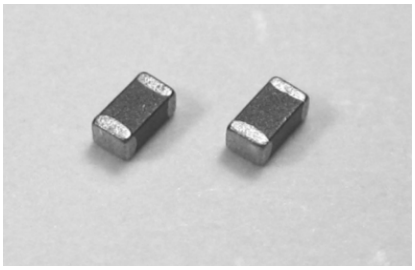
4. MCAS Series

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.

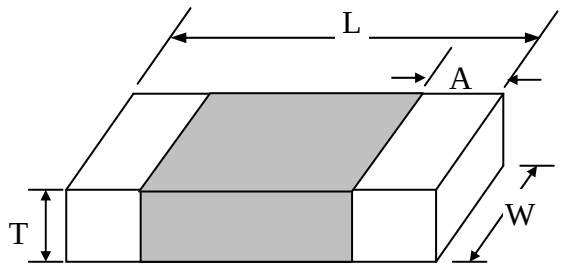
> It is realized high impedance at 1GHz and suitable for noise suppression of digital interface from 500MHz to GHz range.

> 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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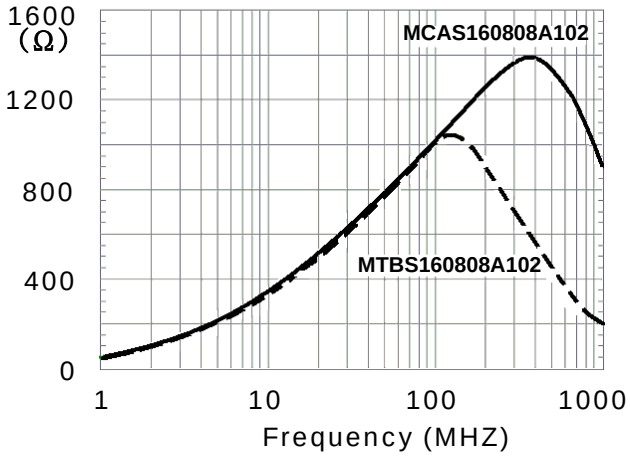
Rating Characteristics between MTBS series & MCAS series

"MTBS" Type

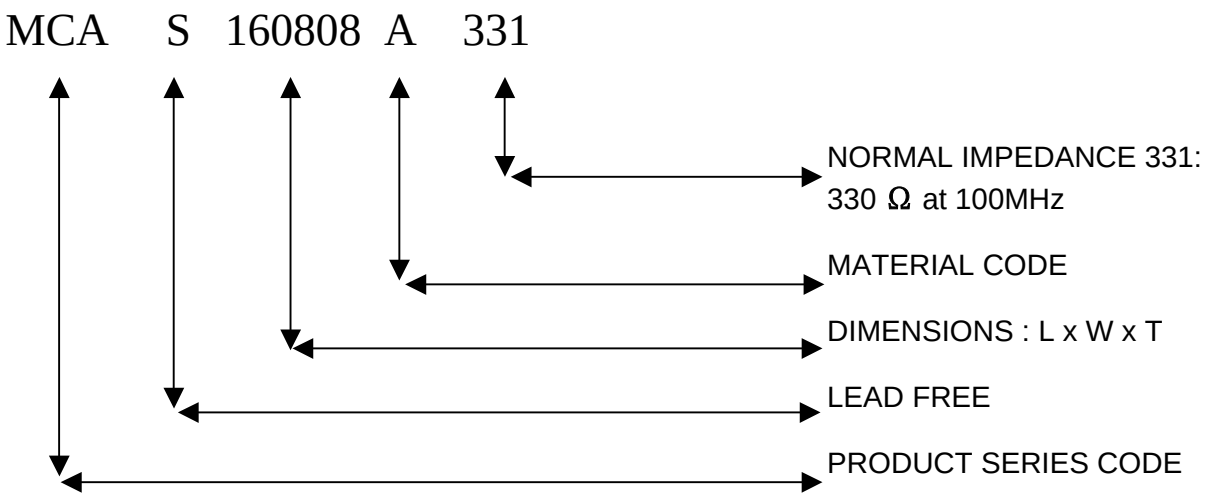
In the old circuit of vertical structure， the distributed capacitance exists between internal electrodes and between internal and outer polar electrodes， resulted the impedance is lower around hundreds of MHz of high frequency.

