Surface-Mount Multilayer Ceramic Chip Capacitors
DC Blocking Capacitors

FEATURES

- Resonance free performance across working frequency range
- DC blocking, < 0.5 dB insertion loss across frequency band
- Custom frequency ranges available
- Surface-mount standard EIA body sizes
- Low loss reliable noble metal electrode system
- S-parameters available
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Available RoHS* Available HALOGEN FREE GREEN (5-2008) Available

Note

* This datasheet provides information about parts that are RoHS-compliant and / or parts that are non RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details

LINKS TO ADDITIONAL RESOURCES

S-Parameters

APPLICATIONS

- Fiber optic links
- High isolation decoupling
- VCO frequency stabilization
- Instruments and test equipment
- LAN's
- RF / microwave modules, diplexers

ELECTRICAL SPECIFICATIONS

Note

- Electrical characteristics at +25 °C unless otherwise specified

Operating Temperature: -55 °C to +125 °C

Voltage Range: 25 V_{DC} to 500 V_{DC}

Dissipation Factor (DF):

3.5 % maximum at 1.0 V_{RMS} and 1 kHz

Insulation Resistance (IR):

at +25 °C 100 000 MΩ min. or 1000 ΩF, whichever is less

at +125 °C 10 000 MΩ min. or 100 ΩF, whichever is less

Dielectric Strength Test:

performed per method 103 of EIA-198-2-E.

Applied test voltages:
≤ 250 V_{DC}-rated: 250 % of rated voltage
500 V_{DC}-rated: minimum 150 % of rated voltage

QUICK REFERENCE DATA

FREQUENCY BAND	CASE SIZE	MAXIMUM VOLTAGE (V)
HF	0402	50
	0603	100
	0805	100
	1210	500
VHF	0402	50
	0603	100
	0805	100
	1210	500
UHF	0402	50
	0603	100
	0805	100
	1210	500
L	0402	50
	0603	100
	0805	100
	1210	500
S	0402	50
	0603	100
	0805	100
C	0402	50
	0603	100
	0805	100
X	0402	50
	0603	100
Ku	0402	50
	0603	100

ORDERING INFORMATION

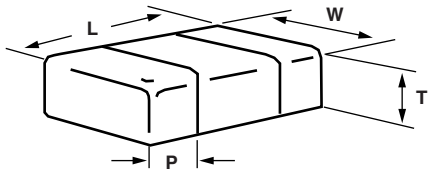
BC	06	208 / 408	D	X	B	A	J
BLOCKING CAPACITOR	CASE CODE	BLOCKING RANGE	ATTENUATION ACROSS FREQUENCY BAND	TERMINATION FINISH	VOLTAGE RATING (1)	MARKING	PACKAGING
	04 = 0402 06 = 0603 08 = 0805 12 = 1210	Lower end and upper end: • 208 = 20 x 10^8 = 2 GHz • 408 = 40 x 10^8 = 4 GHz	D = < 0.5 dB	X = Ni barrier 100 % tin	X = 25 V A = 50 V B = 100 V C = 200 V E = 500 V	A = unmarked	C = 7" reel / paper tape T = 7" reel / plastic tape J = 7" reel (low quantity) P = large reel / paper tape R = large reel / plastic tape

Notes

(1) DC voltage rating should not be exceeded in application. Other application factors may affect the MLCC performance

- Consult for questions: mlcc@vishay.com

DIMENSIONS in inches (millimeters)



STYLE	CASE CODE	LENGTH (L)	WIDTH (W)	MAXIMUM THICKNESS (T)	TERMINATIONS PAD (P)	
					MINIMUM	MAXIMUM
BC04	0402	0.040 + 0.004 / - 0.002 (1.00 + 0.10 / - 0.05)	0.020 + 0.004 / - 0.002 (0.50 + 0.10 / - 0.05)	0.024 (0.60)	0.004 (0.10)	0.016 (0.41)
BC06	0603	0.063 ± 0.006 (1.60 ± 0.15)	0.031 ± 0.006 (0.80 ± 0.15)	0.038 (0.97)	0.012 (0.30)	0.024 (0.60)
BC08	0805	0.079 ± 0.008 (2.00 ± 0.20)	0.049 ± 0.008 (1.25 ± 0.20)	0.057 (1.45)	0.010 (0.25)	0.028 (0.71)
BC12	1210	0.126 ± 0.010 (3.20 ± 0.25)	0.098 ± 0.010 (2.50 ± 0.25)	0.076 (1.94)	0.010 (0.25)	0.028 (0.71)

