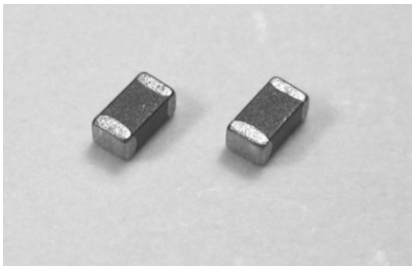
4. MCAS Series

High Frequency (GHz) Ferrite Chip Beads

Range of Size: (1005(0402)~1608(0603))
Test Equipment : E4991A IMPEDANCE ANALYZER
Operating Temperature : -55 ℃~+125 ℃
The max. rated current: the DC current value having temp. increased 40 ℃ after thro. DC current 2 hours at ambient temp.



Features

> This ferrite bead generates a high impedance which at high frequencies mainly consists of a resistance element. The MCAS series has a modified internal electrode structure, that minimizes stray capacitance and increases the effective frequency range.

> The MCAS series is similar to MTBS series at frequency below 100MHz, however at 1GHz the impedance is approximate 3 times larger.

> The MCAS is intended for standard signal lines as its provides significant impedance across a board frequency range.

> The MCAS provides a sharper roll-off after the cut off frequency, therefore it is ideal for high speed signal lines.

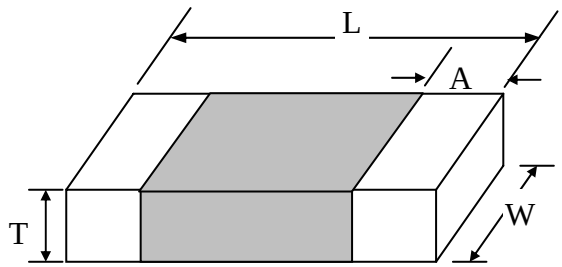
> It is realized high impedance at 1GHz and suitable for noise suppression of digital interface from 500MHz to GHz range.

> It is effective in suppressing the ringing because resistance especially grows in the lower frequency.

> The magnetic shielded structure minimizes crosstalk.

General Dimensions and Configuration

SHAPE:



Unit: mm

EQUIVALENT CIRCUIT DIAGRAM:

(Resistance element becomes dominant at high frequencies)

DIMENSIONS:

SHAPE	L (m/m)	W (m/m)	T (m/m)	A (m/m)	Net Weight (mg)
100505(0402)	1.00±0.05	0.50±0.05	0.50±0.05	0.25±0.10	1.10
160808(0603)	1.60±0.15	0.80±0.15	0.80±0.15	0.40±0.20	5.80

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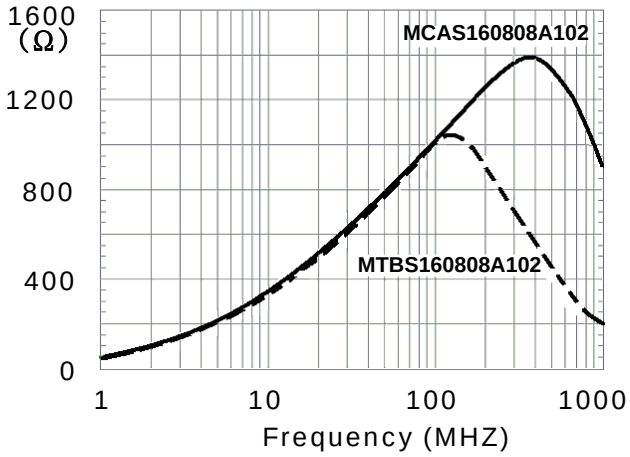
Rating Characteristics between MTBS series & MCAS series

"MTBS" Type

In the old circuit of vertical structure， the distributed capacitance exists between internal electrodes and between internal and outer polar electrodes， resulted the impedance is lower around hundreds of MHz of high frequency.

"MCAS" Type

With effect the circuit to transverse structure and the distributed capacitance is reduced. The impedance will be increased to 3 times of MTBS type around 1GHz.