"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



4. MCAS Series *(Size: 1608 (0603))*

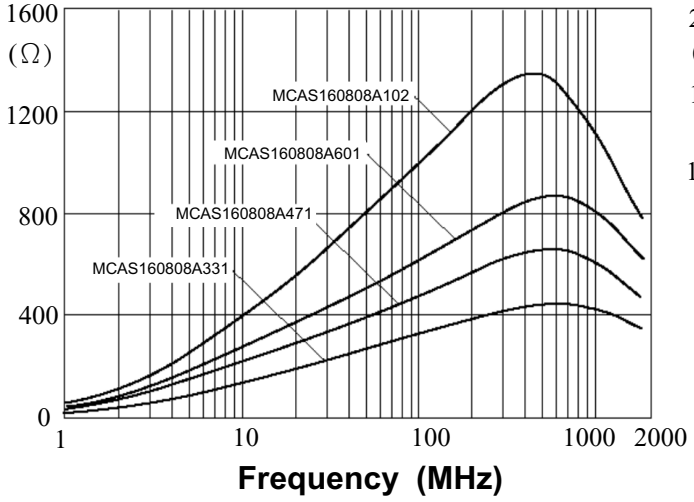
Electrical Characteristics

Part No.	Impedance (Ω) @100MHz	Impedance (Ω) @1GHz	DC Resistance Ω (Max.)	Rated Current mA (Max.)
MCAS160808A121	120 ± 25%	140 ± 40%	0.25	300
MCAS160808A221	220 ± 25%	300 ± 40%	0.50	200
MCAS160808A301	300 ± 25%	400 ± 40%	0.50	200
MCAS160808A331	330 ± 25%	400 ± 40%	0.50	200
MCAS160808A471	470 ± 25%	500 ± 40%	0.70	200
MCAS160808A601	600 ± 25%	600 ± 40%	0.90	100
MCAS160808A801	800 ± 25%	1000 ± 40%	1.50	50
MCAS160808A102	1000 ± 25%	1200 ± 40%	1.50	50
MCAS160808A122	1200 ± 25%	1000 ± 40%	1.50	50
MCAS160808B121	120 ± 25%	300 ± 40%	0.25	300
MCAS160808B221	220 ± 25%	500 ± 40%	0.50	200
MCAS160808B301	300 ± 25%	800 ± 40%	0.50	200
MCAS160808B331	330 ± 25%	800 ± 40%	0.50	200
MCAS160808B471	470 ± 25%	800 (Min.)	1.20	100
MCAS160808B601	600 ± 25%	1200 (Min.)	1.50	100
MCAS160808B801	800 ± 25%	1200 (Min.)	1.80	100
MCAS160808B102	1000 ± 25%	1700 (Typ.)	1.80	50
MCAS160808H121	120 ± 25%	500 ± 40%	0.50	200
MCAS160808H221	220 ± 25%	1100 ± 40%	0.80	100
MCAS160808H301	300 ± 25%	1300 ± 40%	1.20	50
MCAS160808H331	330 ± 25%	1300 ± 40%	1.20	50
MCAS160808H471	470 ± 25%	2100 ± 40%	1.20	50
MCAS160808H601	600 ± 25%	3000 ± 40%	1.20	50
MCAS160808K121	120 ± 25%	300 (Typ.)	0.30	300
MCAS160808K221	220 ± 25%	500 (Typ.)	0.50	200
MCAS160808K301	300 ± 25%	800 (Typ.)	0.60	200
MCAS160808K331	330 ± 25%	800 (Typ.)	0.60	200
MCAS160808K471	470 ± 25%	800 (Typ.)	0.70	200
MCAS160808K601	600 ± 25%	1000 (Typ.)	0.80	200
MCAS160808K801	800 ± 25%	1200 (Typ.)	0.90	100
MCAS160808K102	1000 ± 25%	1400 (Typ.)	1.00	100

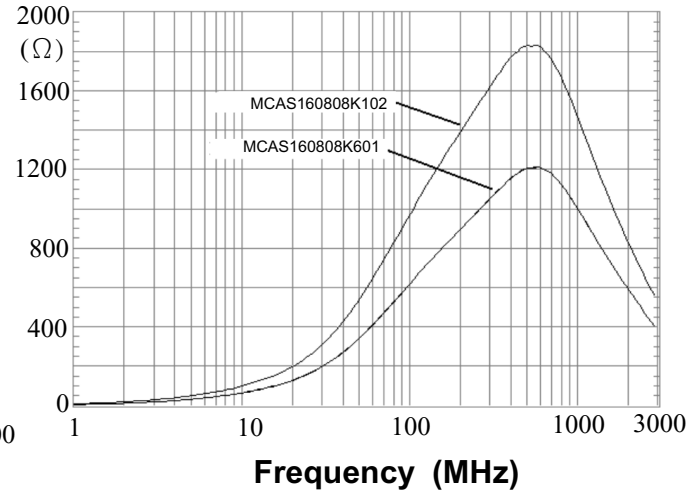
4. MCAS Series (Size: 1608 (0603))

Rating Curves

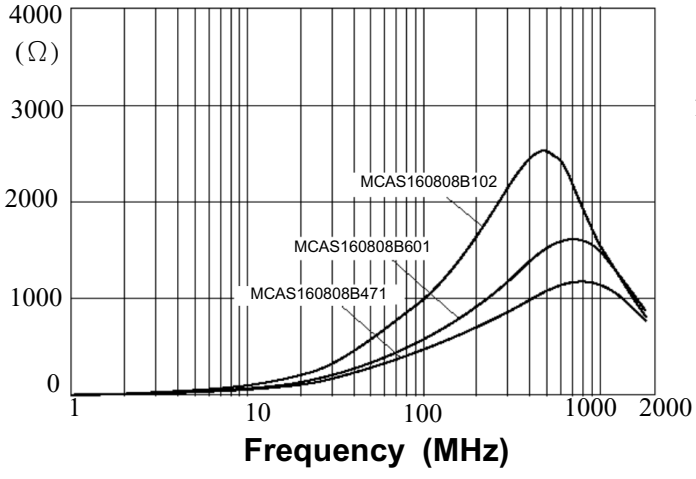
MCAS160808A Series



MCAS160808K Series



MCAS160808B Series



MCAS160808H Series