | 0.102 (2.60) | 0.022 (0.55) | 0.037 (0.94) |
| 0805(2012) | 0.118 (3.00) | 0.026 (0.66) | 0.057 (1.45) |
| 1206(3216) | 0.173 (4.40) | 0.059 (1.50) | 0.071 (1.80) |

Operating Temperature

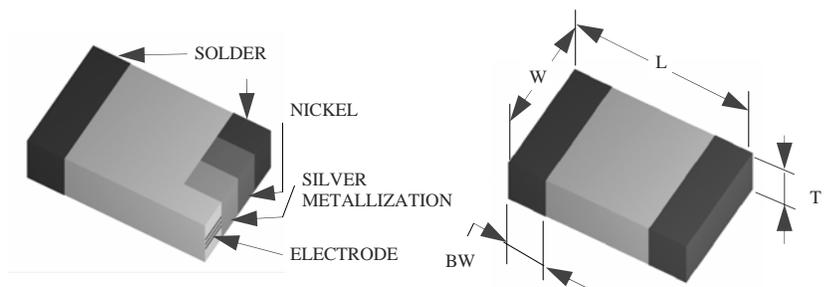
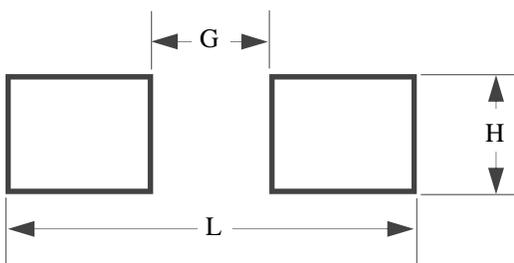
-55°C — +125°C

Product Identification

MCB 0805 S 121 P I - I
(1) (2) (3) (4) (5) (6) (7)

- (1) Series code:
MCB: Multilayer Ferrite Chip Bead
- (2) Dimensions: L x W inches
The first two digits: L (length)
The last two digits: W (width)
- (3) Characteristic code: S
- (4) Value code: Impedance (ohms at 100 MHz)
The first two digits are significant. The last digit specifies the number of zeros to follow.
- (5) Tolerance code:
P = ±25%
Other tolerances may be available upon request.
- (6) Package code:
T = Tape & Reel
B = Bulk
- (7) Termination type code:
T = 100% Sn plating

Shape and Dimensions



| CHIP SIZE EIA/EIAJ | LENGTH (L) INCH (mm) | WIDTH (W) INCH (mm) | THICKNESS (T) INCH (mm) | TERMINATION (BW) INCH (mm) |
|-----------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 0402/1005 | 0.039 ± 0.004 (1.00 ± 0.10) | 0.020 ± 0.004 (0.50 ± 0.10) | 0.020 ± 0.004 (0.50 ± 0.10) | 0.010 ± 0.004 (0.25 ± 0.10) |
| 0603/1608 | 0.063 ± 0.006 (1.60 ± 0.15) | 0.031 ± 0.006 (0.80 ± 0.15) | 0.031 ± 0.006 (0.80 ± 0.15) | 0.014 ± 0.006 (0.36 ± 0.15) |
| 0805/2012 | 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 ± 0.012 (0.51 ± 0.30) |
| 1206/3216 | 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 ± 0.012 (0.51 ± 0.30) |

Other sizes and values may be available upon customer's request.

MCB Series (High Speed)

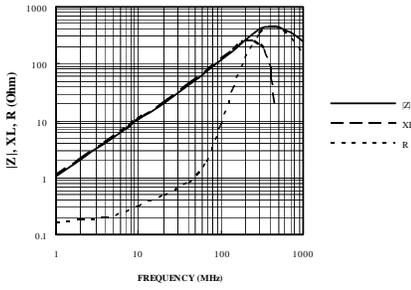
| <i>AEM Part Number</i> | <i>Z@100MHz Ω</i> | <i>Tolerance</i> | <i>Max. R_{DC} Ω</i> | <i>Max. I A</i> |
|------------------------|---|------------------|--|---------------------|
| MCB0402S100 | 10 | P | 0.20 | 0.40 |
| MCB0402S300 | 30 | P | 0.20 | 0.40 |
| MCB0402S600 | 60 | P | 0.30 | 0.35 |
| MCB0402S800 | 80 | P | 0.40 | 0.30 |
| MCB0402S121 | 120 | P | 0.40 | 0.20 |
| MCB0402S221 | 220 | P | 0.60 | 0.20 |
| MCB0402S301 | 300 | P | 1.00 | 0.20 |
| MCB0402S601 | 600 | P | 1.20 | 0.20 |
| MCB0603S100 | 10 | P | 0.10 | 0.60 |
| MCB0603S300 | 30 | P | 0.20 | 0.50 |
| MCB0603S600 | 60 | P | 0.25 | 0.40 |
| MCB0603S800 | 80 | P | 0.25 | 0.40 |
| MCB0603S101 | 100 | P | 0.30 | 0.40 |
| MCB0603S121 | 120 | P | 0.30 | 0.40 |
| MCB0603S221 | 220 | P | 0.35 | 0.30 |
| MCB0603S301 | 300 | P | 0.35 | 0.30 |
| MCB0603S601 | 600 | P | 0.50 | 0.20 |
| MCB0603S102 | 1000 | P | 0.60 | 0.20 |
| MCB0805S110 | 11 | P | 0.10 | 0.80 |
| MCB0805S300 | 30 | P | 0.20 | 0.60 |
| MCB0805S600 | 60 | P | 0.20 | 0.60 |
| MCB0805S800 | 80 | P | 0.20 | 0.60 |
| MCB0805S121 | 120 | P | 0.25 | 0.50 |
| MCB0805S221 | 220 | P | 0.30 | 0.40 |
| MCB0805S301 | 300 | P | 0.35 | 0.40 |
| MCB0805S601 | 600 | P | 0.40 | 0.30 |
| MCB0805S102 | 1000 | P | 0.60 | 0.20 |
| MCB1206S190 | 19 | P | 0.10 | 0.80 |
| MCB1206S300 | 30 | P | 0.15 | 0.60 |
| MCB1206S600 | 60 | P | 0.15 | 0.60 |
| MCB1206S800 | 80 | P | 0.15 | 0.60 |
| MCB1206S121 | 120 | P | 0.25 | 0.50 |
| MCB1206S221 | 220 | P | 0.30 | 0.40 |
| MCB1206S301 | 300 | P | 0.30 | 0.40 |
| MCB1206S601 | 600 | P | 0.35 | 0.30 |
| MCB1206S102 | 1000 | P | 0.55 | 0.30 |

Please add tolerance, packaging and termination type codes when ordering.

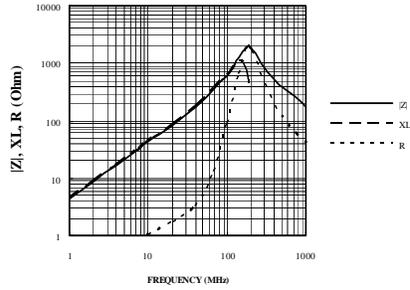
Electrical Characteristics

(Curves not listed are available upon request)

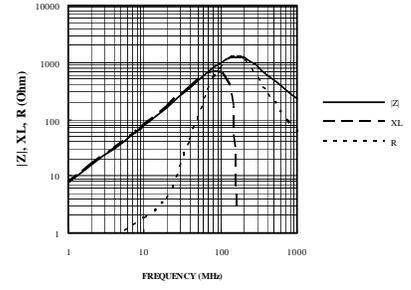
MCB0603S121



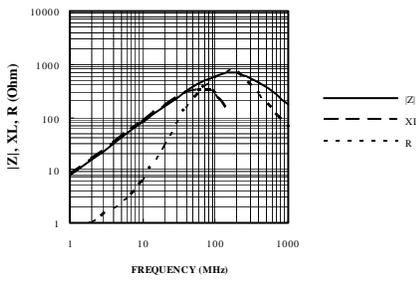
MCB0603S601



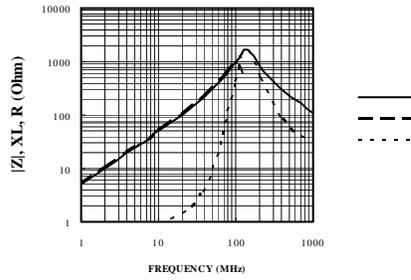
MCB0603S102



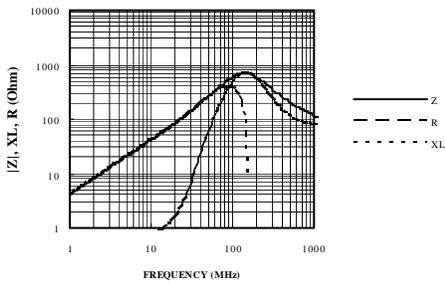
MCB0805S601



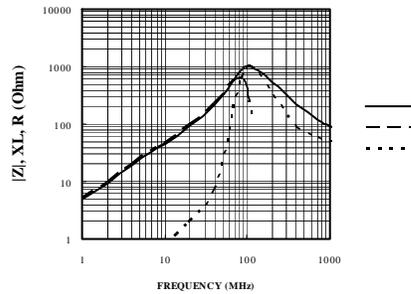
MCB0805S102



MCB1206S601



MCB1206S102





Multilayer Ferrite Chip Bead Arrays

Features

The Multilayer Ferrite Chip Bead Arrays retain all the features of Multilayer Ferrite Chip Beads. In addition, it provides multiple circuits in a single package, which reduces the required land space on PCB and the cost for assembly.

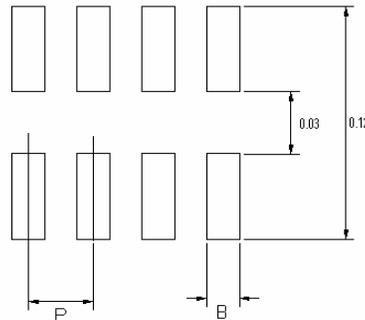
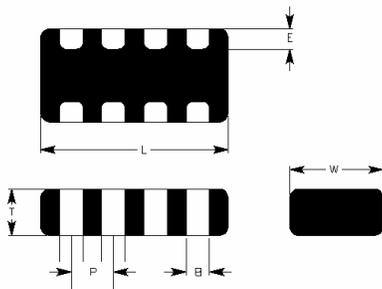
Applications

Noise suppression in signal I/O lines and other circuits that require multiple chip beads for noise suppression

Operating Temperature

- 55°C — + 125 °C

Dimensions



| L INCH (mm) | W INCH (mm) | T INCH (mm) | B INCH (mm) | P INCH (mm) | E INCH (mm) |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 0.126±0.008 (3.20±0.20) | 0.063±0.008 (1.60±0.20) | 0.031±0.008 (0.80±0.20) | 0.016±0.008 (0.40±0.20) | 0.031±0.004 (0.80±0.10) | 0.012±0.008 (0.30±0.20) |

Product Identification

MBA 1206 A 300 P 4 T - T
 (1) (2) (3) (4) (5) (6) (7) (8)

- (1) Series code:
MBA: Multilayer Ferrite Chip Bead Array
- (2) Dimensions: L x W inches
The first two digits: L (length)
The last two digits: W (width)
- (3) Characteristics code:
A – Standard, B – High Speed
- (4) Value code:
Impedance (ohms at 100 MHz)
The first two digits are significant. The last digit specifies the number of zeros to follow.
- (5) Tolerance code: P = ± 25%
- (6) Number of circuits: 4 = Four circuits
- (7) Package code: T = Tape & Reel, B = Bulk
- (8) Termination type code:
T = 100% Sn plating

| AEM Part Number | Z@100MHz Ω | Tolerance | Max. R _{DC} Ω | Max. I A |
|-----------------|---------------|-----------|---------------------------|-------------|
| MBA1206A300P4 | 30 | P | 0.10 | 0.50 |
| MBA1206A600P4 | 60 | P | 0.25 | 0.40 |
| MBA1206A121P4 | 120 | P | 0.30 | 0.40 |
| MBA1206A221P4 | 220 | P | 0.30 | 0.30 |
| MBA1206A301P4 | 300 | P | 0.40 | 0.30 |
| MBA1206A601P4 | 600 | P | 0.50 | 0.20 |
| MBA1206A102P4 | 1000 | P | 0.70 | 0.20 |
| MBA1206B300P4 | 30 | P | 0.25 | 0.40 |
| MBA1206B600P4 | 60 | P | 0.30 | 0.40 |
| MBA1206B121P4 | 120 | P | 0.40 | 0.30 |
| MBA1206B221P4 | 220 | P | 0.45 | 0.20 |
| MBA1206B301P4 | 300 | P | 0.50 | 0.20 |
| MBA1206B601P4 | 600 | P | 0.65 | 0.15 |

Please add packaging and termination codes when ordering.

Multilayer Ferrite Power Beads



Features

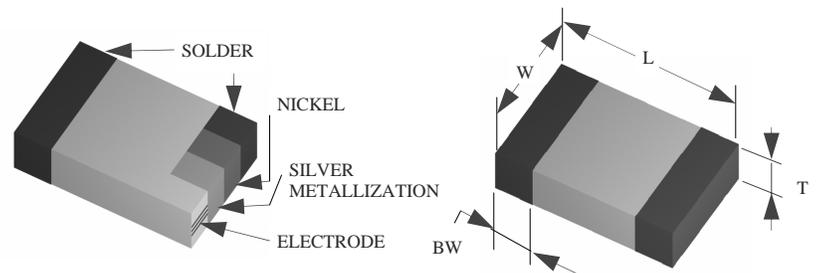
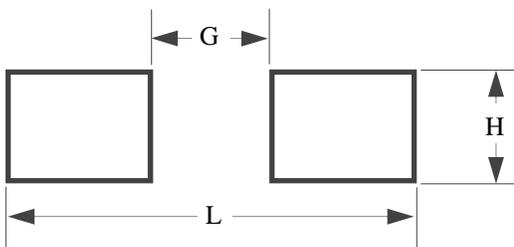
- Monolithic structure for closed magnetic path and high reliability
- Maximum permissible currents up to 4A
- Standard EIA/EIAJ chip sizes such as 0603/1608, 0805/2012, and 1206/3216
- Superior termination bonding strength
- Nickel barrier with solder overplated termination offering excellent solderability and solder leach resistance, suitable for both wave and reflow soldering processes
- RoHS compliant when -T option is specified

Applications

- Noise suppression in computers and peripherals
- Noise suppression in telecommunications
- Noise suppression in data communications
- Noise suppression in consumer electronics

Recommended PC Board Land Patterns

| CHIP SIZE EIA/EIAJ | L INCH (mm) | G INCH (mm) | H INCH (mm) |
|-----------------------|----------------|----------------|----------------|
| 0603(1608) | 0.102 (2.60) | 0.022 (0.55) | 0.037 (0.94) |
| 0805(2012) | 0.118 (3.00) | 0.026 (0.66) | 0.057 (1.45) |
| 1206(3216) | 0.173 (4.40) | 0.059 (1.50) | 0.071 (1.80) |
| 1210(3225) | 0.173 (4.40) | 0.059 (1.50) | 0.106 (2.70) |



Operating Temperature

-55°C — +125°C

Product Identification

MCP 0805 F 600 P T - T
(1) (2) (3) (4) (5) (6) (7)

- (1) Series code:
MCP: Multilayer Ferrite Power Bead
- (2) Dimensions: L x W inches
The first two digits: L (length)
The last two digits: W (width)
- (3) Characteristic code: F
- (4) Value code: Impedance (ohms at 100 MHz)
The first two digits are significant. The last digit specifies the number of zeros to follow.
- (5) Tolerance code:
P = ±25%
Other tolerances may be available upon request.
- (6) Package code:
T = Tape & Reel
B = Bulk
- (7) Termination type code:
T = 100% Sn plating

Shape and Dimensions

| CHIP SIZE EIA/EIAJ | LENGTH (L) INCH (mm) | WIDTH (W) INCH (mm) | THICKNESS (T) INCH (mm) | TERMINATION (BW) INCH (mm) |
|-----------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 0603/1608 | 0.063 ± 0.006 (1.60 ± 0.15) | 0.031 ± 0.006 (0.80 ± 0.15) | 0.031 ± 0.006 (0.80 ± 0.15) | 0.014 ± 0.006 (0.36 ± 0.15) |
| 0805/2012 | 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 ± 0.012 (0.51 ± 0.30) |
| 1206/3216 | 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 ± 0.012 (0.51 ± 0.30) |
| 1210/3225 | 0.126 ± 0.008 (3.20 ± 0.20) | 0.098 ± 0.008 (2.50 ± 0.20) | 0.051 ± 0.008 (1.30 ± 0.20) | 0.020 ± 0.012 (0.51 ± 0.30) |

Other sizes and values may be available upon customer's request.

MCP Series (High Current)

| <i>AEM Part Number</i> | <i>Z@100MHz Ω</i> | <i>Tolerance</i> | <i>Max. R_{DC} Ω</i> | <i>Max. I A</i> |
|------------------------|---|------------------|--|---------------------|
| MCP0603F300 | 30 | P | 0.030 | 3.0 |
| MCP0603F600 | 60 | P | 0.040 | 3.0 |
| MCP0603F800 | 80 | P | 0.040 | 3.0 |
| MCP0603F121 | 120 | P | 0.100 | 2.0 |
| MCP0603F181 | 180 | P | 0.100 | 2.0 |
| MCP0603F221 | 220 | P | 0.100 | 2.0 |
| MCP0603F301 | 300 | P | 0.100 | 2.0 |
| MCP0603F601 | 600 | P | 0.200 | 1.0 |
| MCP0805F300 | 30 | P | 0.015 | 4.0 |
| MCP0805F500 | 50 | P | 0.040 | 3.0 |
| MCP0805F600 | 60 | P | 0.040 | 3.0 |
| MCP0805F800 | 80 | P | 0.040 | 3.0 |
| MCP0805F121 | 120 | P | 0.040 | 3.0 |
| MCP0805F151 | 150 | P | 0.050 | 3.0 |
| MCP0805F221 | 220 | P | 0.050 | 3.0 |
| MCP0805F301 | 300 | P | 0.150 | 2.0 |
| MCP0805F601 | 600 | P | 0.200 | 2.0 |
| MCP0805F102 | 1000 | P | 0.200 | 1.0 |
| MCP1206F190 | 19 | P | 0.020 | 4.0 |
| MCP1206F300 | 30 | P | 0.020 | 4.0 |
| MCP1206F500 | 50 | P | 0.025 | 4.0 |
| MCP1206F800 | 80 | P | 0.030 | 3.0 |
| MCP1206F101 | 100 | P | 0.080 | 2.5 |
| MCP1206F121 | 120 | P | 0.080 | 2.5 |
| MCP1206F221 | 220 | P | 0.100 | 2.0 |

MCP Series (High Current)

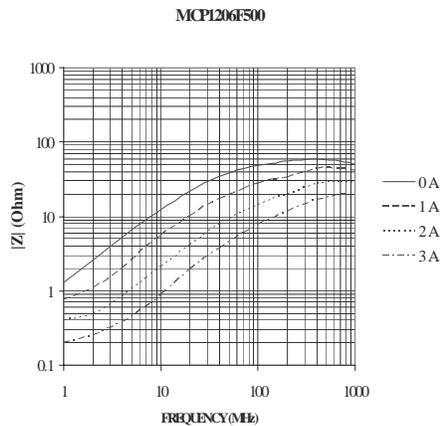
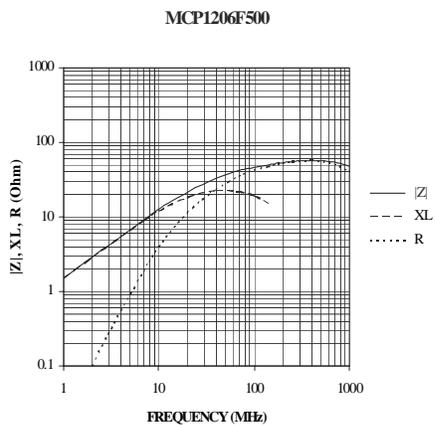
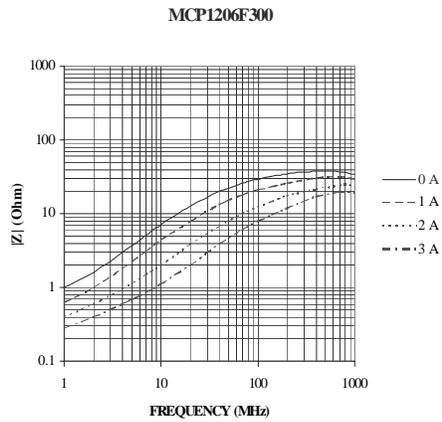
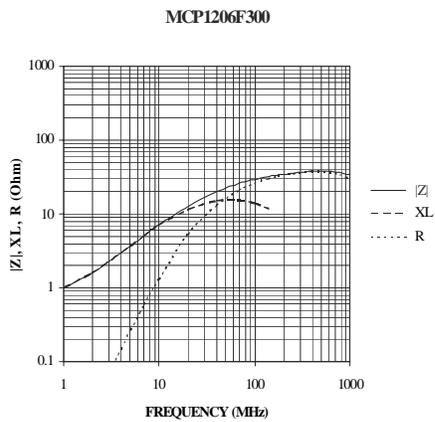
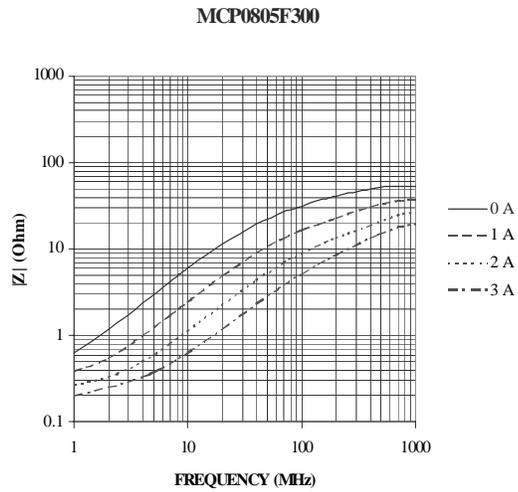
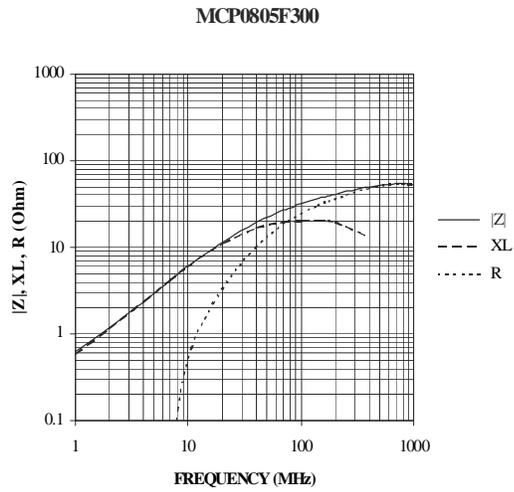
| <i>AEM Part Number</i> | <i>Z@100MHz Ω</i> | <i>Tolerance</i> | <i>Max. R_{DC} Ω</i> | <i>Max. I A</i> |
|------------------------|---|------------------|--|---------------------|
| MCP1206F301 | 300 | P | 0.150 | 2.0 |
| MCP1206F601 | 600 | P | 0.200 | 1.0 |
| MCP1206F102 | 1000 | P | 0.200 | 1.0 |
| MCP1206P300 | 30 | P | 0.015 | 0.6 |
| MCP1206P600 | 60 | P | 0.020 | 0.6 |
| MCP1206P101 | 100 | P | 0.030 | 0.3 |
| MCP1206P121 | 120 | P | 0.040 | 0.3 |
| MCP1206P601 | 600 | P | 0.100 | 0.15 |
| MCP1210F600 | 60 | P | 0.030 | 4.0 |

Definition of rated current: When the rated current is applied to a power bead, its temperature rise shall not exceed 20°C.

