BNX002/003/005 Series

Block-type BNX002 filters completely eliminate noise from extremely wide frequency bands. The BNX002 is perfect for use in DC power circuits and is designed to perform superbly—through the use of through-type barrier layer capacitors, monolithic chip capacitors and bead inductors.

Each block contains a number of compact EMI suppression filters. In addition, the input/output terminals and the grounding terminal are aligned in the same direction, thus permitting fast and easy assembly on any type of PC board.

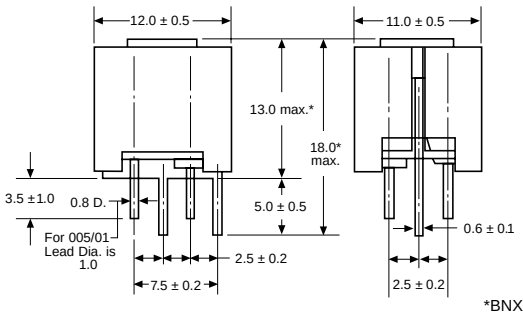
APPLICATIONS

Noise elimination from signal lines and DC power sources in a variety of switching power sources, engine control units, digital equipment and computer terminals.

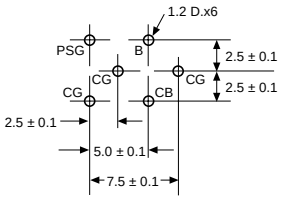
FEATURES

- The BNX002 incorporates feed-thru-type barrier layer capacitor and a chip capacitor which are interconnected. This combination enables the BNX002 to achieve a significantly large insertion loss throughout the extremely wide frequency range of 0.5MHz to 1GHz, which covers the AM and UHF-TV broadcast frequency bands.
- Non polarized—but care must be taken to ensure that terminal with inductor on ground line faces EMI source.
- The filter is extremely compact since only one filter block is needed to completely eliminate noise from both the positive and ground lines.
- There are no connections in the feed-thru current circuits, thus ensuring highly reliable performance.
- Both the input/output terminals and the grounding terminal are aligned in the same direction, permitting fast and easy installation on any type of PC board.

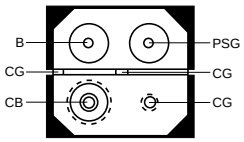
DIMENSIONS: mm



Top View PCB



Bottom View Filter

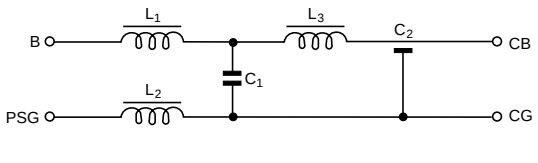


*BNX005-01 = 13.5 and 18.5

SPECIFICATIONS

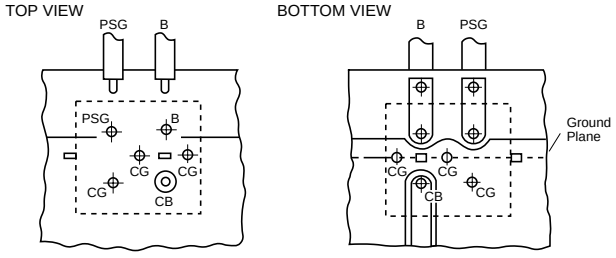
Item	Specifications		
Part Number	★BNX002-01	★BNX003-01	★BNX005-01
Operating Temperature Range	–30°C to +85°C		
Rated Voltage	50VDC	150VDC	50VDC
Test Voltage	125VDC	375VDC	125VDC
Maximum Current Capacity	10ADC		15ADC
Insulation Resistance	1000M Ohms min.		
Insertion Loss	1MHz to 1GHz 40dB min.	5MHz to 1GHz 40dB min.	1MHz to 1GHz 40dB min.
	20°C to 25°C Line Impedance = 50 Ohms		

EQUIVALENT CIRCUIT



PSG: Power Supply Ground
CG: Circuit Ground
CB: Circuit B

RECOMMENDED P.C. BOARD PATTERN



★Available as standard through authorized Murata Electronics Distributors.

USING THE BNX SERIES EFFECTIVELY

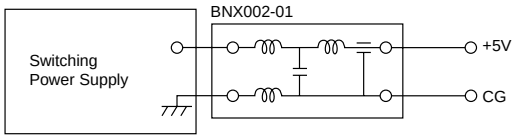
The block type filter effectively prevents unwanted reflections and external noise from entering the equipment circuitry and power lines by grounding all the high frequency components which make up the noise.

To maximize performance, proper grounding is required. To insure proper grounding, observe the following points:

- When designing the PC board, use all the available grounding terminals and arrange the circuit to maximize the area of the ground pattern.
- Minimize the distance between the PC board ground and the filter's grounding plate.
- Insert the filter into the PC board up to the terminal roots.
- Do not externally connect PSG to CG.

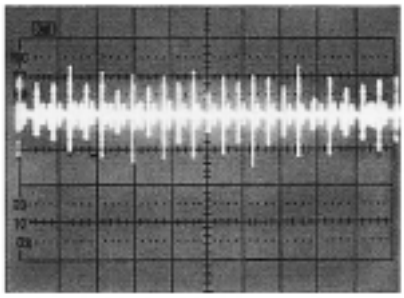
APPLICATION

- Suppression of DC side ripple of the switching power supply



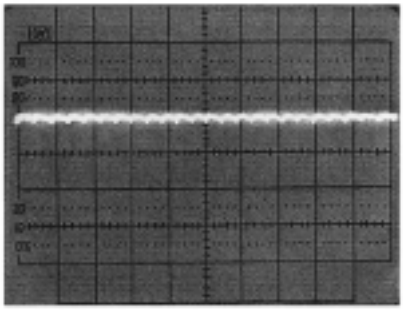
- When BNX002 is not used

(High frequency noise, max. 0.5V, can be seen.)



- When BNX002 is used

(Noise can be almost eliminated by BNX002.)



TYPICAL INSERTION LOSS CHARACTERISTICS