

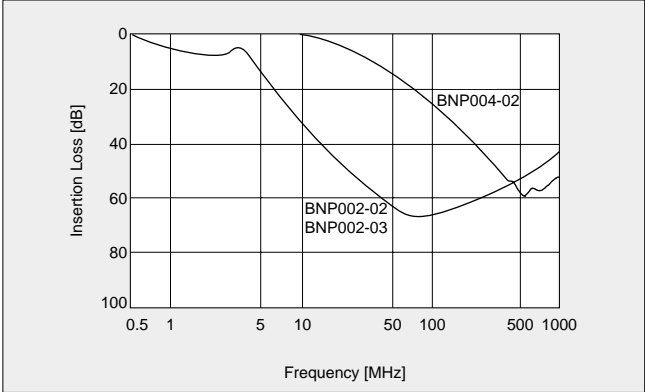
π Type EMI Suppression Filter

BNP Series

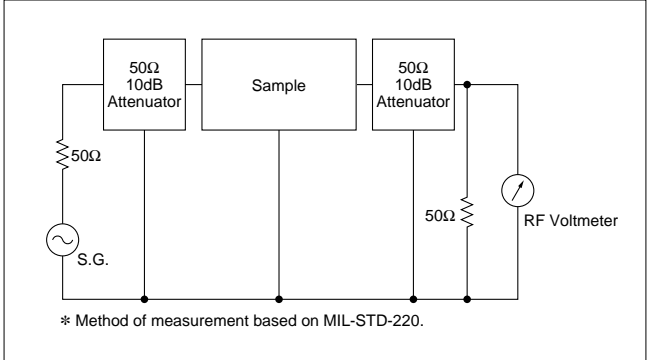
SPECIFICATIONS

Part Number	BNP002-02	BNP002-03	BNP004-02
Number of Circuits	2	3	2
Circuit Construction	π		
Operating Temp. Range	-40 to +100°C		
Rated Voltage	50Vdc		
Withstand Voltage	300Vdc		125Vdc
Rated Current	10Adc		
Insulation Resistance	1000M Ω min.		
DC Resistance	0.05 Ω max. (20 to 25°C)		
Insertion Loss	20MHz to 500MHz : 40dB min. (20 to 25°C)		300MHz to 1000MHz : 40dB min. (20 to 25°C)