Please add tolerance, packaging and termination type codes when ordering.

Electrical Characteristics

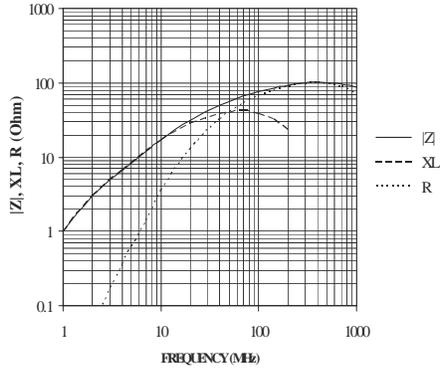
(Curves not listed are available upon request)



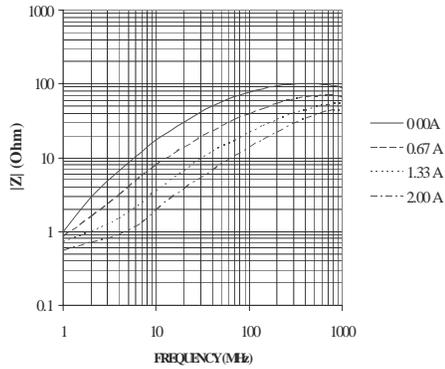
Electrical Characteristics

(Curves not listed are available upon request)

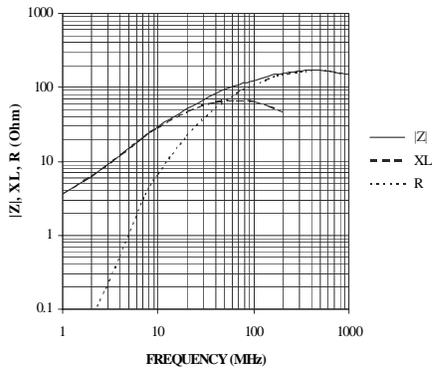
MCP1206F800



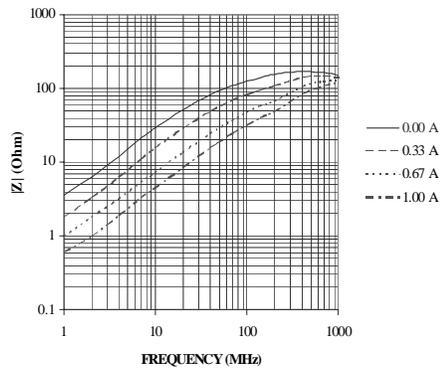
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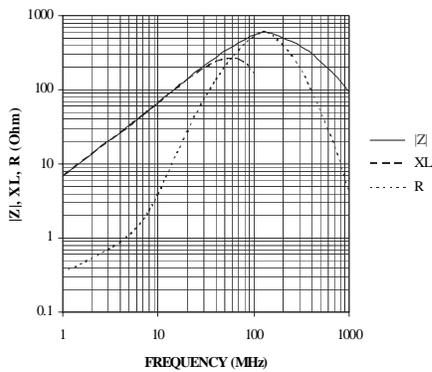
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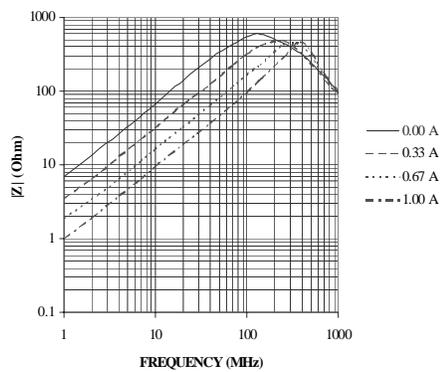
MCP1206F121



MCP1206F601



MCP1206F601





Multilayer Ferrite Inductors

Features

- Monolithic structure for closed magnetic path eliminating crosstalk and providing high reliability in a wide temperature and humidity range
- Standard EIA/EIAJ chip sizes such as 0603/1608, 0805/2012, and 1206/3216
- Superior termination bonding strength
- Nickel barrier with solder overlated termination offering excellent solderability and solder leach resistance, suitable for both wave and reflow soldering processes

Applications

- Prevention of electromagnetic interference to signal for high density circuits in disk drives, personal computers, measuring equipment, and telephone equipment

Recommended PC Board Land Patterns

| CHIP SIZE EIA/EIAJ | L INCH (mm) | G INCH (mm) | H NCH (mm) |
|-----------------------|----------------|----------------|---------------|
| 0603(1608) | 0.102 (2.60) | 0.022 (0.55) | 0.037 (0.94) |
| 0805(2012) | 0.118 (3.00) | 0.026 (0.66) | 0.057 (1.45) |
| 1206(3216) | 0.173 (4.40) | 0.059 (1.50) | 0.071 (1.80) |

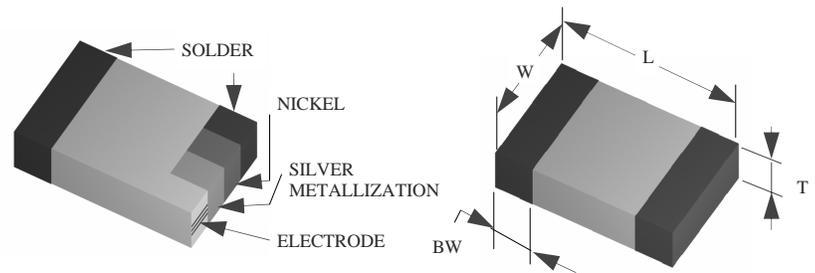
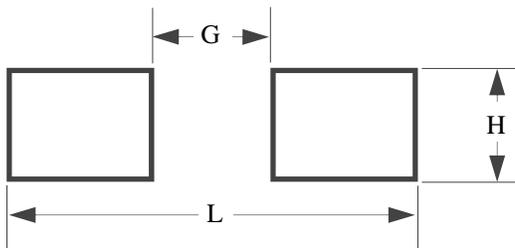
Operating Temperature

-40°C — +85°C

Product Identification

MCI 0603 J 152 K T - T
 (1) (2) (3) (4) (5) (6) (7)

- (1) Series code:
MCI: Multilayer Ferrite Inductor
- (2) Dimensions: L x W inches
The first two digits: L (length)
The last two digits: W (width)
- (3) Characteristic code: H, J
- (4) Value code: Inductance (nH)
The first two digits are significant. The last digit specifies the number of zeros to follow.
- (5) Tolerance code:
K = ±10%
M = ±20%
- (6) Package code:
T = Tape & Reel
B = Bulk
- (7) Termination type code:
T = 100% Sn plating



Shape and Dimensions

| CHIP SIZE EIA/EIAJ | LENGTH (L) INCH (mm) | WIDTH (W) INCH (mm) | THICKNESS (T) INCH (mm) | TERMINATION (BW) INCH (mm) |
|-----------------------|--------------------------------|--------------------------------|--|--------------------------------|
| 0603/1608 | 0.063 ± 0.006 (1.60 ± 0.15) | 0.031 ± 0.006 (0.80 ± 0.15) | 0.031 ± 0.006 (0.80 ± 0.15) | 0.014 ± 0.006 (0.36 ± 0.15) |
| 0805/2012 | 0.079 ± 0.008 (2.00 ± 0.20) | 0.049 ± 0.008 (1.25 ± 0.20) | <2.7µH 0.035 ± 0.008 (0.90 ± 0.20) ≥2.7µH 0.049 ± 0.008 (1.25 ± 0.20) | 0.020 ± 0.012 (0.51 ± 0.30) |
| 1206/3216 | 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 ± 0.012 (0.51 ± 0.30) |

MCI Series (General Use)

| <i>AEM Part Number</i> | <i>L μH</i> | <i>Tolerance</i> | <i>Min. Q</i> | <i>Test Frequency MHz</i> | <i>Min. SRF MHz</i> | <i>Max. R_{DC} Ω</i> | <i>Max. I A</i> |
|------------------------|-----------------|------------------|---------------|-------------------------------|-------------------------|----------------------------------|---------------------|
| MCI0603H470 | 0.047 | M | 15 | 50 | 260 | 0.30 | 0.060 |
| MCI0603H680 | 0.068 | M | 15 | 50 | 250 | 0.30 | 0.060 |
| MCI0603H820 | 0.082 | M | 15 | 50 | 245 | 0.30 | 0.060 |
| MCI0603H101 | 0.10 | K, M | 15 | 25 | 240 | 0.50 | 0.050 |
| MCI0603H121 | 0.12 | K, M | 15 | 25 | 205 | 0.50 | 0.050 |
| MCI0603H151 | 0.15 | K, M | 15 | 25 | 180 | 0.60 | 0.050 |
| MCI0603H181 | 0.18 | K, M | 15 | 25 | 165 | 0.60 | 0.050 |
| MCI0603H221 | 0.22 | K, M | 15 | 25 | 150 | 0.80 | 0.050 |
| MCI0603H271 | 0.27 | K, M | 15 | 25 | 135 | 0.80 | 0.050 |
| MCI0603H331 | 0.33 | K, M | 15 | 25 | 125 | 0.85 | 0.035 |
| MCI0603H391 | 0.39 | K, M | 15 | 25 | 110 | 1.00 | 0.035 |
| MCI0603H471 | 0.47 | K, M | 15 | 25 | 105 | 1.35 | 0.035 |
| MCI0603H561 | 0.56 | K, M | 15 | 25 | 95 | 1.55 | 0.035 |
| MCI0603H681 | 0.68 | K, M | 15 | 25 | 90 | 1.70 | 0.035 |
| MCI0603H821 | 0.82 | K, M | 15 | 25 | 85 | 2.10 | 0.035 |
| MCI0603J102 | 1.0 | K, M | 35 | 10 | 75 | 0.60 | 0.025 |
| MCI0603J122 | 1.2 | K, M | 35 | 10 | 65 | 0.80 | 0.025 |
| MCI0603J152 | 1.5 | K, M | 35 | 10 | 60 | 0.80 | 0.025 |
| MCI0603J182 | 1.8 | K, M | 35 | 10 | 55 | 0.95 | 0.025 |
| MCI0603J222 | 2.2 | K, M | 35 | 10 | 50 | 1.15 | 0.015 |
| MCI0603J272 | 2.7 | K, M | 35 | 10 | 45 | 1.35 | 0.015 |
| MCI0603J332 | 3.3 | K, M | 35 | 10 | 40 | 1.55 | 0.015 |
| MCI0603J392 | 3.9 | K, M | 35 | 10 | 35 | 1.70 | 0.015 |
| MCI0603J472 | 4.7 | K, M | 35 | 10 | 33 | 2.10 | 0.015 |
| MCI0603J562 | 5.6 | K, M | 35 | 4 | 22 | 1.55 | 0.010 |
| MCI0603J682 | 6.8 | K, M | 35 | 4 | 20 | 1.70 | 0.010 |
| MCI0603J822 | 8.2 | K, M | 35 | 4 | 18 | 2.10 | 0.005 |
| MCI0603J103 | 10 | K, M | 30 | 2 | 17 | 1.85 | 0.005 |

Other values may be available upon request.
Please add tolerance, packaging and termination type codes when ordering.

MCI Series (General Use)

| <i>AEM Part Number</i> | <i>L μH</i> | <i>Tolerance</i> | <i>Min. Q</i> | <i>Test Frequency MHz</i> | <i>Min. SRF MHz</i> | <i>Max. R_{DC} Ω</i> | <i>Max. I A</i> |
|------------------------|-----------------|------------------|---------------|-------------------------------|-------------------------|----------------------------------|---------------------|
| MCI0805H470 | 0.047 | K, M | 15 | 50 | 320 | 0.20 | 0.300 |
| MCI0805H680 | 0.068 | K, M | 15 | 50 | 280 | 0.20 | 0.300 |
| MCI0805H820 | 0.082 | K, M | 15 | 50 | 255 | 0.20 | 0.300 |
| MCI0805H101 | 0.10 | K, M | 20 | 25 | 235 | 0.30 | 0.250 |
| MCI0805H121 | 0.12 | K, M | 20 | 25 | 220 | 0.30 | 0.250 |
| MCI0805H151 | 0.15 | K, M | 20 | 25 | 200 | 0.40 | 0.250 |
| MCI0805H181 | 0.18 | K, M | 20 | 25 | 185 | 0.40 | 0.250 |
| MCI0805H221 | 0.22 | K, M | 20 | 25 | 170 | 0.50 | 0.250 |
| MCI0805H271 | 0.27 | K, M | 20 | 25 | 150 | 0.50 | 0.250 |
| MCI0805H331 | 0.33 | K, M | 20 | 25 | 145 | 0.55 | 0.250 |
| MCI0805H391 | 0.39 | K, M | 25 | 25 | 135 | 0.65 | 0.200 |
| MCI0805H471 | 0.47 | K, M | 25 | 25 | 125 | 0.65 | 0.200 |
| MCI0805H561 | 0.56 | K, M | 25 | 25 | 115 | 0.75 | 0.150 |
| MCI0805H681 | 0.68 | K, M | 25 | 25 | 105 | 0.80 | 0.150 |
| MCI0805H821 | 0.82 | K, M | 25 | 25 | 100 | 1.00 | 0.150 |
| MCI0805J102 | 1.0 | K, M | 45 | 10 | 75 | 0.40 | 0.070 |
| MCI0805J122 | 1.2 | K, M | 45 | 10 | 65 | 0.50 | 0.070 |
| MCI0805J152 | 1.5 | K, M | 45 | 10 | 60 | 0.50 | 0.050 |
| MCI0805J182 | 1.8 | K, M | 45 | 10 | 55 | 0.60 | 0.050 |
| MCI0805J222 | 2.2 | K, M | 45 | 10 | 50 | 0.65 | 0.050 |
| MCI0805J272 | 2.7 | K, M | 45 | 10 | 45 | 0.75 | 0.050 |
| MCI0805J332 | 3.3 | K, M | 45 | 10 | 41 | 0.80 | 0.030 |
| MCI0805J392 | 3.9 | K, M | 45 | 10 | 38 | 0.90 | 0.030 |
| MCI0805J472 | 4.7 | K, M | 45 | 10 | 35 | 1.00 | 0.020 |
| MCI0805J562 | 5.6 | K, M | 50 | 4 | 32 | 0.90 | 0.020 |
| MCI0805J682 | 6.8 | K, M | 50 | 4 | 29 | 1.00 | 0.015 |
| MCI0805J822 | 8.2 | K, M | 50 | 4 | 26 | 1.10 | 0.015 |
| MCI0805J103 | 10 | K, M | 50 | 2 | 24 | 1.15 | 0.015 |
| MCI0805J123 | 12 | K, M | 50 | 2 | 24 | 1.25 | 0.015 |

Other values may be available upon request.
Please add tolerance, packaging and termination type codes when ordering.

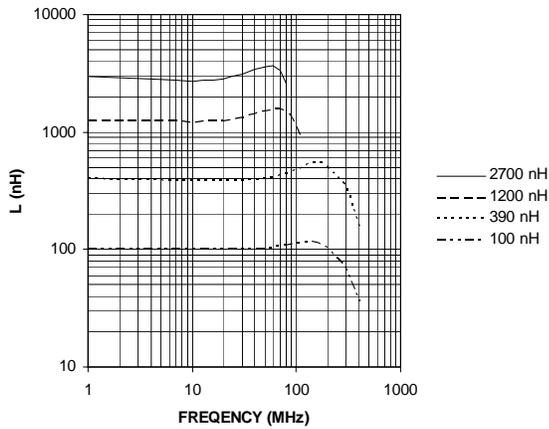
MCI Series (General Use)

| <i>AEM Part Number</i> | <i>L μH</i> | <i>Tolerance</i> | <i>Min. Q</i> | <i>Test Frequency MHz</i> | <i>Min. SRF MHz</i> | <i>Max. R_{DC} Ω</i> | <i>Max. I A</i> |
|------------------------|-----------------|------------------|---------------|-------------------------------|-------------------------|----------------------------------|---------------------|
| MCI1206H470 | 0.047 | M | 20 | 50 | 320 | 0.15 | 0.300 |
| MCI1206H680 | 0.068 | M | 20 | 50 | 280 | 0.25 | 0.300 |
| MCI1206H101 | 0.10 | K, M | 20 | 25 | 235 | 0.25 | 0.250 |
| MCI1206H121 | 0.12 | K, M | 20 | 25 | 220 | 0.30 | 0.250 |
| MCI1206H151 | 0.15 | K, M | 20 | 25 | 200 | 0.30 | 0.250 |
| MCI1206H181 | 0.18 | K, M | 20 | 25 | 185 | 0.40 | 0.250 |
| MCI1206H221 | 0.22 | K, M | 20 | 25 | 170 | 0.40 | 0.250 |
| MCI1206H271 | 0.27 | K, M | 20 | 25 | 150 | 0.50 | 0.250 |
| MCI1206H331 | 0.33 | K, M | 20 | 25 | 145 | 0.60 | 0.250 |
| MCI1206H391 | 0.39 | K, M | 25 | 25 | 135 | 0.60 | 0.200 |
| MCI1206H471 | 0.47 | K, M | 25 | 25 | 125 | 0.60 | 0.200 |
| MCI1206H561 | 0.56 | K, M | 25 | 25 | 115 | 0.70 | 0.150 |
| MCI1206H681 | 0.68 | K, M | 25 | 25 | 105 | 0.80 | 0.150 |
| MCI1206H821 | 0.82 | K, M | 25 | 25 | 100 | 0.90 | 0.150 |
| MCI1206J102 | 1.0 | K, M | 45 | 10 | 75 | 0.40 | 0.100 |
| MCI1206J122 | 1.2 | K, M | 45 | 10 | 65 | 0.50 | 0.100 |
| MCI1206J152 | 1.5 | K, M | 45 | 10 | 60 | 0.50 | 0.060 |
| MCI1206J182 | 1.8 | K, M | 45 | 10 | 55 | 0.50 | 0.060 |
| MCI1206J222 | 2.2 | K, M | 45 | 10 | 50 | 0.60 | 0.060 |
| MCI1206J272 | 2.7 | K, M | 45 | 10 | 45 | 0.60 | 0.050 |
| MCI1206J332 | 3.3 | K, M | 45 | 10 | 41 | 0.70 | 0.050 |
| MCI1206J392 | 3.9 | K, M | 45 | 10 | 38 | 0.80 | 0.050 |
| MCI1206J472 | 4.7 | K, M | 45 | 10 | 35 | 0.85 | 0.050 |
| MCI1206J562 | 5.6 | K, M | 50 | 4 | 32 | 0.90 | 0.025 |
| MCI1206J682 | 6.8 | K, M | 50 | 4 | 29 | 0.90 | 0.025 |
| MCI1206J822 | 8.2 | K, M | 50 | 4 | 26 | 0.90 | 0.025 |
| MCI1206J103 | 10 | K, M | 50 | 2 | 24 | 1.00 | 0.025 |
| MCI1206J123 | 12 | K, M | 50 | 2 | 22 | 1.05 | 0.015 |
| MCI1206J153 | 15 | K, M | 35 | 1 | 19 | 0.70 | 0.010 |
| MCI1206J183 | 18 | K, M | 35 | 1 | 18 | 0.70 | 0.010 |
| MCI1206J223 | 22 | K, M | 35 | 1 | 16 | 0.90 | 0.005 |
| MCI1206J273 | 27 | K, M | 35 | 1 | 14 | 0.90 | 0.005 |
| MCI1206J333 | 33 | K, M | 35 | 1 | 13 | 1.05 | 0.005 |

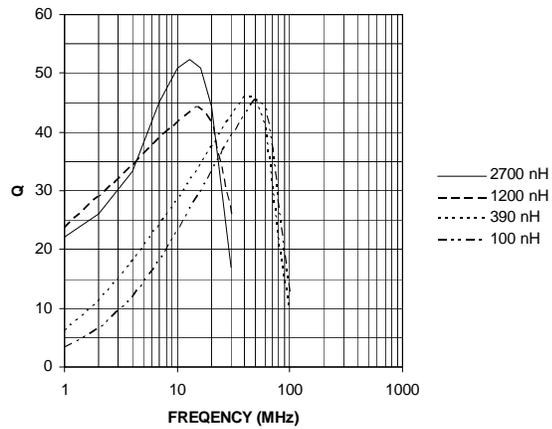
Other values may be available upon request.
Please add tolerance, packaging and termination type codes when ordering.