SELECTION CHART - STANDARD RANGES

BAND	LOW END	HIGH END	CASE CODE	RATED VOLTAGE (V_{DC})	PART NUMBER [1]
HF	3 MHz	30 MHz	0402	25	BC04305306DXXA_
HF	3 MHz	30 MHz	0402	50	BC04305306DXAA_
HF	3 MHz	30 MHz	0603	25	BC06305306DXXA_
HF	3 MHz	30 MHz	0603	50	BC06305306DXAA_
HF	3 MHz	30 MHz	0603	100	BC06305306DXBA_
HF	3 MHz	30 MHz	0805	50	BC08305306DXAA_
HF	3 MHz	30 MHz	0805	100	BC08305306DXBA_
HF	3 MHz	30 MHz	1210	500	BC12305306DXEA_
VHF	30 MHz	300 MHz	0402	25	BC04306307DXXA_
VHF	30 MHz	300 MHz	0402	50	BC04306307DXAA_
VHF	30 MHz	300 MHz	0603	25	BC06306307DXXA_
VHF	30 MHz	300 MHz	0603	50	BC06306307DXAA_
VHF	30 MHz	300 MHz	0603	100	BC06306307DXBA_
VHF	30 MHz	300 MHz	0805	50	BC08306307DXAA_
VHF	30 MHz	300 MHz	0805	100	BC08306307DXBA_
VHF	30 MHz	300 MHz	1210	500	BC12306307DXEA_
UHF	300 MHz	3 GHz	0402	25	BC04307308DXXA_
UHF	300 MHz	3 GHz	0402	50	BC04307308DXAA_
UHF	300 MHz	3 GHz	0603	25	BC06307308DXXA_
UHF	300 MHz	3 GHz	0603	50	BC06307308DXAA_
UHF	300 MHz	3 GHz	0603	100	BC06307308DXBA_
UHF	300 MHz	3 GHz	0805	50	BC08307308DXAA_
UHF	300 MHz	3 GHz	0805	100	BC08307308DXBA_
UHF	300 MHz	3 GHz	1210	500	BC12307308DXEA_

Notes

RoHS-compliant

[1] Last digit of part number defines the package

SELECTION CHART - STANDARD RANGES					
BAND	LOW END	HIGH END	CASE CODE	RATED VOLTAGE (V_{DC})	PART NUMBER (1)
L	1 GHz	2 GHz	0402	25	BC04108208DXXA_
L	1 GHz	2 GHz	0402	50	BC04108208DXAA_
L	1 GHz	2 GHz	0603	25	BC06108208DXXA_
L	1 GHz	2 GHz	0603	50	BC06108208DXAA_
L	1 GHz	2 GHz	0603	100	BC06108208DXBA_
L	1 GHz	2 GHz	0805	50	BC08108208DXAA_
L	1 GHz	2 GHz	0805	100	BC08108208DXBA_
L	1 GHz	2 GHz	1210	500	BC12108208DXEA_
S	2 GHz	4 GHz	0402	25	BC04208408DXXA_
S	2 GHz	4 GHz	0402	50	BC04208408DXAA_
S	2 GHz	4 GHz	0603	25	BC06208408DXXA_
S	2 GHz	4 GHz	0603	50	BC06208408DXAA_
S	2 GHz	4 GHz	0603	100	BC06208408DXBA_
S	2 GHz	4 GHz	0805	50	BC08208408DXAA_
S	2 GHz	4 GHz	0805	100	BC08208408DXBA_
C	4 GHz	8 GHz	0402	25	BC04408808DXXA_
C	4 GHz	8 GHz	0402	50	BC04408808DXAA_
C	4 GHz	8 GHz	0603	25	BC06408808DXXA_
C	4 GHz	8 GHz	0603	50	BC06408808DXAA_
C	4 GHz	8 GHz	0603	100	BC06408808DXBA_
C	4 GHz	8 GHz	0805	50	BC08408808DXAA_
C	4 GHz	8 GHz	0805	100	BC08408808DXBA_
X	8 GHz	12 GHz	0402	25	BC04808129DXXA_
X	8 GHz	12 GHz	0402	50	BC04808129DXAA_
X	8 GHz	12 GHz	0603	25	BC06808129DXXA_
X	8 GHz	12 GHz	0603	50	BC06808129DXAA_
X	8 GHz	12 GHz	0603	100	BC06808129DXBA_
Ku	12 GHz	18 GHz	0402	25	BC04129189DXXA_
Ku	12 GHz	18 GHz	0402	50	BC04129189DXAA_
Ku	12 GHz	18 GHz	0603	25	BC06129189DXXA_
Ku	12 GHz	18 GHz	0603	50	BC06129189DXAA_
Ku	12 GHz	18 GHz	0603	100	BC06129189DXBA_