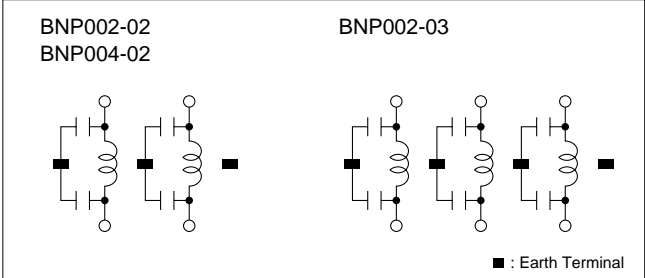
INSERTION LOSS CHARACTERISTICS



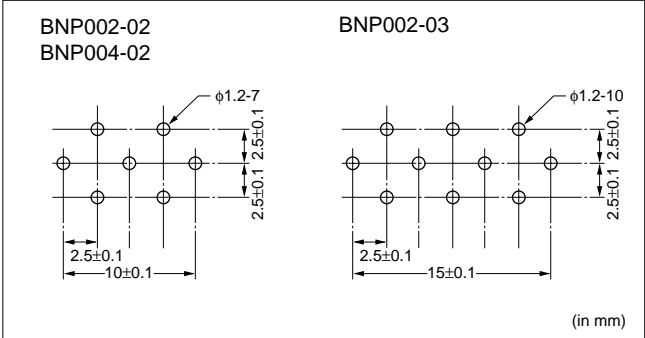
INSERTION LOSS MEASURING CIRCUIT



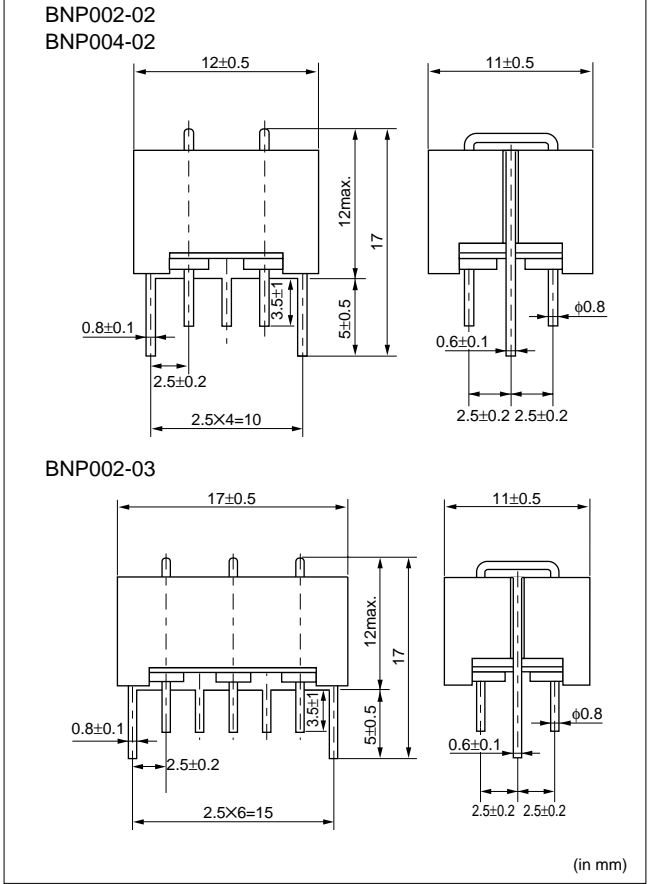
EQUIVALENT CIRCUIT



DIMENSIONS OF MOUNTING HOLES



EXTERNAL DIMENSIONS

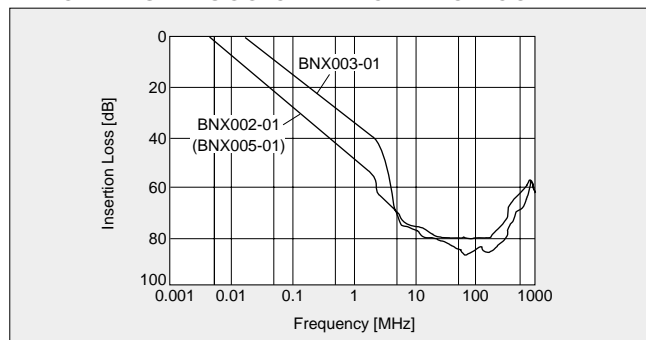


Wide Band Noise Suppression Filters for DC Power Line **BNX Series**

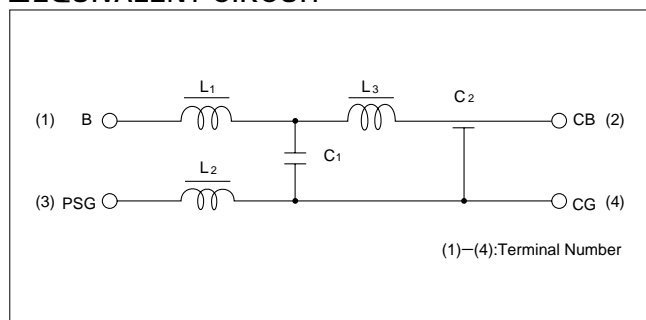
■ SPECIFICATIONS

Part Number	BNX002-01	BNX003-01	BNX005-01
Operating Temp. Range	-30 to +85°C		
Rated Volt.	50Vdc	150Vdc	50Vdc
Withstand Volt.	125Vdc	375Vdc	125Vdc
Rated Current	10A dc		15A dc
Insulation Resistance	100MΩ min.		
Insertion Loss	1MHz to 1GHz : 40dB min.	5MHz to 1GHz : 40dB min.	1MHz to 1GHz : 40dB min.
	20 to 25°C (line impedance=50Ω)		

■ INSERTION LOSS CHARACTERISTICS



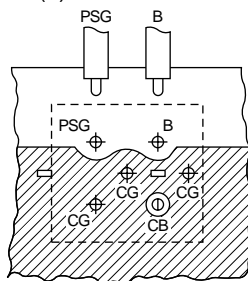
■ EQUIVALENT CIRCUIT



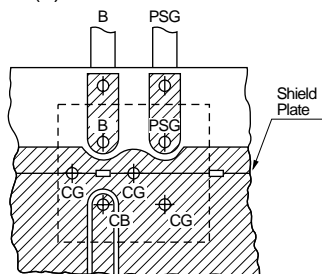
■ P. C. BOARD PATTERNS

Use a bilateral P. C. board. Insert the BNX into the P. C. board until the root of the terminal is secured, then solder.