Electrical Characteristics
 (Curves not listed are available upon request)

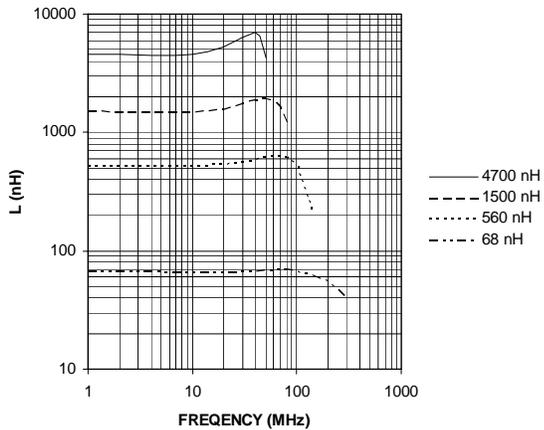
MCI 0603 SERIES



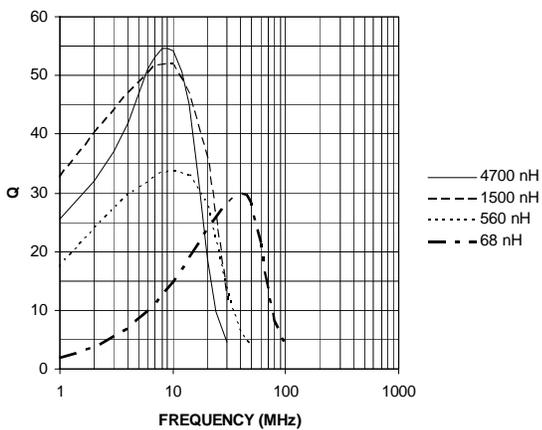
MCI 0603 SERIES



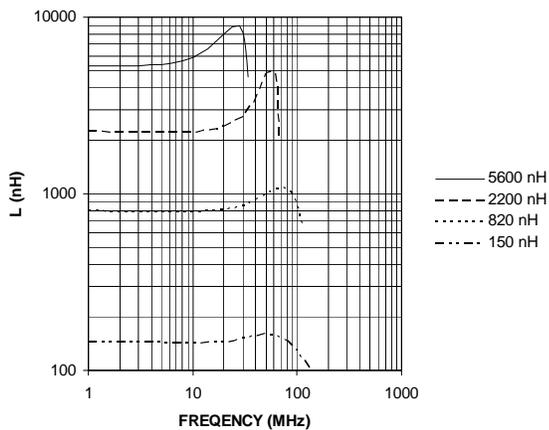
MCI 0805 SERIES



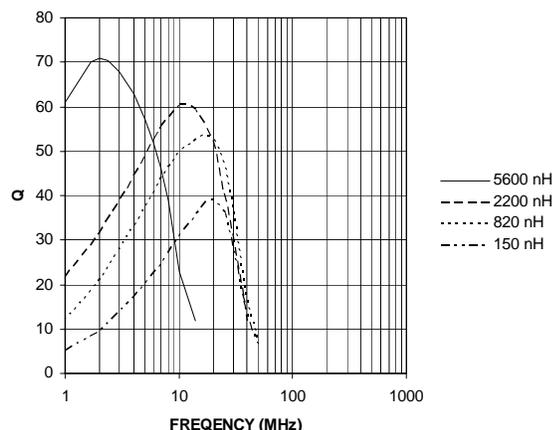
MCI 0805 SERIES



MCI 1206 SERIES



MCI 1206 SERIES



Multilayer Ceramic Inductors

Features

- Monolithic structure with high reliability
- Standard EIA/EIAJ chip sizes such as 0402/1005 and 0603/1608
- High quality ceramic material and unique manufacturing processes providing high Q at high frequencies and high self-resonant frequencies
- Superior termination bonding strength
- Nickel barrier with solder overlated termination offering excellent solderability and solder leach resistance, suitable for both wave and reflow soldering processes

Applications

- High frequency equipment including cellular phones, pagers, radar detectors, computer communications, etc

Operating Temperature

-40°C — +125°C

Product Identification

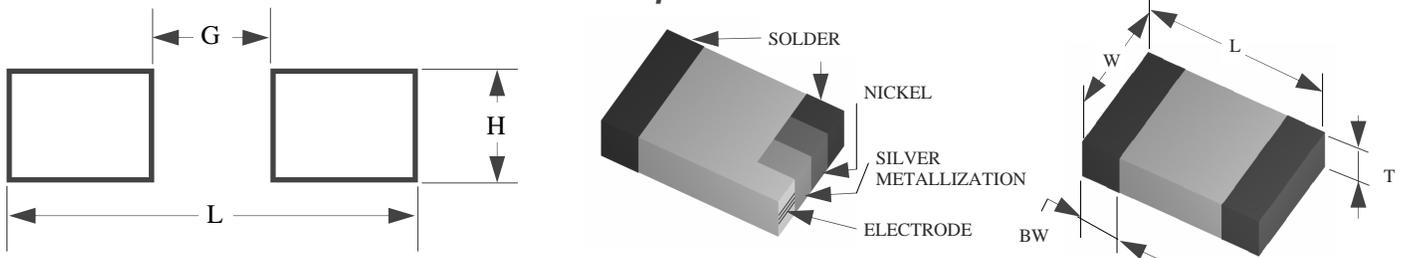
MHI 0603 C 1N8 S T - T
 (1) (2) (3) (4) (5) (6) (7)

- (1) Series code :
MHI: Multilayer Ceramic Inductor
- (2) Dimensions: L x W inches
The first two digits: L (length)
The last two digits: W (width)
- (3) Characteristic code: C
- (4) Value code: Inductance
N — decimal point for nH
Example: 1N8 = 1.8 nH
R — decimal point for μH (1000 nH)
Example: R12 = 0.12 μH = 120 nH
- (5) Tolerance code:
J = ±5%
K = ±10%
S = ±0.3 nH
- (6) Package code:
T = Tape & Reel
B = Bulk
- (7) Termination plating code:
T = 100% Sn plating Terminations
(Sn/Pb plating no longer available)

Recommended PC Board Land Patterns

| CHIP SIZE EIA/EIAJ | L INCH (mm) | G INCH (mm) | H INCH (mm) |
|-----------------------|----------------|----------------|----------------|
| 0402(1005) | 0.063 (1.60) | 0.016 (0.40) | 0.024 (0.60) |
| 0603(1608) | 0.102 (2.60) | 0.022 (0.55) | 0.037 (0.94) |

Shape and Dimensions



| SIZE EIA/EIAJ | LENGTH (L) INCH (mm) | WIDTH (W) INCH (mm) | THICKNESS (T) INCH (mm) | TERMINATION (BW) INCH (mm) |
|------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 0402/1005 | 0.039 ± 0.004 (1.00 ± 0.10) | 0.020 ± 0.004 (0.50 ± 0.10) | 0.020 ± 0.004 (0.50 ± 0.10) | 0.010 ± 0.004 (0.25 ± 0.10) |
| 0603/1608 | 0.063 ± 0.006 (1.60 ± 0.15) | 0.031 ± 0.006 (0.80 ± 0.15) | 0.031 ± 0.006 (0.80 ± 0.15) | 0.014 ± 0.006 (0.36 ± 0.15) |

MHI Series (High Frequency)

| AEM Part Number | L, nH | Tolerance | Min.Q | Typ. Q @100 MHz | Typ. Q @800 MHz | Test Frequency MHz | Min. SRF MHz | Max. R _{DC} Ω | Max. I A |
|-----------------|-------|-----------|-------|-----------------|-----------------|--------------------|--------------|------------------------|----------|
| MHI0402C1N0 | 1.0 | S | 8 | 11 | 42 | 100 | 10000 | 0.12 | 0.30 |
| MHI0402C1N2 | 1.2 | S | 8 | 11 | 42 | 100 | 10000 | 0.12 | 0.30 |
| MHI0402C1N5 | 1.5 | S | 8 | 11 | 40 | 100 | 8000 | 0.13 | 0.30 |
| MHI0402C1N8 | 1.8 | S | 8 | 11 | 40 | 100 | 6000 | 0.14 | 0.30 |
| MHI0402C2N2 | 2.2 | S | 8 | 11 | 35 | 100 | 6000 | 0.16 | 0.30 |
| MHI0402C2N7 | 2.7 | S | 8 | 11 | 35 | 100 | 6000 | 0.17 | 0.30 |
| MHI0402C3N3 | 3.3 | S, K | 8 | 11 | 35 | 100 | 6000 | 0.19 | 0.30 |
| MHI0402C3N9 | 3.9 | S, K | 8 | 11 | 32 | 100 | 4000 | 0.22 | 0.30 |
| MHI0402C4N7 | 4.7 | S, K | 8 | 11 | 32 | 100 | 4000 | 0.24 | 0.30 |
| MHI0402C5N6 | 5.6 | S, K | 8 | 11 | 32 | 100 | 4000 | 0.27 | 0.30 |
| MHI0402C6N8 | 6.8 | J, K | 8 | 11 | 32 | 100 | 3900 | 0.32 | 0.30 |
| MHI0402C8N2 | 8.2 | J, K | 8 | 11 | 32 | 100 | 3500 | 0.37 | 0.30 |
| MHI0402C10N | 10 | J, K | 8 | 11 | 31 | 100 | 3200 | 0.42 | 0.30 |
| MHI0402C12N | 12 | J, K | 8 | 11 | 31 | 100 | 2600 | 0.50 | 0.30 |
| MHI0402C15N | 15 | J, K | 8 | 11 | 30 | 100 | 2300 | 0.55 | 0.30 |
| MHI0402C18N | 18 | J, K | 8 | 11 | 30 | 100 | 2000 | 0.65 | 0.30 |
| MHI0402C22N | 22 | J, K | 8 | 11 | 30 | 100 | 1600 | 0.80 | 0.30 |
| MHI0402C27N | 27 | J, K | 8 | 11 | 28 | 100 | 1400 | 0.90 | 0.30 |
| MHI0402C33N | 33 | J, K | 8 | 11 | 26 | 100 | 1200 | 1.00 | 0.20 |
| MHI0402C39N | 39 | J, K | 8 | 11 | 24 | 100 | 1100 | 1.20 | 0.20 |
| MHI0402C47N | 47 | J, K | 8 | 11 | 23 | 100 | 900 | 1.30 | 0.20 |
| MHI0402C56N | 56 | J, K | 8 | 11 | 21 | 100 | 750 | 1.40 | 0.20 |
| MHI0402C68N | 68 | J, K | 8 | 11 | 19 | 100 | 750 | 1.40 | 0.18 |
| MHI0402C82N | 82 | J, K | 8 | 10 | 16 | 100 | 600 | 1.60 | 0.15 |
| MHI0402CR10 | 100 | J, K | 8 | 10 | | 100 | 600 | 1.60 | 0.10 |
| MHI0402CR12 | 120 | J, K | 8 | 10 | | 100 | 600 | 1.60 | 0.10 |

Other values may be available upon request.

Please add tolerance, packaging and termination type codes when ordering.

MHI Series (for high frequency)

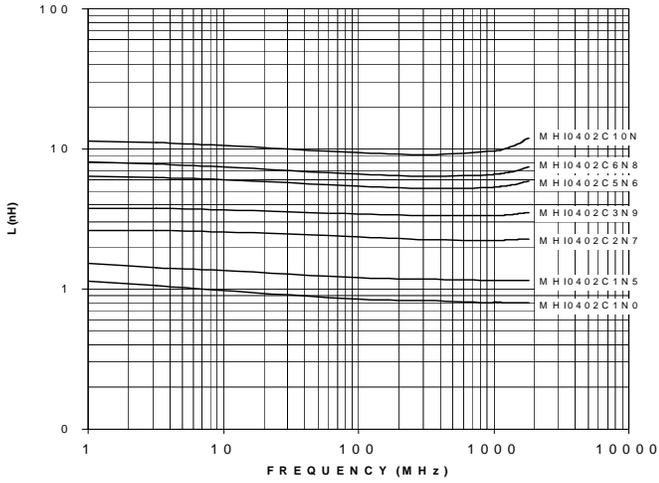
| AEM Part Number | L, nH | Tolerance | Min.Q | Typ. Q @100 MHz | Typ. Q @800 MHz | Test Frequency MHz | Min. SRF MHz | Max. R_{DC} Ω | Max. I A |
|------------------------|--------------|------------------|--------------|------------------------|------------------------|---------------------------|---------------------|------------------------------|-----------------|
| MHI0603C1N5 | 1.5 | S | 8 | 14 | 46 | 100 | 6000 | 0.10 | 1.00 |
| MHI0603C1N8 | 1.8 | S | 8 | 14 | 46 | 100 | 6000 | 0.10 | 1.00 |
| MHI0603C2N2 | 2.2 | S | 8 | 14 | 46 | 100 | 6000 | 0.10 | 1.00 |
| MHI0603C2N7 | 2.7 | S | 8 | 14 | 46 | 100 | 6000 | 0.10 | 1.00 |
| MHI0603C3N3 | 3.3 | S, K | 10 | 14 | 46 | 100 | 6000 | 0.13 | 1.00 |
| MHI0603C3N9 | 3.9 | S, K | 10 | 14 | 46 | 100 | 6000 | 0.15 | 1.00 |
| MHI0603C4N7 | 4.7 | S, K | 10 | 14 | 46 | 100 | 4000 | 0.20 | 1.00 |
| MHI0603C5N6 | 5.6 | S, K | 10 | 14 | 46 | 100 | 4000 | 0.23 | 0.60 |
| MHI0603C6N8 | 6.8 | J, K | 10 | 15 | 46 | 100 | 4000 | 0.25 | 0.60 |
| MHI0603C8N2 | 8.2 | J, K | 10 | 15 | 46 | 100 | 3500 | 0.28 | 0.60 |
| MHI0603C10N | 10 | J, K | 12 | 15 | 46 | 100 | 3200 | 0.30 | 0.60 |
| MHI0603C12N | 12 | J, K | 12 | 15 | 46 | 100 | 2600 | 0.35 | 0.60 |
| MHI0603C15N | 15 | J, K | 12 | 15 | 46 | 100 | 2300 | 0.40 | 0.60 |
| MHI0603C18N | 18 | J, K | 12 | 15 | 46 | 100 | 2000 | 0.45 | 0.60 |
| MHI0603C22N | 22 | J, K | 12 | 18 | 46 | 100 | 1600 | 0.50 | 0.60 |
| MHI0603C27N | 27 | J, K | 12 | 18 | 46 | 100 | 1400 | 0.55 | 0.60 |
| MHI0603C33N | 33 | J, K | 12 | 17 | 46 | 100 | 1200 | 0.60 | 0.60 |
| MHI0603C39N | 39 | J, K | 12 | 17 | 46 | 100 | 1100 | 0.65 | 0.50 |
| MHI0603C47N | 47 | J, K | 12 | 15 | 39 | 100 | 900 | 0.70 | 0.50 |
| MHI0603C56N | 56 | J, K | 12 | 15 | 37 | 100 | 900 | 0.75 | 0.50 |
| MHI0603C68N | 68 | J, K | 12 | 15 | 36 | 100 | 700 | 0.80 | 0.40 |
| MHI0603C82N | 82 | J, K | 12 | 15 | 29 | 100 | 600 | 0.85 | 0.30 |
| MHI0603CR10 | 100 | J, K | 12 | 15 | 16 | 100 | 600 | 0.90 | 0.30 |
| MHI0603CR12 | 120 | J, K | 8 | 13 | 16 | 50 | 500 | 1.00 | 0.30 |
| MHI0603CR15 | 150 | J, K | 8 | 13 | | 50 | 500 | 1.20 | 0.30 |
| MHI0603CR18 | 180 | J, K | 8 | 13 | | 50 | 400 | 1.30 | 0.30 |
| MHI0603CR22 | 220 | J, K | 8 | 13 | | 50 | 400 | 1.50 | 0.30 |

Other values may be available upon request.

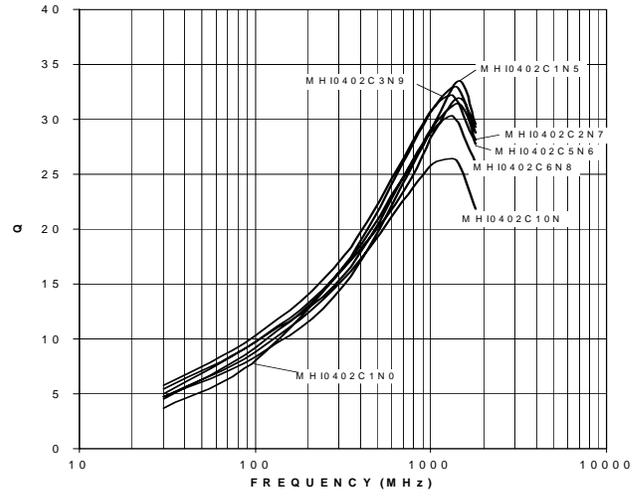
Please add tolerance, packaging and termination type codes when ordering.

Typical Electrical Characteristics
 (Curves not listed are available upon request)

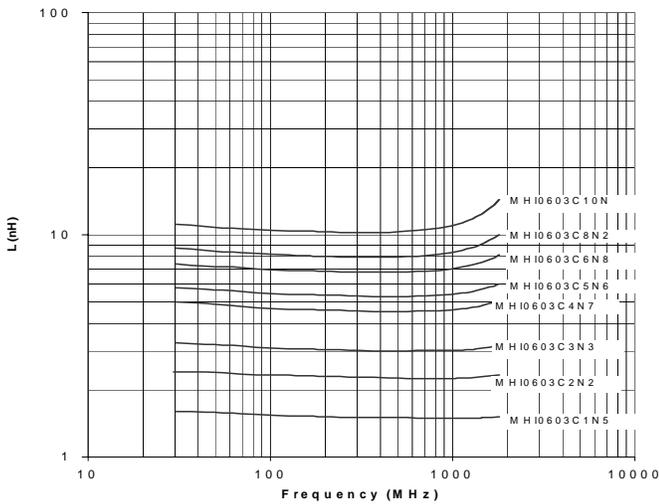
MHI0402 SERIES



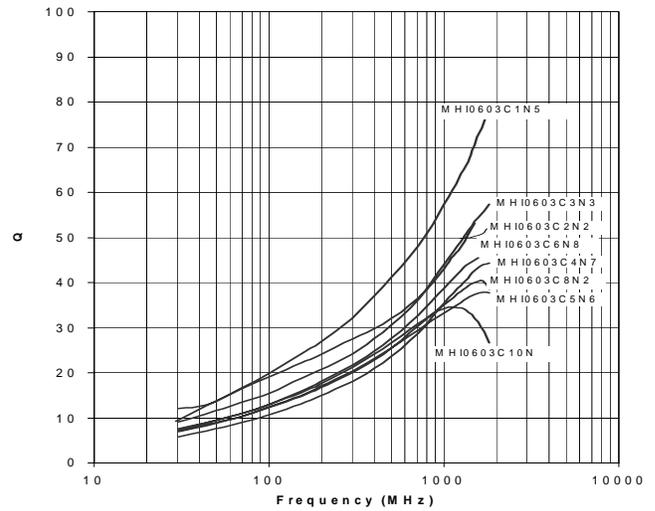
MHI0402 Series



MHI0603 Series



MHI0603 Series



Thin Film Chip Inductors

Features

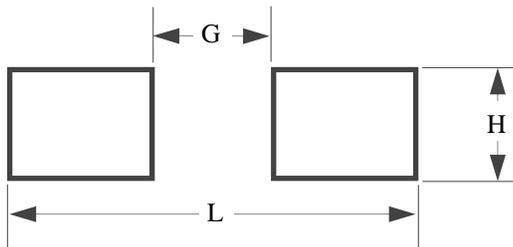
- Photolithographic single layer ceramic chip
- High SRF, superior Q, and excellent temperature stability
- Precision within $\pm 1\%$ or ± 0.1 nH

Applications

- Cellular telephone, digital camera and GPS products
- VCO, TCXO Circuits and RF transceiver modules
- Wireless LANs, bluetooth modules, communication appliances