Notes

RoHS-compliant

(1) Last digit of part number defines the package

SELECTION CHART - CUSTOM RANGES (1)					
BAND	LOW END	HIGH END	CASE CODE	RATED VOLTAGE (V_{DC})	PART NUMBER (2)
Custom	30 MHz	6 GHz	0402	100	BC04306608DXBA_

Notes

(1) For other ranges, contact: mlcc@vishay.com

(2) Last digit of part number defines the package

STANDARD PACKAGING QUANTITIES (1)(2)(3)

STYLE	CASE CODE	TAPE SIZE	7" REEL QUANTITIES			11 1/4" AND 13" REEL QUANTITIES	
			PAPER TAPE PACKAGING CODE "C"	PLASTIC TAPE PACKAGING CODE "T"	LOW QUANTITY "J"	PAPER TAPE PACKAGING CODE "P"	PLASTIC TAPE PACKAGING CODE "R"
BC04	0402	8 mm	5000	n/a	1000	10 000	n/a
BC06	0603	8 mm	4000	4000	1000	10 000	10 000
BC08	0805	8 mm	3000	3000	1000	10 000	10 000
BC12	1210	8 mm	n/a	2500	1000	n/a	9000 / 10 000

Notes

(1) Vishay Vitramon uses embossed plastic carrier tape

(2) REFERENCE: EIA standard RS 481 - "Taping of Surface Mount Components for Automatic Placement"

(3) n/a = not available

STORAGE AND HANDLING CONDITIONS

(1) Store the components at 5 °C to +40 °C ambient temperature and ≤ 70 % relative humidity conditions.

(2) The product is recommended to be used within a time-frame of 2 years after shipment.
Check solderability in case extended shelf life beyond the expiry date is needed.

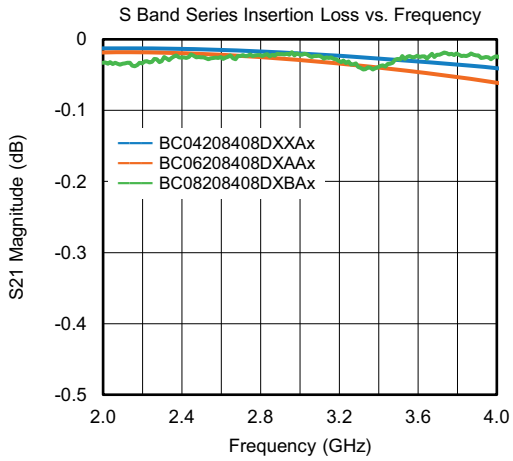
Precautions:

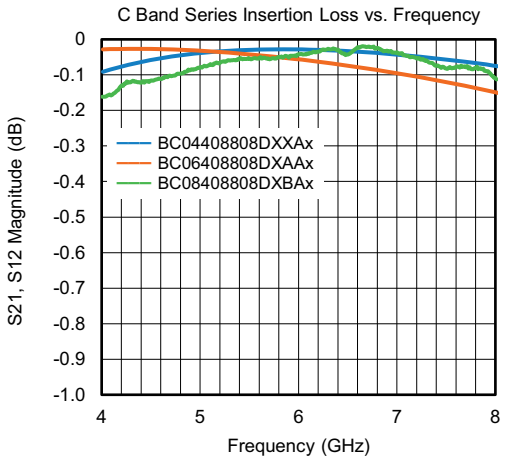
a. Do not store products in an environment containing corrosive elements, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are present. This may cause corrosion or oxidization of the terminations, which can easily lead to poor soldering.

b. Store products on the shelf and avoid exposure to moisture or dust.

c. Do not expose products to excessive shock, vibration, direct sunlight and so on.

TYPICAL ATTENUATION CURVES





For more curves: www.vishay.com/doc?45072

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