(1) FRONT VIEW

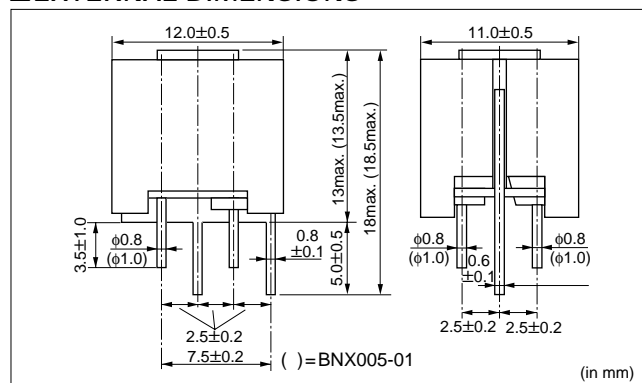


(2) BOTTOM VIEW

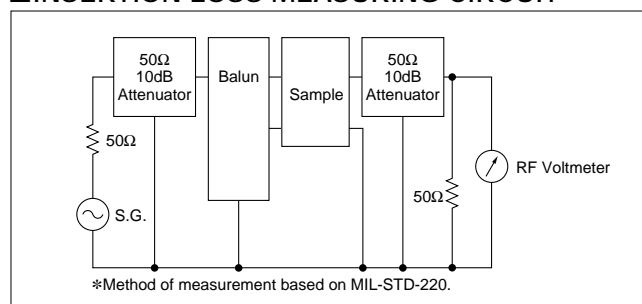


PSG : Power supply ground
CG : Load circuit ground
CB : Load circuit + Bias

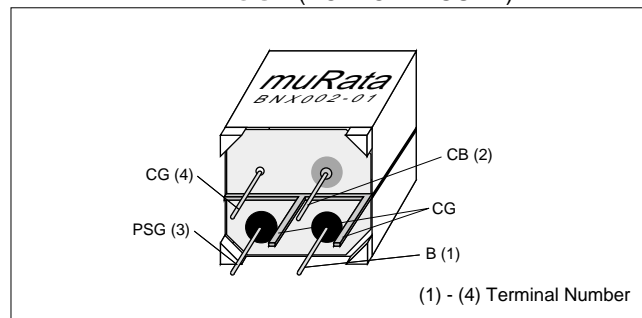
■ EXTERNAL DIMENSIONS



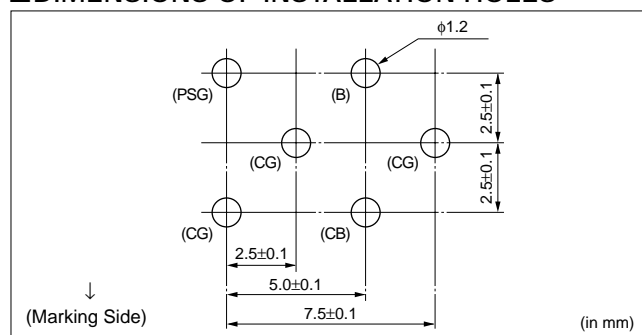
■ INSERTION LOSS MEASURING CIRCUIT



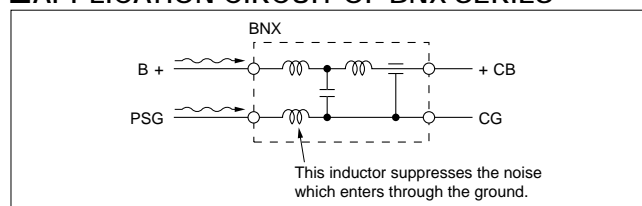
■ TERMINAL LAYOUT (BOTTOM FIGURE)



■ DIMENSIONS OF INSTALLATION HOLES



■ APPLICATION CIRCUIT OF BNX SERIES



Method of using the BNP and BNX filter blocks, and applications.

■USING EMIFIL® EFFECTIVELY

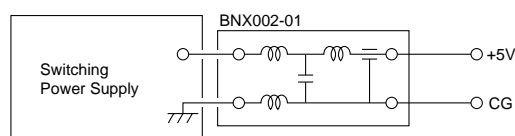
The block type EMIFIL® effectively prevents unwanted reflections and external noise from entering the equipment circuitry and power lines by grounding all the high frequency components which make up the noise.

Therefore, if grounding is improperly done, the filters may be unable to achieve the performance they are capable of. To prevent this, be sure to observe the following instructions.

1. When designing the P.C. board, use all the available grounding terminals, and arrange the grounding circuit so that the area of the foil for the grounding circuit is maximized.
2. Minimize the distance between the P.C. board ground and the filter's grounding plate. Use of through-hole P.C. boards.
3. Whichever P.C. board is used, push the filter into the P.C. board up to the terminal roots.
4. Do not connect PSG to CG by any other means except through the filter.

■APPLICATION 1

●Suppression of DC side ripple of the switching power supply



●When BNX002 is not used

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

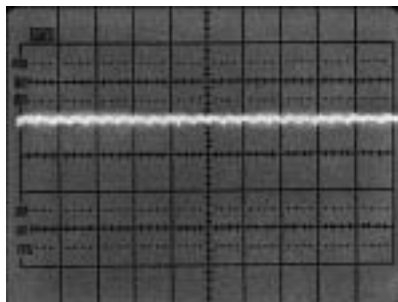
+5.0V →
50μs/DIV
0.2V/DIV



●When BNX002 is used

(Noise can be almost suppressed by BNX002.)

+5.0V →
50μs/DIV
0.2V/DIV



■PART NUMBERING

(Please specify the part number when ordering.)

(Ex.) **BNP** **002** - **02**

① ② ③

①Type : BNP—BNP Series

: BNX—BNX Series

②Construction : The series number shows the circuit construction or the filter characteristics.

③Number of Circuits : Shows the number of circuits, which are constructed one product.