Recommended PC Board Land Patterns

| CHIP SIZE EIA/EIAJ | L INCH (mm) | G INCH (mm) | H INCH (mm) |
|-----------------------|----------------|----------------|----------------|
| 0201(0502) | 0.033 (0.85) | 0.010 (0.25) | 0.016 (0.40) |
| 0402(1005) | 0.063 (1.60) | 0.016 (0.40) | 0.024 (0.60) |
| 0603(1608) | 0.102 (2.60) | 0.022 (0.55) | 0.037 (0.94) |



Operating Temperature

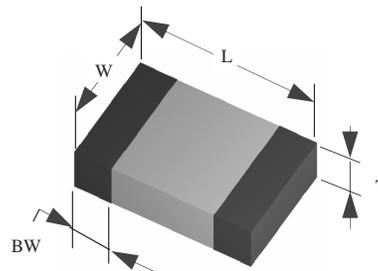
-40°C — +85°C

Product Identification

TFI 0402 C 1N8 S T - I
(1) (2) (3) (4) (5) (6) (7)

- (1) Series code :
TFI: Thin Film Inductor
- (2) Dimensions: L x W inches
The first two digits: L (length)
The last two digits: W (width)
- (3) Characteristic code: C
- (4) Value code: Inductance
N — decimal point for nH
Example: 1N8 = 1.8 nH
R — decimal point for μ H (1000 nH)
Example: R10 = 0.10 μ H = 100 nH
- (5) Tolerance code:
F = $\pm 1\%$ B = ± 0.1 nH
G = $\pm 2\%$ C = ± 0.2 nH
H = $\pm 3\%$ S = ± 0.3 nH
J = $\pm 5\%$
- (6) Package code:
T = Tape & Reel
- (7) Termination type code:
T = 100% Sn plating

Shape and Dimensions



| SIZE EIA/EIAJ | LENGTH (L) INCH (mm) | WIDTH (W) INCH (mm) | THICKNESS (T) INCH (mm) | TERMINATION (BW) INCH (mm) |
|------------------|--|--|--|--|
| 0201/0502 | 0.024 \pm 0.002 (0.60 \pm 0.05) | 0.012 \pm 0.002 (0.30 \pm 0.05) | 0.009 \pm 0.002 (0.23 \pm 0.05) | 0.006 \pm 0.002 (0.15 \pm 0.05) |
| 0402/1005 | 0.039 \pm 0.004 (1.00 \pm 0.10) | 0.020 \pm 0.004 (0.50 \pm 0.10) | 0.013 \pm 0.004 (0.32 \pm 0.10) | 0.008 \pm 0.004 (0.20 \pm 0.10) |
| 0603/1608 | 0.063 \pm 0.006 (1.60 \pm 0.15) | 0.031 \pm 0.006 (0.80 \pm 0.15) | 0.018 \pm 0.004 (0.45 \pm 0.10) | 0.012 \pm 0.008 (0.30 \pm 0.20) |

TFI Series

| <i>AEM Part Number</i> | <i>L, nH</i> | <i>Tolerance</i> | <i>Min. Q</i> | <i>Test Frequency MHz</i> | <i>Min. SRF GHz</i> | <i>Max. R_{DC} Ω</i> | <i>Max. I A</i> |
|------------------------|--------------|------------------|---------------|---------------------------|---------------------|------------------------------|-----------------|
| TFI0201C0N1 | 0.1 | B, C, S | 8 | 500 | 9 | 0.20 | 0.40 |
| TFI0201C0N2 | 0.2 | B, C, S | 8 | 500 | 9 | 0.20 | 0.40 |
| TFI0201C0N3 | 0.3 | B, C, S | 8 | 500 | 9 | 0.20 | 0.40 |
| TFI0201C0N4 | 0.4 | B, C, S | 8 | 500 | 9 | 0.25 | 0.35 |
| TFI0201C0N5 | 0.5 | B, C, S | 8 | 500 | 9 | 0.25 | 0.35 |
| TFI0201C0N6 | 0.6 | B, C, S | 8 | 500 | 9 | 0.25 | 0.35 |
| TFI0201C0N7 | 0.7 | B, C, S | 8 | 500 | 9 | 0.30 | 0.30 |
| TFI0201C0N8 | 0.8 | B, C, S | 8 | 500 | 9 | 0.30 | 0.30 |
| TFI0201C0N9 | 0.9 | B, C, S | 8 | 500 | 9 | 0.30 | 0.30 |
| TFI0201C1N0 | 1.0 | B, C, S | 8 | 500 | 9 | 0.30 | 0.30 |
| TFI0201C1N1 | 1.1 | B, C, S | 8 | 500 | 9 | 0.35 | 0.30 |
| TFI0201C1N2 | 1.2 | B, C, S | 8 | 500 | 9 | 0.35 | 0.30 |
| TFI0201C1N3 | 1.3 | B, C, S | 8 | 500 | 9 | 0.45 | 0.25 |
| TFI0201C1N4 | 1.4 | B, C, S | 8 | 500 | 9 | 0.45 | 0.25 |
| TFI0201C1N5 | 1.5 | B, C, S | 8 | 500 | 9 | 0.45 | 0.25 |
| TFI0201C1N6 | 1.6 | B, C, S | 8 | 500 | 9 | 0.55 | 0.20 |
| TFI0201C1N7 | 1.7 | B, C, S | 8 | 500 | 9 | 0.55 | 0.20 |
| TFI0201C1N8 | 1.8 | B, C, S | 8 | 500 | 9 | 0.55 | 0.20 |
| TFI0201C1N9 | 1.9 | B, C, S | 8 | 500 | 9 | 0.55 | 0.20 |
| TFI0201C2N0 | 2.0 | B, C, S | 8 | 500 | 8 | 0.70 | 0.20 |
| TFI0201C2N1 | 2.1 | B, C, S | 8 | 500 | 8 | 0.70 | 0.20 |
| TFI0201C2N2 | 2.2 | B, C, S | 8 | 500 | 8 | 0.70 | 0.20 |
| TFI0201C2N3 | 2.3 | B, C, S | 8 | 500 | 8 | 0.80 | 0.15 |
| TFI0201C2N4 | 2.4 | B, C, S | 8 | 500 | 8 | 0.80 | 0.15 |
| TFI0201C2N5 | 2.5 | B, C, S | 8 | 500 | 8 | 0.80 | 0.15 |
| TFI0201C2N6 | 2.6 | B, C, S | 8 | 500 | 8 | 0.80 | 0.15 |
| TFI0201C2N7 | 2.7 | B, C, S | 8 | 500 | 8 | 0.80 | 0.15 |
| TFI0201C2N8 | 2.8 | B, C, S | 8 | 500 | 6 | 1.00 | 0.15 |
| TFI0201C2N9 | 2.9 | B, C, S | 8 | 500 | 6 | 1.00 | 0.15 |
| TFI0201C3N0 | 3.0 | B, C, S | 8 | 500 | 6 | 1.00 | 0.15 |
| TFI0201C3N1 | 3.1 | B, C, S | 8 | 500 | 6 | 1.00 | 0.15 |
| TFI0201C3N2 | 3.2 | B, C, S | 8 | 500 | 6 | 1.00 | 0.15 |
| TFI0201C3N3 | 3.3 | B, C, S | 8 | 500 | 6 | 1.00 | 0.15 |
| TFI0201C3N4 | 3.4 | B, C, S | 8 | 500 | 6 | 1.20 | 0.15 |

Other values may be available upon request.

TFI Series

| <i>AEM Part Number</i> | <i>L, nH</i> | <i>Tolerance</i> | <i>Min. Q</i> | <i>Test Frequency MHz</i> | <i>Min. SRF GHz</i> | <i>Max. R_{DC} Ω</i> | <i>Max. I A</i> |
|------------------------|--------------|------------------|---------------|---------------------------|---------------------|------------------------------|-----------------|
| TFI0201C3N5 | 3.5 | B, C, S | 8 | 500 | 6 | 1.20 | 0.15 |
| TFI0201C3N6 | 3.6 | B, C, S | 8 | 500 | 6 | 1.20 | 0.15 |
| TFI0201C3N7 | 3.7 | B, C, S | 8 | 500 | 6 | 1.20 | 0.15 |
| TFI0201C3N8 | 3.8 | B, C, S | 8 | 500 | 6 | 1.20 | 0.15 |
| TFI0201C3N9 | 3.9 | B, C, S | 8 | 500 | 6 | 1.20 | 0.15 |
| TFI0201C4N0 | 4.0 | B, C, S | 8 | 500 | 6 | 1.20 | 0.15 |
| TFI0201C4N4 | 4.4 | B, C, S | 8 | 500 | 6 | 1.30 | 0.15 |
| TFI0201C4N7 | 4.7 | B, C, S | 8 | 500 | 6 | 1.40 | 0.13 |
| TFI0201C4N9 | 4.9 | B, C, S | 8 | 500 | 6 | 1.60 | 0.13 |
| TFI0201C5N6 | 5.6 | G, J | 8 | 500 | 4 | 1.80 | 0.13 |
| TFI0201C6N1 | 6.1 | G, J | 8 | 500 | 4 | 2.00 | 0.12 |
| TFI0201C6N8 | 6.8 | G, J | 8 | 500 | 4 | 2.30 | 0.11 |
| TFI0201C7N4 | 7.4 | G, J | 8 | 500 | 4 | 2.80 | 0.11 |
| TFI0201C8N2 | 8.2 | G, J | 8 | 500 | 3 | 3.00 | 0.11 |
| TFI0201C9N1 | 9.1 | G, J | 8 | 500 | 3 | 3.25 | 0.10 |
| TFI0201C9N2 | 9.2 | G, J | 8 | 500 | 3 | 3.25 | 0.10 |
| TFI0201C10N | 10 | G, J | 8 | 500 | 2 | 3.50 | 0.08 |
| TFI0402C0N2 | 0.2 | B, C, S | 13 | 500 | 14 | 0.10 | 0.80 |
| TFI0402C0N3 | 0.3 | B, C, S | 13 | 500 | 14 | 0.10 | 0.80 |
| TFI0402C0N4 | 0.4 | B, C, S | 13 | 500 | 14 | 0.10 | 0.80 |
| TFI0402C0N5 | 0.5 | B, C, S | 13 | 500 | 14 | 0.15 | 0.70 |
| TFI0402C0N8 | 0.8 | B, C, S | 13 | 500 | 14 | 0.15 | 0.70 |
| TFI0402C0N9 | 0.9 | B, C, S | 13 | 500 | 14 | 0.15 | 0.70 |
| TFI0402C1N0 | 1.0 | B, C, S | 13 | 500 | 12 | 0.15 | 0.70 |
| TFI0402C1N1 | 1.1 | B, C, S | 13 | 500 | 12 | 0.15 | 0.70 |
| TFI0402C1N2 | 1.2 | B, C, S | 13 | 500 | 12 | 0.15 | 0.70 |
| TFI0402C1N3 | 1.3 | B, C, S | 13 | 500 | 10 | 0.25 | 0.70 |
| TFI0402C1N4 | 1.4 | B, C, S | 13 | 500 | 10 | 0.25 | 0.70 |
| TFI0402C1N5 | 1.5 | B, C, S | 13 | 500 | 10 | 0.25 | 0.70 |
| TFI0402C1N6 | 1.6 | B, C, S | 13 | 500 | 10 | 0.25 | 0.56 |
| TFI0402C1N7 | 1.7 | B, C, S | 13 | 500 | 10 | 0.25 | 0.56 |
| TFI0402C1N8 | 1.8 | B, C, S | 13 | 500 | 10 | 0.25 | 0.56 |
| TFI0402C1N9 | 1.9 | B, C, S | 13 | 500 | 8 | 0.35 | 0.56 |
| TFI0402C2N0 | 2.0 | B, C, S | 13 | 500 | 8 | 0.35 | 0.56 |

Other values may be available upon request.

TFI Series

| <i>AEM Part Number</i> | <i>L, nH</i> | <i>Tolerance</i> | <i>Min. Q</i> | <i>Test Frequency MHz</i> | <i>Min. SRF GHz</i> | <i>Max. R_{DC} Ω</i> | <i>Max. I A</i> |
|------------------------|--------------|------------------|---------------|---------------------------|---------------------|------------------------------|-----------------|
| TFI0402C2N1 | 2.1 | B, C, S | 13 | 500 | 8 | 0.35 | 0.44 |
| TFI0402C2N2 | 2.2 | B, C, S | 13 | 500 | 8 | 0.35 | 0.44 |
| TFI0402C2N3 | 2.3 | B, C, S | 13 | 500 | 8 | 0.35 | 0.44 |
| TFI0402C2N4 | 2.4 | B, C, S | 13 | 500 | 8 | 0.35 | 0.44 |
| TFI0402C2N5 | 2.5 | B, C, S | 13 | 500 | 8 | 0.35 | 0.44 |
| TFI0402C2N6 | 2.6 | B, C, S | 13 | 500 | 8 | 0.35 | 0.44 |
| TFI0402C2N7 | 2.7 | B, C, S | 13 | 500 | 8 | 0.35 | 0.44 |
| TFI0402C2N8 | 2.8 | B, C, S | 13 | 500 | 6 | 0.45 | 0.38 |
| TFI0402C2N9 | 2.9 | B, C, S | 13 | 500 | 6 | 0.45 | 0.38 |
| TFI0402C3N0 | 3.0 | B, C, S | 13 | 500 | 6 | 0.45 | 0.38 |
| TFI0402C3N1 | 3.1 | B, C, S | 13 | 500 | 6 | 0.45 | 0.38 |
| TFI0402C3N2 | 3.2 | B, C, S | 13 | 500 | 6 | 0.45 | 0.38 |
| TFI0402C3N3 | 3.3 | B, C, S | 13 | 500 | 6 | 0.45 | 0.38 |
| TFI0402C3N4 | 3.4 | B, C, S | 13 | 500 | 6 | 0.55 | 0.38 |
| TFI0402C3N5 | 3.5 | B, C, S | 13 | 500 | 6 | 0.55 | 0.38 |
| TFI0402C3N6 | 3.6 | B, C, S | 13 | 500 | 6 | 0.55 | 0.38 |
| TFI0402C3N7 | 3.7 | B, C, S | 13 | 500 | 6 | 0.55 | 0.34 |
| TFI0402C3N8 | 3.8 | B, C, S | 13 | 500 | 6 | 0.55 | 0.34 |
| TFI0402C3N9 | 3.9 | B, C, S | 13 | 500 | 6 | 0.55 | 0.34 |
| TFI0402C4N3 | 4.3 | B, C, S | 13 | 500 | 6 | 0.65 | 0.32 |
| TFI0402C4N7 | 4.7 | B, C, S | 13 | 500 | 6 | 0.65 | 0.32 |
| TFI0402C5N4 | 5.4 | B, C, S | 13 | 500 | 6 | 0.85 | 0.28 |
| TFI0402C5N6 | 5.6 | B, C, S | 13 | 500 | 6 | 0.85 | 0.28 |
| TFI0402C5N6 | 5.9 | B, C, S | 13 | 500 | 6 | 0.85 | 0.28 |
| TFI0402C6N5 | 6.5 | B, C, S | 13 | 500 | 6 | 1.05 | 0.26 |
| TFI0402C6N8 | 6.8 | B, C, S | 13 | 500 | 6 | 1.05 | 0.26 |
| TFI0402C7N2 | 7.2 | B, C, S | 13 | 500 | 6 | 1.05 | 0.26 |
| TFI0402C8N0 | 8.0 | B, C, S | 13 | 500 | 5.5 | 1.25 | 0.22 |
| TFI0402C8N1 | 8.1 | B, C, S | 13 | 500 | 5.5 | 1.25 | 0.22 |
| TFI0402C8N2 | 8.2 | B, C, S | 13 | 500 | 5.5 | 1.25 | 0.22 |
| TFI0402C9N1 | 9.1 | B, C, S | 13 | 500 | 5.5 | 1.25 | 0.22 |
| TFI0402C10N | 10 | F, G, H, J | 13 | 500 | 4.5 | 1.35 | 0.20 |
| TFI0402C10N8 | 10.8 | F, G, H, J | 13 | 500 | 4.5 | 1.35 | 0.20 |
| TFI0402C12N | 12 | F, G, H, J | 13 | 500 | 3.7 | 1.55 | 0.18 |
| TFI0402C13N8 | 13.8 | F, G, H, J | 13 | 500 | 3.7 | 1.75 | 0.18 |
| TFI0402C15N | 15 | F, G, H, J | 13 | 500 | 3.3 | 1.75 | 0.13 |
| TFI0402C17N | 17 | F, G, H, J | 13 | 500 | 3.1 | 1.95 | 0.10 |

Other values may be available upon request.

TFI Series

| <i>AEM Part Number</i> | <i>L, nH</i> | <i>Tolerance</i> | <i>Min. Q</i> | <i>Test Frequency MHz</i> | <i>Min. SRF GHz</i> | <i>Max. R_{DC} Ω</i> | <i>Max. I A</i> |
|------------------------|--------------|------------------|---------------|---------------------------|---------------------|------------------------------|-----------------|
| TFI0402C18N | 18 | F, G, H, J | 13 | 500 | 3.1 | 2.15 | 0.10 |
| TFI0402C20N8 | 20.8 | F, G, H, J | 13 | 500 | 2.8 | 2.55 | 0.09 |
| TFI0402C22N | 22 | F, G, H, J | 13 | 500 | 2.8 | 2.65 | 0.09 |
| TFI0402C27N | 27 | F, G, H, J | 13 | 500 | 2.5 | 3.25 | 0.075 |
| TFI0402C33N | 33 | J | 13 | 500 | 2.5 | 4.50 | 0.075 |
| TFI0603C1N0 | 1.0 | B, C, S | 15 | 300 | 13 | 0.35 | 0.80 |
| TFI0603C1N2 | 1.2 | B, C, S | 15 | 300 | 13 | 0.35 | 0.80 |
| TFI0603C1N5 | 1.5 | B, C, S | 15 | 300 | 10 | 0.35 | 0.80 |
| TFI0603C1N8 | 1.8 | B, C, S | 15 | 300 | 10 | 0.35 | 0.30 |
| TFI0603C2N2 | 2.2 | B, C, S | 15 | 300 | 8 | 0.35 | 0.30 |
| TFI0603C2N7 | 2.7 | B, C, S | 15 | 300 | 6 | 0.45 | 0.30 |
| TFI0603C3N3 | 3.3 | B, C, S | 15 | 300 | 6 | 0.45 | 0.30 |
| TFI0603C3N9 | 3.9 | B, C, S | 15 | 300 | 6 | 0.45 | 0.30 |
| TFI0603C4N7 | 4.7 | B, C, S | 15 | 300 | 5 | 0.55 | 0.30 |
| TFI0603C5N6 | 5.6 | B, C, S | 15 | 300 | 5 | 0.65 | 0.30 |
| TFI0603C6N8 | 6.8 | B, C, S | 15 | 300 | 5 | 0.75 | 0.30 |
| TFI0603C8N2 | 8.2 | B, C, S | 15 | 300 | 4 | 0.95 | 0.30 |
| TFI0603C10N | 10 | F, G, H, J | 15 | 300 | 4 | 0.95 | 0.30 |
| TFI0603C12N | 12 | F, G, H, J | 15 | 300 | 3 | 1.05 | 0.30 |
| TFI0603C15N | 15 | F, G, H, J | 15 | 300 | 3 | 1.35 | 0.30 |
| TFI0603C18N | 18 | F, G, H, J | 15 | 300 | 2 | 1.65 | 0.30 |
| TFI0603C22N | 22 | F, G, H, J | 15 | 300 | 2 | 1.95 | 0.25 |
| TFI0603C27N | 27 | F, G, H, J | 15 | 300 | 2 | 2.35 | 0.25 |
| TFI0603C33N | 33 | F, G, H, J | 15 | 300 | 1.5 | 2.75 | 0.25 |
| TFI0603C39N | 39 | F, G, H, J | 15 | 300 | 1.5 | 3.00 | 0.20 |
| TFI0603C47N | 47 | F, G, H, J | 15 | 300 | 1.5 | 3.00 | 0.20 |
| TFI0603C56N | 56 | F, G, H, J | 15 | 300 | 1 | 5.00 | 0.15 |
| TFI0603C68N | 68 | F, G, H, J | 15 | 300 | 1 | 5.00 | 0.15 |
| TFI0603CR10 | 100 | G, H, J | 15 | 300 | 1 | 7.50 | 0.10 |

Other values may be available upon request.