Part Numbering Systems

MCA S 100505 A 331

- 331: NORMAL IMPEDANCE 331: 330 Ω at 100MHz
- A: MATERIAL CODE
- 100505: DIMENSIONS : L x W x T
- S: LEAD FREE
- MCA: PRODUCT SERIES CODE

4. MCAS Series *(Size: 1005 (0402))*

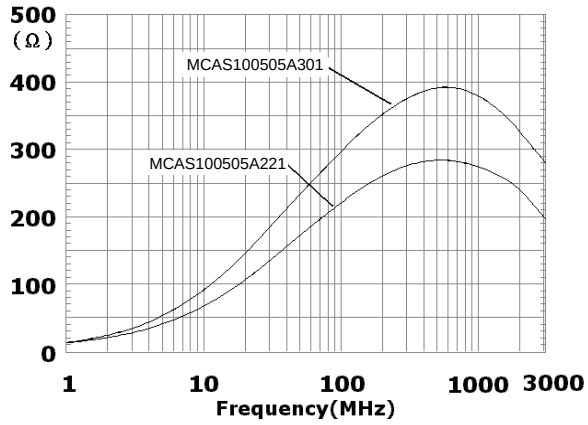
Electrical Characteristics

Part No.	Impedance (Ω) @100MHz	Impedance (Ω) @1GHz	DC Resistance Ω (Max.)	Rated Current mA (Max.)
MCAS100505A201	200 ± 25%	420 ± 40%	0.70	200
MCAS100505A221	220 ± 25%	420 ± 40%	0.70	200
MCAS100505A301	300 ± 25%	560 ± 40%	0.80	200
MCAS100505A331	330 ± 25%	560 ± 40%	0.80	200
MCAS100505A471	470 ± 25%	1000 ± 40%	1.00	100
MCAS100505A601	600 ± 25%	1100 ± 40%	1.20	100
MCAS100505A102	1000 ± 25%	1700 ± 40%	1.60	100
MCAS100505B121	120 ± 25%	300 ± 40%	0.50	300
MCAS100505B221	220 ± 25%	500 ± 40%	0.60	300
MCAS100505B301	300 ± 25%	800 ± 40%	0.70	300
MCAS100505B471	470 ± 25%	1100 ± 40%	0.80	300
MCAS100505B601	600 ± 25%	1400 ± 40%	0.85	300
MCAS100505H121	120 ± 25%	500 ± 40%	0.70	300
MCAS100505H221	220 ± 25%	1500 ± 40%	1.00	250
MCAS100505H301	300 ± 25%	1700 ± 40%	1.25	250
MCAS100505H331	330 ± 25%	2000 ± 40%	1.50	200
MCAS100505K121	120 ± 25%	300 ± 40%	0.50	300
MCAS100505K221	220 ± 25%	500 ± 40%	0.60	300
MCAS100505K301	300 ± 25%	800 ± 40%	0.70	300
MCAS100505K471	470 ± 25%	1100 ± 40%	0.80	300
MCAS100505K601	600 ± 25%	1400 ± 40%	0.85	300

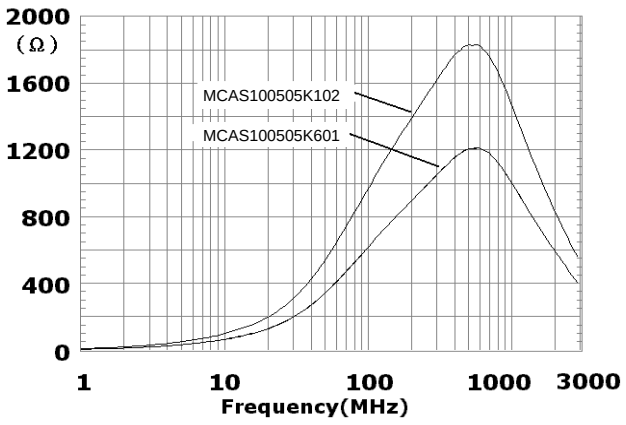
4. MCAS Series *(Size: 1005 (0402))*

Rating Curves

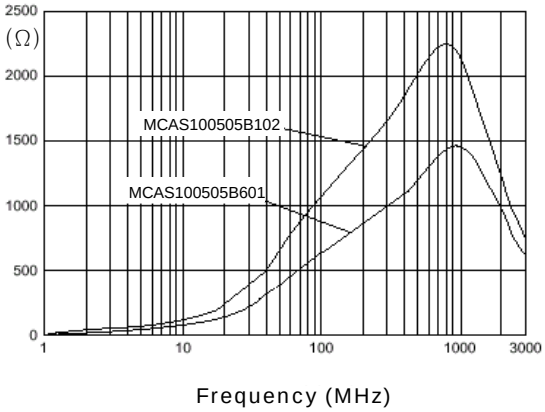
MCAS100505A Series



MCAS100505K Series



MCAS100505B Series



MCAS100505H Series