Wire Wound Chip Inducors

Features

- Wire wound ceramic construction provide high SRF
- Ultra-compact inductors provide exceptional Q values
- Low profile , high current are available
- Miniature SMD chip inductor for fully automated assembly
- Outstanding endurance from Pull-up force, mechanical shock and pressure
- Tighter tolerance down to $\pm 2\%$
- Smaller size of 0402 (1005)

Applications

- RF Products
 - Cellular Phone (CDMA/GSM/PHS)
 - Cordless Phone (DECT/CT1CT2)
 - Remote Control, Security System
 - Wireless PDA
 - WLL, Wireless LAN / Mouse / Keyboard / Earphone
 - VCO, RF Module & Other Wireless Products
 - Base Station, Repeater
 - GPS Receive
- Broad Band Applications:
 - CATV Filter, Tuner
 - Cable Modem/ XDSL Tuner
 - Set Top Box
- IT applications
 - USB 2.0
 - IEEE1394

Operating Temperature

-40°C — +125°C

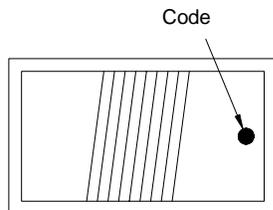
Product Identification

WHI 0402 L 1N9 J T
 (1) (2) (3) (4) (5) (6)

- (1) Series code :
WHI: Wire Wound Chip Inductor
- (2) Dimensions: (L x W inches)
- (3) Design code
C= Standard Inductor
L= Low Profile Inductor
H= High Current and High Q
- (4) Inductance
1N6=1.6nH
82N=82nH
R27=270nH
1R0=1000nH
103=10,000nH
- (5) Inductance Tolerance
G = $\pm 2\%$
J = $\pm 5\%$
K = $\pm 10\%$
M = $\pm 20\%$
- (6) Packaging:
T=Taping Reel

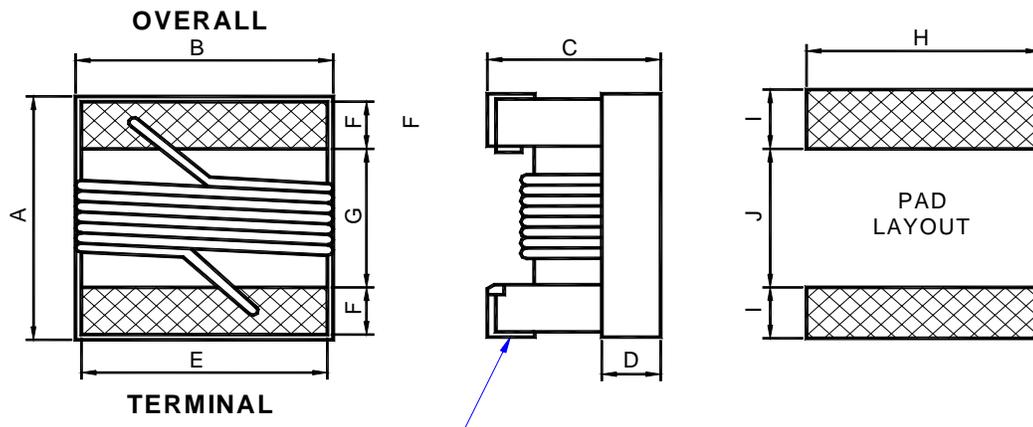
Color Coding:

0603 / 0805/1206/1008 Series (0402 Series is No Color Coding)
 Because of small sizes, these parts are marked with a single color dot.
 The inductance value represented by the dot is shown on the data page for each series.



COLOR CODING

Shape and Dimensions (mm):



TERMINAL WARP/AROUND:
Approx. 0.007" /0.18mm BOTH ENDS

Standard

| Series | A Max. | B Max. | C Max. | D Ref. | E | F | G | H | I | J |
|---------|--------|--------|--------|--------|------|------|------|------|------|------|
| WHI0402 | 1.27 | 0.76 | 0.61 | 0.15 | 0.51 | 0.23 | 0.56 | 0.66 | 0.50 | 0.46 |
| WHI0603 | 1.80 | 1.12 | 1.02 | 0.38 | 0.76 | 0.33 | 0.86 | 1.02 | 0.64 | 0.64 |
| WHI0805 | 2.29 | 1.73 | 1.52 | 0.51 | 1.27 | 0.44 | 1.02 | 1.78 | 1.02 | 0.76 |
| WHI1008 | 2.92 | 2.79 | 2.03 | 0.65 | 2.03 | 0.51 | 1.52 | 2.54 | 1.02 | 1.27 |
| WHI1206 | 3.56 | 2.16 | 1.52 | 0.50 | 1.60 | 0.50 | 2.20 | 1.93 | 1.02 | 1.78 |

Low profile

| Series | A Max. | B Max. | C Max. | D Ref. | E | F | G | H | I | J |
|---------|--------|--------|--------|--------|------|------|------|------|------|------|
| WHI0805 | 2.29 | 1.73 | 1.03 | 0.51 | 1.27 | 0.44 | 1.02 | 1.78 | 1.02 | 0.76 |
| WHI1008 | 2.92 | 2.79 | 1.40 | 0.65 | 2.03 | 0.51 | 1.52 | 2.54 | 1.02 | 1.27 |

High Current / High Q

| Series | A Max. | B Max. | C Max. | D Ref. | E | F | G | H | I | J |
|---------|--------|--------|--------|--------|------|------|------|------|------|------|
| WHI0603 | 1.80 | 1.12 | 1.02 | 0.38 | 0.76 | 0.33 | 0.86 | 1.02 | 0.64 | 0.64 |
| WHI0805 | 2.29 | 1.73 | 1.52 | 0.51 | 1.27 | 0.44 | 1.02 | 1.78 | 1.02 | 0.76 |
| WHI1008 | 2.92 | 2.79 | 2.03 | 0.65 | 2.03 | 0.51 | 1.52 | 2.54 | 1.02 | 1.27 |

Wire Wound Chip Inductors / Standard

| AEM Part Number | L, nH | Tolerance | Min. Q | Test Frequency (MHz) | Min. SRF (GHz) | Max. Rdc (Ω) | Max. I (A) | 900MHz | | 1.7GHz | | |
|-----------------|-------|-----------|--------|----------------------|----------------|-----------------------|------------|--------|-------|--------|-------|-----|
| | | | | | | | | L | L, nH | Q | L, nH | Q |
| WHI0402C1N0 | 1.0 | K | 16 | 250 | 12.7 | 0.045 | 1.3 | L | 1.02 | 77 | 1.02 | 69 |
| WHI0402C1N9 | 1.9 | J,K | 16 | 250 | 11.3 | 0.07 | 1.0 | L | 1.72 | 68 | 1.74 | 82 |
| WHI0402C2N0 | 2.0 | J,K | 16 | 250 | 11.1 | 0.07 | 1.0 | L | 1.93 | 54 | 1.93 | 75 |
| WHI0402C2N2 | 2.2 | J,K | 19 | 250 | 10.8 | 0.07 | 1.0 | L | 2.19 | 59 | 2.23 | 100 |
| WHI0402C2N4 | 2.4 | J,K | 15 | 250 | 10.5 | 0.07 | 0.8 | L | 2.24 | 51 | 2.27 | 68 |
| WHI0402C2N7 | 2.7 | J,K | 19 | 250 | 10.4 | 0.12 | 0.6 | L | 2.23 | 42 | 2.25 | 61 |
| WHI0402C3N3 | 3.3 | G,J,K | 19 | 250 | 7.0 | 0.07 | 0.8 | L | 3.10 | 65 | 3.12 | 87 |
| WHI0402C3N6 | 3.6 | G,J,K | 19 | 250 | 6.8 | 0.07 | 0.8 | L | 3.56 | 45 | 3.62 | 71 |
| WHI0402C3N9 | 3.9 | G,J,K | 19 | 250 | 6.0 | 0.07 | 0.8 | L | 3.89 | 50 | 4.00 | 75 |
| WHI0402C4N3 | 4.3 | G,J,K | 18 | 250 | 6.0 | 0.09 | 0.7 | L | 4.19 | 47 | 4.30 | 71 |
| WHI0402C4N7 | 4.7 | G,J,K | 18 | 250 | 4.8 | 0.13 | 0.6 | L | 4.55 | 48 | 4.68 | 68 |
| WHI0402C5N1 | 5.1 | G,J,K | 20 | 250 | 4.8 | 0.08 | 0.8 | L | 5.15 | 56 | 5.25 | 82 |
| WHI0402C5N6 | 5.6 | G,J,K | 20 | 250 | 4.8 | 0.08 | 0.8 | L | 5.16 | 54 | 5.28 | 81 |
| WHI0402C6N2 | 6.2 | G,J,K | 20 | 250 | 4.8 | 0.08 | 0.8 | L | 6.16 | 52 | 6.37 | 76 |
| WHI0402C6N8 | 6.8 | G,J,K | 20 | 250 | 4.8 | 0.08 | 0.7 | L | 6.56 | 63 | 6.93 | 78 |
| WHI0402C7N5 | 7.5 | G,J,K | 22 | 250 | 4.8 | 0.10 | 0.7 | L | 7.91 | 60 | 8.22 | 88 |
| WHI0402C8N2 | 8.2 | G,J,K | 22 | 250 | 4.4 | 0.10 | 0.7 | L | 8.50 | 57 | 8.85 | 84 |
| WHI0402C8N7 | 8.7 | G,J,K | 18 | 250 | 4.1 | 0.20 | 0.5 | L | 8.78 | 54 | 9.21 | 73 |
| WHI0402C9N0 | 9.0 | G,J,K | 22 | 250 | 4.1 | 0.10 | 0.7 | L | 9.07 | 62 | 9.53 | 78 |
| WHI0402C9N5 | 9.5 | G,J,K | 18 | 250 | 4.0 | 0.20 | 0.5 | L | 9.42 | 54 | 9.98 | 69 |
| WHI0402C10N | 10 | G,J,K | 21 | 250 | 3.9 | 0.20 | 0.5 | L | 9.80 | 50 | 10.1 | 67 |
| WHI0402C11N | 11 | G,J,K | 24 | 250 | 3.7 | 0.12 | 0.6 | L | 10.7 | 52 | 11.2 | 78 |
| WHI0402C12N | 12 | G,J,K | 24 | 250 | 3.6 | 0.12 | 0.6 | L | 11.9 | 53 | 12.7 | 71 |
| WHI0402C13N | 13 | G,J,K | 24 | 250 | 3.4 | 0.21 | 0.4 | L | 13.4 | 51 | 14.6 | 57 |
| WHI0402C15N | 15 | G,J,K | 24 | 250 | 3.3 | 0.17 | 0.5 | L | 14.6 | 55 | 15.5 | 77 |
| WHI0402C16N | 16 | G,J,K | 24 | 250 | 3.1 | 0.22 | 0.4 | L | 16.6 | 46 | 18.8 | 47 |
| WHI0402C18N | 18 | G,J,K | 24 | 250 | 3.1 | 0.23 | 0.4 | L | 18.3 | 57 | 20.3 | 62 |
| WHI0402C19N | 19 | G,J,K | 24 | 250 | 3.0 | 0.20 | 0.5 | L | 19.1 | 50 | 21.1 | 67 |
| WHI0402C20N | 20 | G,J,K | 24 | 250 | 3.0 | 0.25 | 0.4 | L | 20.7 | 52 | 23.7 | 53 |
| WHI0402C22N | 22 | G,J,K | 24 | 250 | 2.8 | 0.30 | 0.4 | L | 23.2 | 53 | 26.8 | 53 |
| WHI0402C23N | 23 | G,J,K | 24 | 250 | 2.7 | 0.30 | 0.4 | L | 23.8 | 49 | 29.5 | 64 |
| WHI0402C24N | 24 | G,J,K | 24 | 250 | 2.7 | 0.30 | 0.4 | L | 25.1 | 51 | 33.5 | 50 |
| WHI0402C27N | 27 | G,J,K | 24 | 250 | 2.5 | 0.30 | 0.4 | L | 28.7 | 49 | 38.5 | 63 |
| WHI0402C30N | 30 | G,J,K | 24 | 250 | 2.3 | 0.35 | 0.4 | L | 31.1 | 46 | 41.7 | 39 |
| WHI0402C33N | 33 | G,J,K | 24 | 250 | 2.3 | 0.35 | 0.4 | L | 34.9 | 31 | 26.9 | 32 |
| WHI0402C36N | 36 | G,J,K | 24 | 250 | 2.3 | 0.44 | 0.3 | L | 39.5 | 44 | 48.4 | 53 |
| WHI0402C39N | 39 | G,J,K | 25 | 250 | 2.1 | 0.55 | 0.2 | L | 41.7 | 47 | 50.2 | 45 |

Wire Wound Chip Inductors / Standard

| AEM Part Number | L, nH | Tolerance | Min. Q | Test Frequency (MHz) | Min. SRF (GHz) | Max. Rdc (Ω) | Max. I (A) | 900MHz | | 1.7GHz | | Color code |
|-----------------|-------|-----------|--------|----------------------|----------------|-----------------------|------------|--------|----|--------|----|------------|
| | | | | | | | | L, nH | Q | L, nH | Q | |
| WHI0402C40N | 40 | G,J,K | 25 | 250 | 2.1 | 0.50 | 0.2 | 39.0 | 44 | 47.4 | 33 | |
| WHI0402C43N | 43 | G,J,K | 25 | 250 | 2.0 | 0.81 | 0.1 | 45.8 | 46 | 61.6 | 34 | |
| WHI0402C47N | 47 | G,J,K | 25 | 250 | 2.0 | 0.83 | 0.1 | 50.0 | 38 | 55.8 | 37 | |
| WHI0402C51N | 51 | G,J,K | 25 | 250 | 1.7 | 0.83 | 0.1 | 50.4 | 47 | 59.4 | 37 | |
| WHI0402C56N | 56 | G,J,K | 25 | 250 | 1.7 | 0.97 | 0.1 | 57.4 | 49 | 72.4 | 40 | |
| WHI0402C68N | 68 | G,J,K | 22 | 250 | 1.6 | 1.12 | 0.1 | 69.6 | 45 | 83.4 | 38 | |
| WHI0603C1N6 | 1.6 | J,K | 24 | 250 | 12.5 | 0.03 | 0.7 | 1.53 | 35 | 1.58 | 55 | Blue |
| WHI0603C1N8 | 1.8 | J,K | 16 | 250 | 12.5 | 0.045 | 0.7 | 1.63 | 35 | 1.66 | 50 | Black |
| WHI0603C2N2 | 2.2 | J,K | 16 | 250 | 6.0 | 0.10 | 0.7 | 2.18 | 41 | 2.20 | 64 | White |
| WHI0603C2N3 | 2.3 | J,K | 15 | 250 | 4.0 | 0.14 | 0.7 | 2.32 | 32 | 2.35 | 40 | Yellow |
| WHI0603C2N7 | 3.3 | G,J,K | 22 | 250 | 6.0 | 0.08 | 0.7 | 3.35 | 47 | 3.40 | 65 | Red |
| WHI0603C3N6 | 3.6 | G,J,K | 22 | 250 | 5.8 | 0.065 | 0.7 | 3.53 | 49 | 3.58 | 65 | Violet |
| WHI0603C3N9 | 3.9 | G,J,K | 22 | 250 | 6.0 | 0.08 | 0.7 | 3.95 | 49 | 3.96 | 67 | Brown |
| WHI0603C4N3 | 4.3 | G,J,K | 22 | 250 | 5.8 | 0.065 | 0.7 | 4.32 | 49 | 4.43 | 67 | Orange |
| WHI0603C4N5 | 4.5 | G,J,K | 20 | 250 | 5.8 | 0.12 | 0.7 | 4.74 | 55 | 4.87 | 92 | Gray |
| WHI0603C4N7 | 4.7 | G,J,K | 25 | 250 | 5.8 | 0.12 | 0.7 | 4.65 | 53 | 4.80 | 67 | Violet |
| WHI0603C5N1 | 5.1 | G,J,K | 20 | 250 | 5.8 | 0.16 | 0.7 | 5.13 | 47 | 5.36 | 56 | Green |
| WHI0603C5N6 | 5.6 | G,J,K | 20 | 250 | 5.8 | 0.17 | 0.7 | 5.53 | 56 | 5.86 | 77 | Yellow |
| WHI0603C6N2 | 6.2 | G,J,K | 25 | 250 | 5.8 | 0.11 | 0.7 | 6.28 | 60 | 6.40 | 85 | Black |
| WHI0603C6N3 | 6.3 | G,J,K | 25 | 250 | 5.8 | 0.11 | 0.7 | 6.67 | 41 | 6.86 | 61 | Black |
| WHI0603C6N8 | 6.8 | G,J,K | 27 | 250 | 5.8 | 0.11 | 0.7 | 6.75 | 60 | 7.10 | 81 | Red |
| WHI0603C7N5 | 7.5 | G,J,K | 28 | 250 | 4.8 | 0.11 | 0.7 | 7.70 | 60 | 7.82 | 65 | Brown |
| WHI0603C8N2 | 8.2 | G,J,K | 27 | 250 | 4.8 | 0.11 | 0.7 | 8.25 | 64 | 8.40 | 81 | Green |
| WHI0603C8N7 | 8.7 | G,J,K | 28 | 250 | 4.8 | 0.11 | 0.7 | 8.86 | 62 | 9.32 | 58 | Yellow |
| WHI0603C9N1 | 9.1 | G,J,K | 35 | 250 | 4.8 | 0.13 | 0.7 | 9.20 | 70 | 9.70 | 80 | Black |
| WHI0603C9N5 | 9.5 | G,J,K | 28 | 250 | 5.4 | 0.13 | 0.7 | 9.70 | 59 | 9.92 | 61 | Blue |
| WHI0603C10N | 10 | G,J,K | 31 | 250 | 4.8 | 0.13 | 0.7 | 10.0 | 53 | 10.6 | 83 | Orange |
| WHI0603C11N | 11 | G,J,K | 31 | 250 | 4.0 | 0.09 | 0.7 | 11.3 | 66 | 12.1 | 56 | Gray |
| WHI0603C12N | 12 | G,J,K | 35 | 250 | 4.0 | 0.13 | 0.7 | 12.3 | 72 | 13.5 | 83 | Yellow |
| WHI0603C15N | 15 | G,J,K | 35 | 250 | 4.0 | 0.17 | 0.7 | 15.4 | 64 | 16.8 | 89 | Green |
| WHI0603C16N | 16 | G,J,K | 35 | 250 | 3.3 | 0.11 | 0.7 | 16.5 | 55 | 18.0 | 52 | White |
| WHI0603C17N | 17 | G,J,K | 35 | 250 | 3.2 | 0.17 | 0.7 | 17.6 | 56 | 19.4 | 44 | Red |
| WHI0603C18N | 18 | G,J,K | 35 | 250 | 3.1 | 0.17 | 0.7 | 18.7 | 70 | 21.4 | 69 | Blue |
| WHI0603C20N | 20 | G,J,K | 40 | 250 | 3.0 | 0.19 | 0.7 | 20.7 | 80 | 23.5 | 30 | Green |
| WHI0603C22N | 22 | G,J,K | 38 | 250 | 3.0 | 0.19 | 0.7 | 22.8 | 73 | 26.1 | 71 | Violet |
| WHI0603C23N | 23 | G,J,K | 38 | 250 | 2.85 | 0.19 | 0.7 | 24.1 | 71 | 28.0 | 71 | Orange |

Wire Wound Chip Inductors / Standard

| AEM Part Number | L, nH | Tolerance | Min. Q | Test Frequency (MHz) | Min. SRF (GHz) | Max. Rdc (Ω) | Max. I (A) | 900MHz | | | 1.7GHz | | Color code |
|-----------------|-------|-----------|--------|----------------------|----------------|-----------------------|------------|--------|-------|-------|--------|--------|------------|
| | | | | | | | | L | L, nH | Q | L, nH | Q | |
| WHI0603C24N | 24 | G,J,K | 38 | 250 | 2.8 | 0.13 | 0.70 | 25.7 | 45 | 30.9 | 40 | Black | |
| WHI0603C27N | 27 | G,J,K | 40 | 250 | 2.8 | 0.22 | 0.60 | 29.2 | 74 | 34.6 | 65 | Gray | |
| WHI0603C30N | 30 | G,J,K | 40 | 250 | 2.8 | 0.15 | 0.60 | 31.4 | 47 | 39.8 | 28 | Brown | |
| WHI0603C33N | 33 | G,J,K | 40 | 250 | 2.3 | 0.22 | 0.60 | 36.0 | 67 | 49.5 | 42 | White | |
| WHI0603C36N | 36 | G,J,K | 40 | 250 | 2.3 | 0.25 | 0.60 | 39.1 | 47 | 48.9 | 24 | Red | |
| WHI0603C39N | 39 | G,J,K | 40 | 250 | 2.2 | 0.25 | 0.60 | 42.7 | 60 | 60.2 | 40 | Black | |
| WHI0603C43N | 43 | G,J,K | 38 | 200 | 2.0 | 0.28 | 0.60 | 46.9 | 44 | 60.3 | 21 | Orange | |
| WHI0603C47N | 47 | G,J,K | 38 | 200 | 2.0 | 0.28 | 0.60 | 52.2 | 62 | 77.2 | 35 | Brown | |
| WHI0603C51N | 51 | G,J,K | 38 | 200 | 1.9 | 0.28 | 0.60 | 55.5 | 69 | 82.2 | 34 | Blue | |
| WHI0603C56N | 56 | G,J,K | 38 | 200 | 1.9 | 0.31 | 0.60 | 62.5 | 56 | 97.0 | 26 | Red | |
| WHI0603C62N | 62 | G,J,K | 37 | 200 | 1.8 | 0.34 | 0.60 | 68.0 | 40 | 110.0 | 10 | Gray | |
| WHI0603C68N | 68 | G,J,K | 37 | 200 | 1.7 | 0.34 | 0.60 | 80.5 | 54 | 168.0 | 21 | Orange | |
| WHI0603C72N | 72 | G,J,K | 34 | 150 | 1.7 | 0.49 | 0.60 | 82.0 | 53 | 135.0 | 20 | Yellow | |
| WHI0603C82N | 82 | G,J,K | 34 | 150 | 1.7 | 0.54 | 0.40 | 96.2 | 54 | 177.0 | 21 | Green | |
| WHI0603C91N | 91 | G,J,K | 30 | 150 | 1.7 | 0.50 | 0.40 | 110 | 50 | 319.0 | 6 | Brown | |
| WHI0603CR10 | 100 | G,J,K | 34 | 150 | 1.4 | 0.58 | 0.40 | 124 | 49 | 416.0 | 13 | Blue | |
| WHI0603CR11 | 110 | G,J,K | 32 | 150 | 1.3 | 0.61 | 0.30 | 138 | 43 | 342.7 | 15 | Violet | |
| WHI0603CR12 | 120 | G,J,K | 32 | 150 | 1.3 | 0.65 | 0.30 | 166 | 39 | 529.3 | 8 | Gray | |
| WHI0603CR13 | 130 | G,J,K | 30 | 150 | 1.3 | 0.72 | 0.30 | 185 | 60 | | | White | |
| WHI0603CR14 | 140 | G,J,K | 28 | 100 | 1.3 | 0.87 | 0.28 | 190 | 80 | | | White | |
| WHI0603CR15 | 150 | G,J,K | 28 | 100 | 1.3 | 0.95 | 0.28 | 230 | 25 | | | Blue | |
| WHI0603CR16 | 160 | G,J,K | 25 | 100 | 1.3 | 1.40 | 0.28 | 215 | 20 | | | Yellow | |
| WHI0603CR18 | 180 | G,J,K | 25 | 100 | 1.2 | 1.40 | 0.25 | 305 | 22 | | | Black | |
| WHI0603CR22 | 220 | G,J,K | 25 | 100 | 1.2 | 1.60 | 0.25 | 377 | 21 | | | Brown | |
| WHI0603CR26 | 260 | G,J,K | 25 | 100 | 1.0 | 2.00 | 0.20 | 469 | 21 | | | Violet | |
| WHI0603CR27 | 270 | G,J,K | 25 | 100 | 0.9 | 2.10 | 0.20 | 523 | 19 | | | Red | |
| WHI0603CR28 | 280 | G,J,K | 25 | 100 | 1.0 | 2.40 | 0.10 | 524 | 18 | | | Green | |
| WHI0603CR30 | 300 | G,J,K | 25 | 100 | 0.75 | 2.50 | 0.10 | 539 | 21 | | | Orange | |
| WHI0603CR33 | 330 | G,J,K | 25 | 100 | 0.9 | 3.80 | 0.10 | 680 | 20 | | | Blue | |
| WHI0603CR39 | 390 | G,J,K | 25 | 100 | 0.9 | 4.40 | 0.10 | 734 | 29 | | | Yellow | |
| WHI0603CR47 | 470 | G,J,K | 23 | 100 | 0.6 | 3.60 | 0.10 | | | | | White | |

Wire Wound Chip Inductors / Standard

| AEM Part Number | L, nH | Tolerance | Min. Q | Min. SRF (GHz) | Max. Rdc (Ω) | Max. I (A) L | Color code |
|-----------------|--------------|-----------|--------------|----------------|-----------------------|-----------------|------------|
| WHI0805C2N7 | 2.7 @ 250MHz | J,K | 80 @ 1500MHz | 7.90 | 0.06 | 0.80 | Brown |
| WHI0805C2N8 | 2.8 @ 250MHz | J,K | 80 @ 1500MHz | 7.90 | 0.06 | 0.80 | Gray |
| WHI0805C3N0 | 3.0 @ 250MHz | J,K | 65 @ 1500MHz | 7.90 | 0.06 | 0.80 | White |
| WHI0805C3N3 | 3.3 @ 250MHz | J,K | 50 @ 1500MHz | 6.00 | 0.08 | 0.60 | Black |
| WHI0805C5N6 | 5.6 @ 250MHz | J,K | 65 @ 1000MHz | 5.50 | 0.08 | 0.60 | Orange |
| WHI0805C6N2 | 6.2 @ 250MHz | J,K | 50 @ 1000MHz | 5.50 | 0.11 | 0.60 | Green |
| WHI0805C6N8 | 6.8 @ 250MHz | J,K | 50 @ 1000MHz | 5.50 | 0.11 | 0.60 | Brown |
| WHI0805C7N5 | 7.5 @ 250MHz | J,K | 50 @ 1000MHz | 4.50 | 0.14 | 0.60 | Green |
| WHI0805C8N2 | 8.2 @ 250MHz | J,K | 50 @ 1000MHz | 4.70 | 0.12 | 0.60 | Red |
| WHI0805C8N7 | 8.7 @ 250MHz | J,K | 50 @ 1000MHz | 4.00 | 0.21 | 0.40 | White |
| WHI0805C10N | 10 @ 250MHz | G,J,K | 60 @ 500MHz | 4.00 | 0.10 | 0.60 | Blue |
| WHI0805C12N | 12 @ 250MHz | G,J,K | 50 @ 500MHz | 4.00 | 0.15 | 0.60 | Orange |
| WHI0805C15N | 15 @ 250MHz | G,J,K | 50 @ 500MHz | 3.40 | 0.17 | 0.60 | Yellow |
| WHI0805C18N | 18 @ 250MHz | G,J,K | 50 @ 500MHz | 3.30 | 0.20 | 0.60 | Green |
| WHI0805C22N | 22 @ 250MHz | G,J,K | 55 @ 500MHz | 2.60 | 0.22 | 0.50 | Blue |
| WHI0805C24N | 24 @ 250MHz | G,J,K | 50 @ 500MHz | 2.00 | 0.22 | 0.50 | Gray |
| WHI0805C27N | 27 @ 250MHz | G,J,K | 55 @ 500MHz | 2.50 | 0.25 | 0.50 | Violet |
| WHI0805C33N | 33 @ 250MHz | G,J,K | 60 @ 500MHz | 2.00 | 0.27 | 0.50 | Gray |
| WHI0805C36N | 36 @ 250MHz | G,J,K | 55 @ 500MHz | 1.70 | 0.27 | 0.50 | Orange |
| WHI0805C39N | 39 @ 250MHz | G,J,K | 60 @ 500MHz | 2.00 | 0.29 | 0.50 | White |
| WHI0805C43N | 43 @ 200MHz | G,J,K | 60 @ 500MHz | 1.60 | 0.34 | 0.50 | Yellow |
| WHI0805C47N | 47 @ 200MHz | G,J,K | 60 @ 500MHz | 1.60 | 0.31 | 0.50 | Black |
| WHI0805C56N | 56 @ 200MHz | G,J,K | 60 @ 500MHz | 1.50 | 0.34 | 0.50 | Brown |
| WHI0805C68N | 68 @ 200MHz | G,J,K | 60 @ 500MHz | 1.40 | 0.38 | 0.50 | Red |
| WHI0805C72N | 72 @ 150MHz | G,J,K | 65 @ 500MHz | 1.40 | 0.40 | 0.50 | Green |
| WHI0805C82N | 82 @ 150MHz | G,J,K | 65 @ 500MHz | 1.30 | 0.42 | 0.40 | Orange |
| WHI0805C91N | 91 @ 150MHz | G,J,K | 65 @ 500MHz | 1.20 | 0.48 | 0.40 | Black |
| WHI0805CR10 | 100 @ 150MHz | G,J,K | 65 @ 500MHz | 1.20 | 0.46 | 0.40 | Yellow |
| WHI0805CR11 | 110 @ 150MHz | G,J,K | 50 @ 250MHz | 1.00 | 0.48 | 0.40 | Brown |
| WHI0805CR12 | 120 @ 150MHz | G,J,K | 50 @ 250MHz | 1.10 | 0.51 | 0.40 | Green |
| WHI0805CR15 | 150 @ 100MHz | G,J,K | 50 @ 250MHz | 0.90 | 0.56 | 0.40 | Blue |
| WHI0805CR18 | 180 @ 100MHz | G,J,K | 50 @ 250MHz | 0.90 | 0.64 | 0.40 | Violet |
| WHI0805CR20 | 200 @ 100MHz | G,J,K | 50 @ 250MHz | 0.85 | 0.66 | 0.40 | Orange |
| WHI0805CR22 | 220 @ 100MHz | G,J,K | 50 @ 250MHz | 0.85 | 0.70 | 0.40 | Gray |

Wire Wound Chip Inductors / Standard

| AEM Part Number | L, nH | Tolerance | Min. Q | Min. SRF (GHz) | Max. Rdc (Ω) | Max. I (A) L | Color code |
|-----------------|---------------|-----------|--------------|----------------|-----------------------|-----------------|------------|
| WHI0805CR24 | 240 @ 100MHz | G,J,K | 44 @ 250MHz | 0.70 | 1.00 | 0.35 | Red |
| WHI0805CR25 | 250 @ 100MHz | G,J,K | 50 @ 250MHz | 0.68 | 1.00 | 0.35 | Green |
| WHI0805CR27 | 270 @ 100MHz | G,J,K | 48 @ 250MHz | 0.65 | 1.00 | 0.35 | White |
| WHI0805CR30 | 300 @ 100MHz | G,J,K | 48 @ 250MHz | 0.60 | 1.20 | 0.33 | Yellow |
| WHI0805CR33 | 330 @ 100MHz | G,J,K | 48 @ 250MHz | 0.60 | 1.40 | 0.30 | Black |
| WHI0805CR36 | 360 @ 100MHz | G,J,K | 48 @ 250MHz | 0.55 | 1.45 | 0.30 | Green |
| WHI0805CR39 | 390 @ 100MHz | G,J,K | 48 @ 250MHz | 0.55 | 1.50 | 0.30 | Brown |
| WHI0805CR43 | 430 @ 50MHz | G,J,K | 33 @ 100MHz | 0.43 | 1.70 | 0.25 | Blue |
| WHI0805CR47 | 470 @ 50MHz | G,J,K | 33 @ 100MHz | 0.37 | 1.70 | 0.25 | Red |
| WHI0805CR56 | 560 @ 25MHz | G,J,K | 23 @ 50MHz | 0.34 | 1.90 | 0.25 | Orange |
| WHI0805CR60 | 600 @ 25MHz | G,J,K | 23 @ 50MHz | 0.26 | 1.60 | 0.45 | White |
| WHI0805CR62 | 620 @ 25MHz | G,J,K | 23 @ 50MHz | 0.22 | 2.200 | 0.20 | Yellow |
| WHI0805CR68 | 680 @ 25MHz | G,J,K | 23 @ 50MHz | 0.20 | 2.20 | 0.19 | Green |
| WHI0805CR75 | 750 @ 25MHz | G,J,K | 23 @ 50MHz | 0.20 | 2.30 | 0.18 | Blue |
| WHI0805CR82 | 820 @ 25MHz | G,J,K | 23 @ 50MHz | 0.20 | 2.35 | 0.18 | Violet |
| WHI0805C1R0 | 1000 @ 25MHz | G,J,K | 20 @ 50MHz | 0.10 | 2.50 | 0.17 | Gray |
| WHI0805C1R2 | 1200 @ 7.9MHz | G,J,K | 18 @ 25MHz | 0.10 | 2.50 | 0.17 | White |
| WHI0805C1R5 | 1500 @ 7.9MHz | G,J,K | 16 @ 25MHz | 0.10 | 2.50 | 0.17 | Black |
| WHI0805C1R8 | 1800 @ 7.9MHz | G,J,K | 16 @ 7.9MHz | 0.08 | 2.50 | 0.17 | Brown |
| WHI0805C2R2 | 2200 @ 7.9MHz | G,J,K | 16 @ 7.9MHz | 0.06 | 2.70 | 0.16 | Red |
| WHI0805C2R7 | 2700 @ 7.9MHz | G,J,K | 16 @ 7.9MHz | 0.05 | 3.10 | 0.15 | Orange |
| WHI0805C3R3 | 3300 @ 7.9MHz | G,J,K | 15 @ 7.9MHz | 0.04 | 4.40 | 0.10 | Blue |
| WHI0805C4R7 | 4700 @ 7.9MHz | G,J,K | 15 @ 7.9MHz | 0.04 | 6.40 | 0.10 | Green |
| WHI1008C5N6 | 5.6 @ 50MHz | J,K | 50 @ 1500MHz | 4.00 | 0.15 | 1.00 | Black |
| WHI1008C10N | 10 @ 50MHz | G,J,K | 50 @ 500MHz | 4.00 | 0.08 | 1.00 | Brown |
| WHI1008C12N | 12 @ 50MHz | G,J,K | 50 @ 500MHz | 3.30 | 0.09 | 1.00 | Red |
| WHI1008C15N | 15 @ 50MHz | G,J,K | 50 @ 500MHz | 2.50 | 0.11 | 1.00 | Orange |
| WHI1008C18N | 18 @ 50MHz | G,J,K | 50 @ 350MHz | 2.40 | 0.12 | 1.00 | Yellow |
| WHI1008C22N | 22 @ 50MHz | G,J,K | 55 @ 350MHz | 2.40 | 0.12 | 1.00 | Green |
| WHI1008C24N | 24 @ 50MHz | G,J,K | 55 @ 350MHz | 1.90 | 0.13 | 1.00 | Blue |
| WHI1008C27N | 27 @ 50MHz | G,J,K | 55 @ 350MHz | 1.60 | 0.13 | 1.00 | Violet |
| WHI1008C33N | 33 @ 50MHz | G,J,K | 60 @ 350MHz | 1.60 | 0.14 | 1.00 | Gray |
| WHI1008C36N | 36 @ 50MHz | G,J,K | 60 @ 350MHz | 1.60 | 0.15 | 1.00 | Orange |
| WHI1008C39N | 39 @ 50MHz | G,J,K | 60 @ 350MHz | 1.50 | 0.15 | 1.00 | Black |

Wire Wound Chip Inductors / Standard

| AEM Part Number | L, nH | Tolerance | Min. Q | Min. SRF (GHz) | Max. Rdc (Ω) | Max. I (A) L | Color code |
|-----------------|---------------|-----------|-------------|----------------|-----------------------|-----------------|------------|
| WHI1008C47N | 47 @ 50MHz | G,J,K | 65 @ 350MHz | 1.50 | 0.16 | 1.00 | White |
| WHI1008C56N | 56 @ 50MHz | G,J,K | 65 @ 350MHz | 1.30 | 0.18 | 1.00 | Brown |
| WHI1008C62N | 62 @ 50MHz | G,J,K | 65 @ 350MHz | 1.30 | 0.20 | 1.00 | Blue |
| WHI1008C68N | 68 @ 50MHz | G,J,K | 65 @ 350MHz | 1.30 | 0.20 | 1.00 | Red |
| WHI1008C75N | 75 @ 50MHz | G,J,K | 60 @ 350MHz | 1.10 | 0.21 | 1.00 | White |
| WHI1008C82N | 82 @ 50MHz | G,J,K | 60 @ 350MHz | 1.00 | 0.22 | 1.00 | Orange |
| WHI1008C91N | 91 @ 50MHz | G,J,K | 50 @ 350MHz | 1.00 | 0.45 | 1.00 | White |
| WHI1008CR10 | 100 @ 25MHz | G,J,K | 60 @ 350MHz | 1.00 | 0.56 | 0.65 | Yellow |
| WHI1008CR12 | 120 @ 25MHz | G,J,K | 60 @ 350MHz | 0.95 | 0.63 | 0.65 | Green |
| WHI1008CR15 | 150 @ 25MHz | G,J,K | 45 @ 100MHz | 0.85 | 0.70 | 0.80 | Blue |
| WHI1008CR18 | 180 @ 25MHz | G,J,K | 45 @ 100MHz | 0.70 | 0.77 | 0.60 | Violet |
| WHI1008CR22 | 220 @ 25MHz | G,J,K | 45 @ 100MHz | 0.75 | 0.84 | 0.50 | Gray |
| WHI1008CR24 | 240 @ 25MHz | G,J,K | 45 @ 100MHz | 0.65 | 0.88 | 0.50 | White |
| WHI1008CR27 | 270 @ 25MHz | G,J,K | 45 @ 100MHz | 0.60 | 0.91 | 0.70 | Black |
| WHI1008CR30 | 300 @ 25MHz | G,J,K | 45 @ 100MHz | 0.58 | 1.00 | 0.45 | Brown |
| WHI1008CR33 | 330 @ 25MHz | G,J,K | 45 @ 100MHz | 0.57 | 1.05 | 0.45 | Red |
| WHI1008CR36 | 360 @ 25MHz | G,J,K | 45 @ 100MHz | 0.53 | 1.10 | 0.47 | Orange |
| WHI1008CR39 | 390 @ 25MHz | G,J,K | 45 @ 100MHz | 0.50 | 1.12 | 0.63 | Yellow |
| WHI1008CR43 | 430 @ 25MHz | G,J,K | 45 @ 100MHz | 0.48 | 1.15 | 0.47 | Green |
| WHI1008CR47 | 470 @ 25MHz | G,J,K | 45 @ 100MHz | 0.45 | 1.19 | 0.47 | Blue |
| WHI1008CR56 | 560 @ 25MHz | G,J,K | 45 @ 100MHz | 0.37 | 1.33 | 0.58 | Violet |
| WHI1008CR62 | 620 @ 25MHz | G,J,K | 45 @ 100MHz | 0.41 | 1.40 | 0.30 | Gray |
| WHI1008CR68 | 680 @ 25MHz | G,J,K | 45 @ 100MHz | 0.37 | 1.47 | 0.55 | White |
| WHI1008CR75 | 750 @ 25MHz | G,J,K | 45 @ 100MHz | 0.36 | 1.54 | 0.35 | Black |
| WHI1008CR82 | 820 @ 25MHz | G,J,K | 45 @ 100MHz | 0.35 | 1.61 | 0.40 | Brown |
| WHI1008CR91 | 910 @ 25MHz | G,J,K | 35 @ 50MHz | 0.32 | 1.68 | 0.40 | Red |
| WHI1008C1R0 | 1000 @ 25MHz | G,J,K | 35 @ 50MHz | 0.29 | 1.75 | 0.37 | Orange |
| WHI1008C1R2 | 1200 @ 7.9MHz | G,J,K | 35 @ 50MHz | 0.25 | 2.00 | 0.30 | Yellow |
| WHI1008C1R5 | 1500 @ 7.9MHz | G,J,K | 28 @ 50MHz | 0.20 | 2.30 | 0.35 | Green |
| WHI1008C1R8 | 1800 @ 7.9MHz | G,J,K | 28 @ 50MHz | 0.16 | 2.60 | 0.30 | Blue |
| WHI1008C2R2 | 2200 @ 7.9MHz | G,J,K | 28 @ 50MHz | 0.16 | 2.80 | 0.30 | Violet |
| WHI1008C2R7 | 2700 @ 7.9MHz | G,J,K | 22 @ 25MHz | 0.14 | 3.20 | 0.30 | Gray |
| WHI1008C3R3 | 3300 @ 7.9MHz | G,J,K | 22 @ 25MHz | 0.11 | 3.40 | 0.30 | White |
| WHI1008C3R9 | 3900 @ 7.9MHz | G,J,K | 18 @ 25MHz | 0.10 | 3.60 | 0.25 | Black |

Wire Wound Chip Inductors / Standard

| AEM Part Number | L, nH | Tolerance | Min. Q | Min. SRF (GHz) | Max. Rdc (Ω) | Max. I (A) L | Color code |
|-----------------|-----------------|-----------|--------------|----------------|-----------------------|-----------------|------------|
| WHI1008C4R7 | 4700 @ 7.9MHz | G,J,K | 18 @ 25MHz | 0.09 | 4.00 | 0.25 | Brown |
| WHI1008C5R6 | 5600 @ 7.9MHz | G,J,K | 16 @ 7.96MHz | 0.02 | 4.00 | 0.25 | Red |
| WHI1008C6R8 | 6800 @ 7.9MHz | G,J,K | 15 @ 7.96MHz | 0.04 | 4.90 | 0.20 | Orange |
| WHI1008C8R2 | 8200 @ 7.9MHz | G,J,K | 15 @ 7.96MHz | 0.025 | 6.00 | 0.17 | Yellow |
| WHI1008C100 | 10000 @ 2.52MHz | G,J,K | 15 @ 7.96MHz | 0.02 | 9.00 | 0.15 | Green |
| WHI1008C120 | 12000 @ 2.52MHz | G,J,K | 15 @ 7.96MHz | 0.018 | 10.50 | 0.13 | Blue |
| WHI1008C150 | 15000 @ 2.52MHz | G,J,K | 15 @ 7.96MHz | 0.015 | 11.50 | 0.12 | Violet |
| WHI1206C6N8 | 6.8 @ 100MHz | J,K | 30 @ 300MHz | 5.50 | 0.07 | 1.00 | Brown |
| WHI1206C10N | 10.0 @ 100MHz | J,K | 40 @ 300MHz | 4.00 | 0.08 | 1.00 | Red |
| WHI1206C12N | 12.0 @ 100MHz | J,K | 40 @ 300MHz | 3.20 | 0.08 | 1.00 | Orange |
| WHI1206C15N | 15.0 @ 100MHz | J,K | 40 @ 300MHz | 3.20 | 0.10 | 1.00 | Yellow |
| WHI1206C18N | 18.0 @ 100MHz | J,K | 50 @ 300MHz | 2.80 | 0.10 | 1.00 | Green |
| WHI1206C22N | 22.0 @ 100MHz | J,K | 50 @ 300MHz | 2.20 | 0.10 | 1.00 | Blue |
| WHI1206C24N | 24.0 @ 100MHz | J,K | 50 @ 300MHz | 2.00 | 0.10 | 1.00 | Red |
| WHI1206C27N | 27.0 @ 100MHz | G,J,K | 50 @ 300MHz | 1.80 | 0.11 | 1.00 | Violet |
| WHI1206C33N | 33.0 @ 100MHz | G,J,K | 55 @ 300MHz | 1.80 | 0.11 | 1.00 | Gray |
| WHI1206C39N | 39.0 @ 100MHz | G,J,K | 55 @ 300MHz | 1.80 | 0.12 | 1.00 | White |
| WHI1206C47N | 47.0 @ 100MHz | G,J,K | 55 @ 300MHz | 1.50 | 0.13 | 1.00 | Black |
| WHI1206C56N | 56.0 @ 100MHz | G,J,K | 55 @ 300MHz | 1.40 | 0.14 | 1.00 | Brown |
| WHI1206C62N | 62.0 @ 100MHz | G,J,K | 55 @ 300MHz | 1.20 | 0.20 | 1.00 | Violet |
| WHI1206C68N | 68.0 @ 100MHz | G,J,K | 55 @ 300MHz | 1.20 | 0.26 | 0.95 | Red |
| WHI1206C82N | 82.0 @ 100MHz | G,J,K | 55 @ 300MHz | 1.20 | 0.21 | 0.95 | Orange |
| WHI1206C91N | 91.0 @ 100MHz | G,J,K | 55 @ 300MHz | 1.10 | 0.24 | 0.90 | White |
| WHI1206CR10 | 100 @ 100MHz | G,J,K | 55 @ 300MHz | 1.10 | 0.26 | 0.85 | Yellow |
| WHI1206CR12 | 120 @ 100MHz | G,J,K | 55 @ 300MHz | 0.75 | 0.26 | 0.80 | Green |
| WHI1206CR15 | 150 @ 100MHz | G,J,K | 60 @ 300MHz | 0.95 | 0.31 | 0.75 | Blue |
| WHI1206CR18 | 180 @ 50MHz | G,J,K | 55 @ 300MHz | 0.90 | 0.43 | 0.70 | Violet |
| WHI1206CR22 | 220 @ 50MHz | G,J,K | 55 @ 300MHz | 0.76 | 0.50 | 0.67 | Gray |
| WHI1206CR27 | 270 @ 50MHz | G,J,K | 55 @ 300MHz | 0.74 | 0.56 | 0.63 | White |
| WHI1206CR30 | 300 @ 50MHz | G,J,K | 50 @ 150MHz | 0.68 | 0.60 | 0.60 | Green |
| WHI1206CR33 | 330 @ 50MHz | G,J,K | 45 @ 150MHz | 0.65 | 0.62 | 0.60 | Black |
| WHI1206CR36 | 360 @ 50MHz | G,J,K | 45 @ 150MHz | 0.60 | 0.65 | 0.55 | Blue |
| WHI1206CR39 | 390 @ 50MHz | G,J,K | 45 @ 150MHz | 0.60 | 0.75 | 0.53 | Brown |
| WHI1206CR47 | 470 @ 50MHz | G,J,K | 45 @ 150MHz | 0.55 | 1.30 | 0.50 | Red |

Wire Wound Chip Inductors / Standard

| AEM Part Number | L, nH | Tolerance | Min. Q | Min. SRF (GHz) | Max. Rdc (Ω) | Max. I (A) L | Color code |
|-----------------|----------------|-----------|--------------|----------------|-----------------------|-----------------|------------|
| WHI1206CR56 | 560 @ 35MHz | G,J,K | 45 @ 150MHz | 0.47 | 1.34 | 0.46 | Orange |
| WHI1206CR62 | 620 @ 35MHz | G,J,K | 45 @ 150MHz | 0.45 | 1.58 | 0.46 | Gray |
| WHI1206CR68 | 680 @ 35MHz | G,J,K | 45 @ 150MHz | 0.45 | 1.58 | 0.43 | Yellow |
| WHI1206CR75 | 750 @ 35MHz | G,J,K | 45 @ 150MHz | 0.45 | 2.25 | 0.32 | White |
| WHI1206CR82 | 820 @ 35MHz | G,J,K | 45 @ 150MHz | 0.40 | 1.82 | 0.40 | Green |
| WHI1206CR91 | 910 @ 35MHz | G,J,K | 45 @ 150MHz | 0.40 | 2.95 | 0.30 | Green |
| WHI1206C1R0 | 1000 @ 35MHz | G,J,K | 45 @ 150MHz | 0.40 | 2.80 | 0.30 | Blue |
| WHI1206C1R2 | 1200 @35MHz | G,J,K | 45 @ 150MHz | 0.38 | 3.20 | 0.30 | Violet |
| WHI0805L1N8 | 1.8 @ 250MHz | K | 55 @ 1500MHz | 9.40 | 0.03 | 0.80 | Black |
| WHI0805L3N9 | 3.9 @ 250MHz | J,K | 60 @ 1000MHz | 6.10 | 0.06 | 0.80 | Brown |
| WHI0805L4N7 | 4.7 @ 250MHz | J,K | 50 @ 1000MHz | 5.50 | 0.06 | 0.80 | Red |
| WHI0805L6N8 | 6.8 @ 250MHz | J,K | 50 @ 1000MHz | 5.50 | 0.08 | 0.80 | Orange |
| WHI0805L8N2 | 8.2 @ 250MHz | J,K | 50 @ 1000MHz | 4.80 | 0.08 | 0.80 | Yellow |
| WHI0805L10N | 10.0 @ 250MHz | G,J,K | 55 @ 750MHz | 3.30 | 0.08 | 0.80 | Green |
| WHI0805L12N | 12.0 @ 250MHz | G,J,K | 55 @ 750MHz | 3.80 | 0.10 | 0.80 | Blue |
| WHI0805L15N | 15.0 @ 250MHz | G,J,K | 50 @ 500MHz | 3.00 | 0.10 | 0.80 | Violet |
| WHI0805L18N | 18.0 @ 250MHz | G,J,K | 50 @ 500MHz | 3.00 | 0.13 | 0.80 | Gray |
| WHI0805L22N | 22.0 @ 250MHz | G,J,K | 50 @ 500MHz | 2.90 | 0.15 | 0.80 | Whit |
| WHI0805L27N | 27.0 @ 250MHz | G,J,K | 50 @ 500MHz | 2.40 | 0.28 | 0.60 | Black |
| WHI0805L33N | 33.0 @ 250MHz | G,J,K | 50 @ 500MHz | 2.40 | 0.23 | 0.60 | Brown |
| WHI0805L39N | 39.0 @ 250MHz | G,J,K | 50 @ 500MHz | 2.20 | 0.33 | 0.60 | Red |
| WHI0805L47N | 47.0 @ 200MHz | G,J,K | 50 @ 500MHz | 2.00 | 0.40 | 0.60 | Orange |
| WHI0805L56N | 56.0 @ 200MHz | G,J,K | 50 @ 500MHz | 1.80 | 0.40 | 0.50 | Yellow |
| WHI0805L68N | 68.0 @ 200MHz | G,J,K | 50 @ 500MHz | 1.50 | 0.40 | 0.50 | Green |
| WHI0805L82N | 82.0 @ 150MHz | G,J,K | 50 @ 500MHz | 1.50 | 0.44 | 0.50 | Blue |
| WHI0805LR10 | 100.0 @ 150MHz | G,J,K | 50 @ 500MHz | 1.20 | 0.64 | 0.40 | Violet |
| WHI0805LR12 | 120.0 @ 150MHz | G,J,K | 40 @ 250MHz | 1.15 | 0.68 | 0.30 | Gray |
| WHI0805LR15 | 150.0 @ 150MHz | G,J,K | 40 @ 250MHz | 1.05 | 0.80 | 0.30 | Whit |
| WHI0805L1R0 | 1000.0 @ 25MHz | G,J,K | 16 @ 50MHz | 0.08 | 3.50 | 0.20 | Black |
| WHI1008L3N3 | 3.3 @ 50MHz | J,K | 42 @ 1500MHz | 6.00 | 0.03 | 1.00 | White |
| WHI1008L4N2 | 4.2 @ 50MHz | J,K | 42 @ 1500MHz | 6.00 | 0.15 | 1.00 | Black |
| WHI1008L6N8 | 6.8 @ 50MHz | J,K | 50 @ 1500MHz | 5.40 | 0.17 | 1.00 | Brown |
| WHI1008L8N2 | 8.2 @ 50MHz | J,K | 50 @ 1500MHz | 5.00 | 0.22 | 1.00 | Red |
| WHI1008L15N | 15 @ 50MHz | J,K | 57 @ 500MHz | 3.00 | 0.22 | 1.00 | Orange |

Wire Wound Chip Inductors / Standard

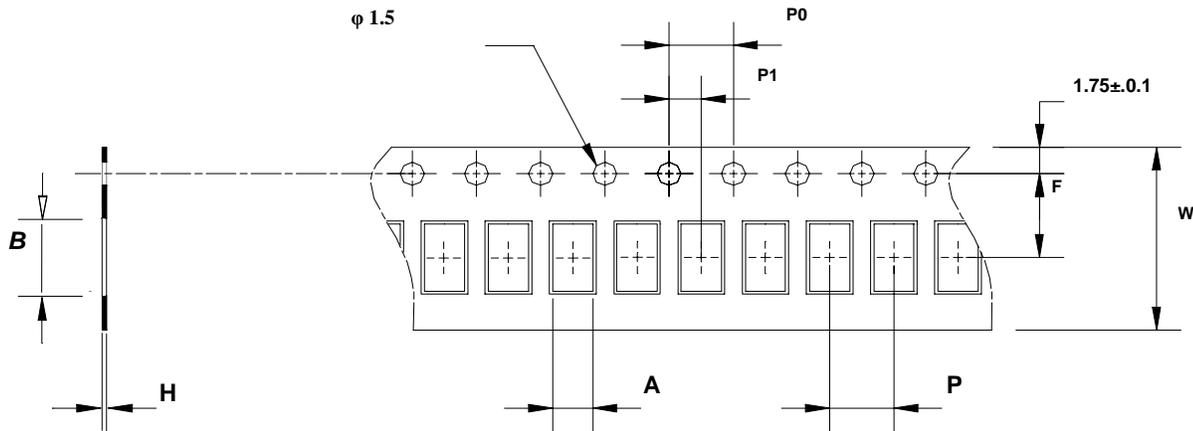
| AEM Part Number | L, nH | Tolerance | Min. Q | Min. SRF (GHz) | Max. Rdc (Ω) | Max. I (A) L | Color code |
|-----------------|---------------|-----------|--------------|----------------|-----------------------|-----------------|------------|
| WHI1008L20N | 18 @ 50MHz | J,K | 50 @ 350MHz | 2.40 | 0.12 | 1.00 | Gray |
| WHI1008L12N | 20 @ 50MHz | J,K | 72 @ 500MHz | 2.40 | 0.33 | 1.00 | Yellow |
| WHI1008L27N | 27 @ 50MHz | J,K | 50 @ 350MHz | 1.60 | 0.13 | 0.85 | Green |
| WHI1008L30N | 30 @ 50MHz | J,K | 69 @ 500MHz | 2.40 | 0.38 | 0.60 | Blue |
| WHI1008L40N | 40 @ 50MHz | J,K | 67 @ 500MHz | 2.00 | 0.43 | 0.60 | Violet |
| WHI1008L50N | 50 @ 50MHz | G,J,K | 72 @ 500MHz | 1.90 | 0.48 | 0.60 | Gray |
| WHI1008L60N | 60 @ 50MHz | G,J,K | 75 @ 500MHz | 1.80 | 0.52 | 0.60 | White |
| WHI1008L70N | 70 @ 50MHz | G,J,K | 68 @ 500MHz | 1.70 | 0.55 | 0.50 | Black |
| WHI1008L80N | 80 @ 50MHz | G,J,K | 75 @ 500MHz | 1.40 | 0.56 | 0.50 | Brown |
| WHI1008LR18 | 180 @ 50MHz | G,J,K | 50 @ 350MHz | 0.90 | 0.40 | 0.45 | Blue |
| WHI1008LR56 | 560 @ 25MHz | G,J,K | 40 @ 100MHz | 0.40 | 1.33 | 0.40 | Red |
| WHI0603H1N6 | 1.6 @ 250MHz | J,K | 24 | 12.50 | 0.03 | 2.40 | Black |
| WHI0603H3N6 | 3.6 @ 250MHz | J,K | 24 | 5.90 | 0.048 | 2.30 | Brown |
| WHI0603H3N9 | 3.9 @ 250MHz | J,K | 25 | 5.90 | 0.054 | 2.20 | Red |
| WHI0603H6N8 | 6.8 @ 250MHz | J,K | 35 | 5.80 | 0.054 | 2.10 | Orange |
| WHI0603H7N5 | 7.5 @ 250MHz | J,K | 38 | 3.70 | 0.06 | 2.10 | Yellow |
| WHI0603H8N2 | 8.2 @ 250MHz | J,K | 38 | 3.70 | 0.06 | 2.00 | White |
| WHI0603H10N | 10.0 @ 250MHz | G,J,K | 38 | 3.70 | 0.07 | 2.00 | Green |
| WHI0603H12N | 12.0 @ 250MHz | G,J,K | 38 | 3.00 | 0.075 | 2.00 | Blue |
| WHI0603H15N | 15.0 @ 250MHz | G,J,K | 38 | 2.80 | 0.08 | 1.90 | Violet |
| WHI0603H18N | 18.0 @ 250MHz | G,J,K | 40 | 2.80 | 0.10 | 1.90 | Gray |
| WHI0603H22N | 22.0 @ 250MHz | G,J,K | 42 | 2.40 | 0.10 | 1.80 | White |
| WHI0603H24N | 24.0 @ 250MHz | G,J,K | 42 | 2.40 | 0.105 | 1.80 | Black |
| WHI0805H2N5 | 2.5 @ 250MHz | J,K | 80 @ 1500MHz | 6.00 | 0.02 | 1.60 | Black |
| WHI0805H5N6 | 5.6 @ 250MHz | J,K | 98 @ 1500MHz | 6.00 | 0.035 | 1.60 | Brown |
| WHI0805H6N2 | 6.2 @ 250MHz | J,K | 88 @ 1000MHz | 4.70 | 0.035 | 1.60 | Red |
| WHI0805H6N8 | 6.8 @ 250MHz | J,K | 80 @ 1000MHz | 4.40 | 0.035 | 1.60 | White |
| WHI0805H8N2 | 8.2 @ 250MHz | J,K | 75 @ 1000MHz | 3.00 | 0.075 | 1.00 | Gray |
| WHI0805H10N | 10 @ 250MHz | J,K | 80 @ 1000MHz | 3.00 | 0.06 | 1.60 | Black |
| WHI0805H12N | 12 @ 250MHz | J,K | 80 @ 1000MHz | 3.00 | 0.045 | 1.60 | Orange |
| WHI0805H15N | 15 @ 250MHz | G,J,K | 80 @ 1000MHz | 2.80 | 0.10 | 1.20 | Black |
| WHI0805H16N | 16 @ 250MHz | G,J,K | 72 @ 500MHz | 2.90 | 0.06 | 1.50 | Yellow |
| WHI0805H18N | 18 @ 250MHz | G,J,K | 75 @ 500MHz | 2.50 | 0.06 | 1.40 | Blue |
| WHI0805H20N | 20 @ 250MHz | G,J,K | 70 @ 500MHz | 2.00 | 0.055 | 1.40 | Green |

Wire Wound Chip Inductors / Standard

| AEM Part Number | L, nH | Tolerance | Min. Q | Min. SRF (GHz) | Max. Rdc (Ω) | Max. I (A) L | Color code |
|-----------------|-------------|-----------|--------------|----------------|-----------------------|-----------------|------------|
| WHI0805H22N | 22 @ 250MHz | G,J,K | 80 @ 500MHz | 2.00 | 0.10 | 1.20 | Black |
| WHI0805H27N | 27 @ 250MHz | G,J,K | 75 @ 500MHz | 2.00 | 0.07 | 1.30 | Violet |
| WHI0805H30N | 30 @ 250MHz | G,J,K | 65 @ 500MHz | 2.00 | 0.095 | 1.20 | Gray |
| WHI0805H39N | 39 @ 250MHz | G,J,K | 65 @ 500MHz | 1.60 | 0.11 | 1.10 | White |
| WHI0805H48N | 48 @ 200MHz | G,J,K | 65 @ 500MHz | 1.40 | 0.095 | 1.20 | Black |
| WHI0805H51N | 51 @ 200MHz | G,J,K | 65 @ 500MHz | 1.40 | 0.12 | 1.00 | Brown |
| WHI1008H3N0 | 3.0 @ 50MHz | J,K | 70 @ 1500MHz | 6.00 | 0.04 | 1.60 | Black |
| WHI1008H3N9 | 3.9 @ 50MHz | J,K | 75 @ 1500MHz | 6.00 | 0.05 | 1.60 | White |
| WHI1008H4N1 | 4.1 @ 50MHz | J,K | 75 @ 1500MHz | 6.00 | 0.05 | 1.60 | Brown |
| WHI1008H7N8 | 7.8 @ 50MHz | J,K | 75 @ 500MHz | 3.80 | 0.05 | 1.60 | Red |
| WHI1008H10N | 10 @ 50MHz | G,J,K | 60 @ 500MHz | 3.60 | 0.06 | 1.60 | Orange |
| WHI1008H12N | 12 @ 50MHz | G,J,K | 70 @ 500MHz | 2.80 | 0.06 | 1.50 | Yellow |
| WHI1008H18N | 18 @ 50MHz | G,J,K | 62 @ 350MHz | 2.70 | 0.07 | 1.40 | Green |
| WHI1008H22N | 22 @ 50MHz | G,J,K | 62 @ 350MHz | 2.00 | 0.09 | 1.40 | Blue |
| WHI1008H33N | 33 @ 50MHz | G,J,K | 75 @ 350MHz | 1.70 | 0.07 | 1.30 | Violet |
| WHI1008H39N | 39 @ 50MHz | G,J,K | 75 @ 350MHz | 1.30 | 0.09 | 1.30 | Gray |
| WHI1008H47N | 47 @ 50MHz | G,J,K | 75 @ 350MHz | 1.45 | 0.12 | 1.20 | White |
| WHI1008H56N | 56 @ 50MHz | G,J,K | 75 @ 350MHz | 1.20 | 0.12 | 1.20 | Black |
| WHI1008H68N | 68 @ 50MHz | G,J,K | 80 @ 350MHz | 1.15 | 0.13 | 1.10 | Brown |
| WHI1008H82N | 82 @ 50MHz | G,J,K | 80 @ 350MHz | 1.05 | 0.16 | 1.10 | Red |
| WHI1008HR10 | 100 @ 50MHz | G,J,K | 50 @ 350MHz | 0.80 | 0.16 | 1.00 | Orange |

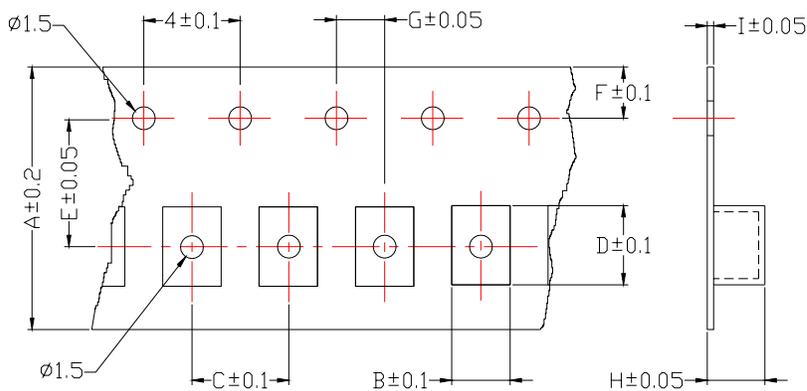
Packaging:

Paper Tape specification and Packaging Quantity (mm):



| Series | A | B | K | F | P | P0 | P1 | W | Reel (EA) |
|---------|------|------|------|------|------|------|------|------|-----------|
| WHI0402 | 0.80 | 1.22 | 0.60 | 3.50 | 2.00 | 4.00 | 2.00 | 8.00 | 4,000 |
| WHI0603 | 1.35 | 1.95 | 0.95 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 | 4,000 |

Emboss Plastic Tape specification and Packaging Quantity (mm):



| Series | A | B | C | D | E | F | G | H | I | Reel (EA) |
|------------|------|------|------|------|-----|---|---|---|---|-----------|
| WHI0402 | 0.71 | 1.16 | 0.65 | 0.23 | 3.5 | 2 | 4 | 2 | 8 | 4000 |
| WHI0603 | 1.12 | 1.85 | 0.96 | 0.23 | 3.5 | 4 | 4 | 2 | 8 | 4000 |
| WHI0805 | 1.85 | 2.30 | 1.45 | 0.23 | 3.5 | 4 | 4 | 2 | 8 | 2000 |
| WHI0805(L) | 1.80 | 2.30 | 0.90 | 0.23 | 3.5 | 4 | 4 | 2 | 8 | 2000 |
| WHI0805(H) | 1.85 | 2.30 | 1.45 | 0.23 | 3.5 | 4 | 4 | 2 | 8 | 2000 |
| WHI1206 | 1.95 | 3.50 | 1.50 | 0.23 | 3.5 | 4 | 4 | 2 | 8 | 2000 |
| WHI1008 | 2.70 | 2.80 | 2.00 | 0.23 | 3.5 | 4 | 4 | 2 | 8 | 2000 |
| WHI1008(L) | 2.70 | 2.80 | 1.50 | 0.23 | 3.5 | 4 | 4 | 2 | 8 | 2000 |
| WHI1008(H) | 2.70 | 2.80 | 2.00 | 0.23 | 3.5 | 4 | 4 | 2 | 8 | 2000 |

Inductor Terminology

Inductance: Inductance is the ability of a conductor to produce induced voltage when the current varies. The symbol for inductance is L and the unit is henry (H), $1\text{ H} = 1000\text{ mH}$, $1\text{ mH} = 1000\text{ }\mu\text{H}$, $1\text{ }\mu\text{H} = 1000\text{ nH}$. Inductance of AEM's inductors is measured by using a LCR meter.

Impedance: Impedance is a measure of opposition to current. The symbol for impedance is Z and the unit is ohm and

$$Z = \sqrt{R^2 + X^2}$$

where R is the resistance (not DC resistance) and X is the reactance. Z , R and X are all frequency dependent. Impedance of AEM's chip beads is measured by using a LCR meter.

R_{DC} : R_{DC} is the resistance of the component measured with direct current. R_{DC} of AEM's inductive components is measured by using a milli-ohmmeter.

Maximum Rated Current: It is a measure of the current carrying capacity of the component. When the maximum rated current is applied to the component, the temperature rise shall not exceed 20°C .

Q: Q is the quality factor of an inductor. It is the ratio of its ability to produce self-induced voltage over the resistance that reduces the current and the induced voltage. It can be considered as the ratio of its capability to store energy over the capability to consume energy.

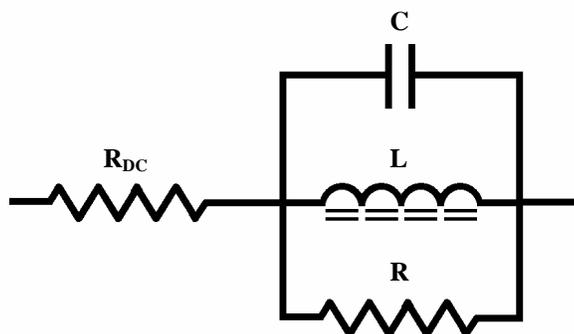
Q is highly dependent on frequency. Q values of AEM's inductors are measured by using an impedance analyzer or a network analyzer and

$$Q = \frac{X}{R}$$

Using an ideal resistor, an ideal capacitor and an ideal inductor, a real inductor can be simulated. The resistive component in an equivalent circuit comes from the DC resistance of the electrode and the electro-magnetic loss. The capacitive component comes from the parasitic capacitance of the coil.

Self-Resonant Frequency (SRF): When the frequency changes, the capacitive reactance X_C and inductive reactance X_L also change. The self-resonance frequency is the frequency at which the X_L equals X_C . At self-resonance frequency the inductor shows maximum impedance and a minimum line current. The SRF shall generally be specified as at least twice the application frequency, except for some special applications. SRF of AEM's inductors is measured by using an impedance analyzer or a network analyzer.

Equivalent Circuit of an Inductor:



Reliability Tests For MCB/MBA/MCP/MCI/MHI

| No. | Test | Requirement | Test condition | Test reference |
|-----|---------------------------|---|---|-------------------------|
| 1 | Soldering heat resistance | $\Delta Z/\Delta L \leq \pm 20\%$, $\Delta L \leq \pm 10\%$ (MHI) ≥ 75% coverage No cracking | One dip at 260°C for 10 sec. | Mil-Std-202, Method 210 |
| 2 | Solderability | ≥ 95% coverage | One dip at 255°C for 5 sec. | Mil-Std-202, Method 208 |
| 3 | Thermal shock | $\Delta Z/\Delta L \leq \pm 20\%$ DCR ≤ max. specified No damage | 500 cycles between -40°C and +105°C | Mil-Std-202, Method 107 |
| 4 | Load humidity | $\Delta Z/\Delta L \leq \pm 15\%$ DCR ≤ max. specified No damage | 1000 h at 85°C with 85% RH and 10% rated current | |
| 5 | Mechanical vibration | $\Delta Z/\Delta L \leq \pm 10\%$ No damage | 0.06 D.A. or 15 G between 10 – 2000 Hz | Mil-Std-202, Method 204 |
| 6 | Mechanical shock | $\Delta Z/\Delta L \leq \pm 10\%$ No damage | 50 G, 11 ms, half-sine shocks | Mil-Std-202, Method 213 |
| 7 | Terminal strength | No damage | 0.5 kg to 1.5 kg hanging for 30 sec. 2 lb pushing (0402) | |
| 8 | Life | $\Delta Z/\Delta L \leq \pm 15\%$ DCR ≤ max. specified No damage | 1000 h at 85°C with rated current | |
| 9 | Bending | $\Delta Z/\Delta L \leq \pm 10\%$ No damage | 2 mm bend for ≥ 5 sec. | |
| 10 | Leach resistance | ≤ 5% leached away | 5 dips of 5 sec. each at 260°C | |
| 11 | Solvent resistance | $\Delta Z/\Delta L \leq \pm 10\%$ | 3 min. in agitated isopropyl alcohol | |
| 12 | Insulation resistance | ≥ 1 GΩ | 100 VDC for 30 sec. | |

Reliability Tests For TFI

| No. | Test | Requirement | Test condition | Test reference |
|-----|---------------------------------|---------------------------------------|-----------------------------------|-------------------------|
| 1 | Bending | $\Delta L \leq \pm 10\%$ No damage | 3 mm bend for ≥ 10 sec. | JIS-C-5202-6.1.4 |
| 2 | Dielectric withstanding voltage | >100V | 100VA (rms) for 1 min. | Mil-Std-202, Method 301 |
| 3 | Insulation resistance | ≥ 1 GΩ | 100VDC for 1 min. | Mil-Std-202, Method 302 |
| 4 | Soldering heat resistance | $\Delta L \leq \pm 10\%$ | One dip at 260°C for 10 sec. | Mil-Std-202, Method 210 |
| 5 | Life | $\Delta L \leq \pm 10\%$ | 1000 h at 85°C | JIS-C-5202-7.2 |
| 6 | Moisture resistance | $\Delta L \leq \pm 10\%$ | 1000 h at 40°C with 90% RH | Mil-Std-202, Method 103 |
| 7 | Low temperature storage | $\Delta L \leq \pm 10\%$ | 1000 h at -40°C | JIS-C-5202-7.1 |
| 8 | Thermal shock | $\Delta L \leq \pm 10\%$ | 10 cycles between -40°C and +85°C | JIS-C-5202-7.4 |
| 9 | Solderability | ≥ 95% coverage | One dip at 245°C for 3 sec. | Mil-Std-202, Method 208 |

Environmental Tests For WHI

Mechanical Characteristics:

| Item | | Specification | Test Method |
|------|--------------------------------|--|---|
| 1 | Vibration Test | Appearance: No damage L change: within $\pm 5\%$ Q change: within $\pm 10\%$ | Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y &Z), total 6hrs |
| 2 | Resistance to Soldering-Heat | | Solder Temperature: $270\pm 5^{\circ}\text{C}$ Immersion Time: $10\pm 2\text{sec}$ |
| 3 | Component Adhesion (Push Test) | 1 lbs. For 0402 2 lbs. For 0603 3 lbs. For the rest | The device should be soldered ($260\pm 5^{\circ}\text{C}$ for 10 seconds) to a tinned copper subs rate. A dynamiter force gauge should be applied to the side of the component. The device must with stand a minimum force of 2 or 4 pounds without a failure of adhesion on termination |
| 4 | Drop Test | No damage | Dropping chip by each side and each corner. Drop 10 times in total Drop height :100cm Drop weight:125g |
| 5 | Solderability Test | 90% covered with solder. | Inductor shall be dipped in a melted solder bath at $245\pm 5^{\circ}\text{C}$ for 3 seconds. |
| 6 | Resistance to Solvent Test | No damage on appearance and marking. | MIL-STD202F, Method 215D |

Electrical Characteristics:

| Item | | Specification | Test Method |
|------|----------------------------|--|--|
| 1 | Inductance | Refer to standard electrical characteristic spec. | HP4291B |
| 2 | Q | | HP4291B |
| 3 | SRF | | HP8753D |
| 4 | DC Resistance RDC | | Micro-Ohm meter (Gom-801G) |
| 5 | Rated Current IDC | | Applied the current to coils, The inductance change should be less than 10% to initial value |
| 6 | Over Load Test | Inductors shall have no evidence of electrical and mechanical damage | Applied 2 times of rated allowed DC current to inductor for a period of 5 minute |
| 7 | Withstanding Voltage Test | Inductors shall be no evidence of electrical and mechanical damage. | AC voltage of 500 VAC applied between inductors terminal and case for 1 minute. |
| 8 | Insulation Resistance Test | 1000M ohm min | 100 VDC applied between inductor terminal and case |

Environmental Tests For WHI

Climatic Test:

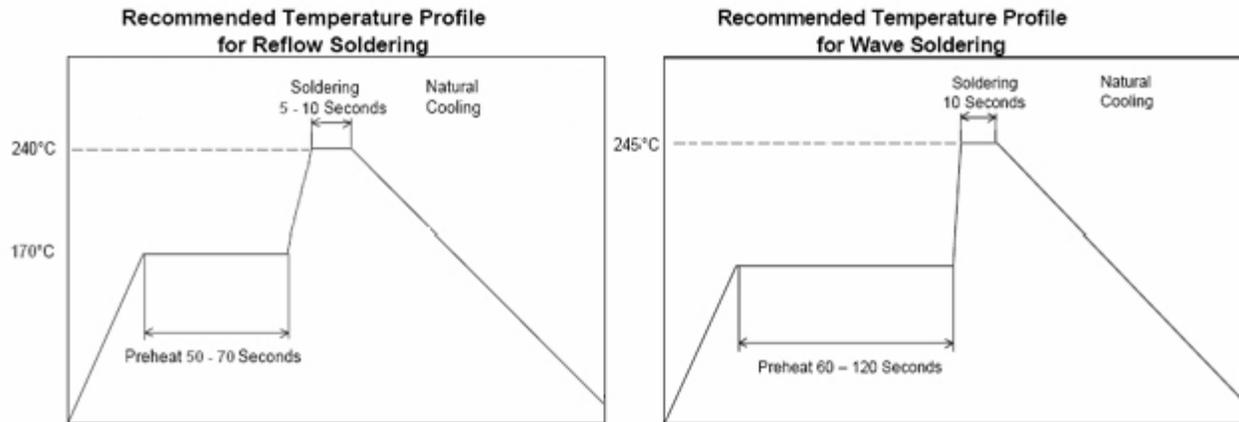
| Item | | Specification | Test Method | | | | | | | | | | | | | | | |
|------|---------------------------------|---|---|------|------------------|------------|---|-------|----|---|------|----|---|-------|----|---|------|----|
| 1 | Temperature Characteristic | | -40°C~+125°C | | | | | | | | | | | | | | | |
| 2 | Humidity Test | | Temperature: 40±2°C Relative Humidity: 90~95% Time: 96hrs±2hrs Measured after exposure in the room condition for 2hrs | | | | | | | | | | | | | | | |
| 3 | Low Temperature Storage Test | | Temperature: -40±2°C Time: 96±2hrs Inductors are tested after 1 hour at room temperature | | | | | | | | | | | | | | | |
| 4 | Thermal Shock Test | Appearance: No damage L change: within ±10% Q change: within ±20% | One cycle: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Time (min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-25±3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25±2</td> <td>15</td> </tr> <tr> <td>3</td> <td>125±3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25±2</td> <td>15</td> </tr> </tbody> </table> Total: 5 cycles | Step | Temperature (°C) | Time (min) | 1 | -25±3 | 30 | 2 | 25±2 | 15 | 3 | 125±3 | 30 | 4 | 25±2 | 15 |
| Step | Temperature (°C) | Time (min) | | | | | | | | | | | | | | | | |
| 1 | -25±3 | 30 | | | | | | | | | | | | | | | | |
| 2 | 25±2 | 15 | | | | | | | | | | | | | | | | |
| 3 | 125±3 | 30 | | | | | | | | | | | | | | | | |
| 4 | 25±2 | 15 | | | | | | | | | | | | | | | | |
| 5 | High Temperature Storage Test | | Temperature:125±2°C Time: 96±2hrs Measured after exposure in the room condition for 1hr | | | | | | | | | | | | | | | |
| 6 | High Temperature Load Life Test | | Temperature:85±2°C Time:1000±12hrs Load: Allowed DC current | | | | | | | | | | | | | | | |
| 7 | Humidity Load Life | There should be no evidence of short of open circuit. | Temperature: 40±2°C Relative Humidity: 90~95% Time: 1000±12hrs Load: Allowed DC current | | | | | | | | | | | | | | | |

※ Storage Temperature :25±3°C; Humidity:<80%RH

Soldering Temperature Profiles

Recommended Temperature Profiles for Soldering

AEM's inductive components can be soldered on PCB using wave or reflow soldering processes. The recommended temperature profiles for soldering are listed in the following diagrams.



1. Maximum peak temperature 260°C for maximum 60 seconds.
2. Above temperature profiles are recommended for Pb-free solders.

Storage Requirements

The maximum ambient temperature shall not exceed 40°C. Storage temperatures higher than 40°C could result in the deformation of packaging materials. The maximum relative humidity recommended for storage is 70%. High humidity with high temperature can accelerate the oxidation of the plating on the termination and reduce the solderability of the components. Sealed plastic bags with desiccant shall be used to reduce the oxidation of the termination and shall only be opened prior to use. The products shall not be stored in areas where harmful gases containing sulfur or chlorine are present.

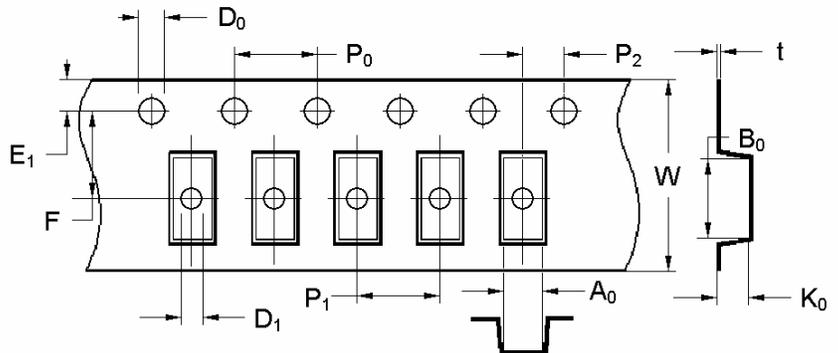
Packaging and Storage

Packaging

AEM's multilayer components are provided on tape-and-reel for use in pick-and-place machines or in bulk for special applications. Both tape-and-reel and bulk products are sealed in plastic bags with desiccant. The reel size can be 7 inches or 13 inches, depending on customer's preference.

Dimensions of Tape in Inches (mm)

| Size | A _o | B _o | K _o | Type |
|------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------|
| 0201 (0502) | 0.016 ± 0.002 (0.40 ± 0.05) | 0.028 ± 0.002 (0.70 ± 0.05) | 0.011 ± 0.004 (0.27 ± 0.10) | Paper |
| 0402 (1005) | 0.026 ± 0.004 (0.67 ± 0.10) | 0.046 ± 0.004 (1.17 ± 0.10) | 0.025 ± 0.004 (0.63 ± 0.10) | Paper |
| 0603 (1608) | 0.045 ± 0.004 (1.15 ± 0.10) | 0.073 ± 0.004 (1.85 ± 0.10) | 0.043 ± 0.004 (1.10 ± 0.10) | Paper |
| | 0.043 ± 0.004 (1.10 ± 0.10) | 0.075 ± 0.004 (1.90 ± 0.10) | 0.043 ± 0.004 (1.10 ± 0.10) | Plastic |
| 0805 (2012) | 0.063 ± 0.004 (1.60 ± 0.10) | 0.094 ± 0.004 (2.40 ± 0.10) | 0.047 ± 0.004 (1.20 ± 0.10) | Paper/ Plastic |
| 1206 (3216) | 0.071 ± 0.004 (1.80 ± 0.10) | 0.138 ± 0.004 (3.50 ± 0.10) | 0.047 ± 0.004 (1.20 ± 0.10) | Plastic |
| 1210 (3225) | 0.106 ± 0.004 (2.69 ± 0.10) | 0.137 ± 0.004 (3.48 ± 0.10) | 0.056 ± 0.004 (1.43 ± 0.10) | Plastic |
| 1806 (4516) | 0.075 ± 0.004 (1.90 ± 0.10) | 0.193 ± 0.004 (4.90 ± 0.10) | 0.079 ± 0.004 (2.00 ± 0.10) | Plastic |
| 1812 (4532) | 0.144 ± 0.004 (3.66 ± 0.10) | 0.195 ± 0.004 (4.95 ± 0.10) | 0.072 ± 0.004 (1.83 ± 0.10) | Plastic |



Other sizes can be provided upon customer's request.

| Size | E ₁ | F | W | P ₁ | P _o | P ₂ | D _o | D ₁ | t |
|-------------------|--------------------------------|----------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------------|-------------------------|--------------------------------|
| 0201(0502) | 0.069 ± 0.004 (1.75 ± 0.10) | 0.138 ± 0.002(3.50 ± 0.05) | 0.315 ± 0.004(8.00 ± 0.10) | 0.079 ± 0.004 (2.00 ± 0.10) | 0.157 ± 0.004 (4.00 ± 0.10) | 0.039 ± 0.002 (1.00 ± 0.05) | 0.059 ± 0.004 (1.50 ± 0.10/-0.00) | N/A | 0.009 ± 0.001 (0.23 ± 0.02) |
| 0402(1005) | | | | 0.157 ± 0.004 (4.00 ± 0.10) | | | | | |
| 0603(1608) | | | | | | | | | |
| 0805(2012) | | | 0.472 ± 0.004 (12.00 ± 0.10) | 0.315 ± 0.004 (8.00 ± 0.10) | 0.157 ± 0.004 (4.00 ± 0.10) | 0.079 ± 0.002 (2.00 ± 0.05) | | 0.039 max (1.00 max) | |
| 1206(3216) | | | | | | | | | |
| 1210(3225) | | | | | | | | | |
| 1806(4516) | | | | | | | | | |
| 1812(4532) | | | | | | | | | |

Other sizes can be provided upon customer's request.

| Chip Size | Parts on 7 inch (178 mm) Reel | Parts on 13 inch (330 mm) Reel |
|-------------------|----------------------------------|-----------------------------------|
| 0201(0502) | 10,000 | NA |
| 0402(1005) | 10,000 | NA |
| 0603(1608) | 4,000/5,000 | 12,000 |
| 0805(2012) | 2,000/3,000/4,000 | 10,000 |
| 1206(3216) | 3,000 | 10,000 |
| 1210(3225) | 2,500 | NA |
| 1806(4516) | 2,000 | 10,000 |
| 1812(4532) | 1,000 | NA |

Other sizes and chip quantities can be provided upon customer's request.

Cross Reference

AEM's Multilayer Ferrite Chip Bead (MCB)

Series Cross-References

| AEM | MCB (size) |
|-------------|-------------------|
| Murata | BLM (size) |
| Tokin | N (size) |
| TDK | HF50/70/30 (size) |
| TDK | ACB (size) |
| TDK | MMZ (size) |
| Taiyo Yuden | FBM (size) |
| Taiyo Yuden | BK (size) |

AEM's Multilayer Ferrite Chip Bead Array (MBA)

Series Cross-References

| AEM | MBA (size) |
|-------------|------------------|
| Murata | BLA (size) |
| TDK | ACA (size) |
| TDK | MZA (size) |
| Taiyo Yuden | BK (size) 4S/M/L |

AEM's Multilayer Power Chip Bead (MCP)

Series Cross-References

| AEM | MCP (size) |
|-------------|-------------------|
| Murata | BLM (size) |
| Tokin | N (size) |
| TDK | HF50/70/30 (size) |
| TDK | ACB (size) |
| TDK | MMZ (size) |
| Taiyo Yuden | FBM (size) |
| Taiyo Yuden | BK (size) |

Cross Reference

AEM's Multilayer Ferrite Chip Inductor (MCI)

Series Cross-References

| AEM | MCI (size) |
|-------------|--------------|
| Murata | LQG (size) N |
| TDK | MLF (size) |
| Taiyo Yuden | LK (size) |

AEM's Multilayer Ceramic (MHI)

Series Cross-References

| AEM | MHI (size) |
|-------------|--------------|
| Murata | LQG (size) A |
| TDK | MLG/R (size) |
| Taiyo Yuden | HK (size) |
| TOKO | LL (size) |

AEM's Thin Film Inductors (TFI)

Series Cross-References

| AEM | TFI (size) |
|-----------|------------------|
| Murata | LQP (size) |
| Panasonic | ELJ (size) |
| AVX | L (size) |
| SUSUMU | HPL / TFL (size) |
| KOA | KL73 (size) |

Information Request Fax Form

To

AEM Components Co., Ltd
Sales Department
458 ShenXu Road, Suzhou Industrial Park Jiangsu,
P.R. China
Tel: 86-512-62580028
Fax:86-512-62580018
Web Site: www.aemchina.com
Email: sales@aemchina.com

From

Date: _____

Name: _____

Title: _____

Company: _____

Address: _____

Telephone: _____

Fax: _____

Email: _____

Website: _____

I am interested in receiving the following

Information:

- Catalog of Components
- CD-Rom
- Cross-reference
- Sample Kit, specify _____
- Other, specify part number and inquiry

Message:

AEM Components Co., Ltd

Email: sales@aemchina.com

All of the listed standard values are subject to change without notice due to improvements.

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