

Power Entry Modules

The industry's most complete line of power entry modules are ideal for products that must conform to FCC Part 15 regulations. These metal cased miniature filters offer high performance.



Bolt-in Rear Terminals	PF16-PF17
For General Purpose Applications	PF22-PF23
For Medical Applications	PF24-PF25
Bolt-in Right Angle Terminals	PF18-PF19
For PCB Applications	PF46-PF47
High Frequency Attenuation	PF20-PF21
Bolt-in for PCB Applications	PF48-PF49
Snap-in with Wire Leads	PF26-PF27
Bolt-in with Wire Leads	PF28-PF31
Snap-in Mount	PF32-PF33
Fused Filtered	PF34-PF37
For General Purpose Applications	PF34-PF35
For Medical or General Purpose Applications	PF36-PF37
Switched and Fused Filtered	PF38-PF43
PCB Power Filters	PF44-PF45

Power Entry Modules Bolt-in Rear Terminals

60-BPR & BPS Series

Features

- Ideally suited for products that must conform to FCC part 15 regulations
- Metal case offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards
- Solder lug and Fast-on tab terminals available
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF17)
- UL approved low leakage version also available

Applications

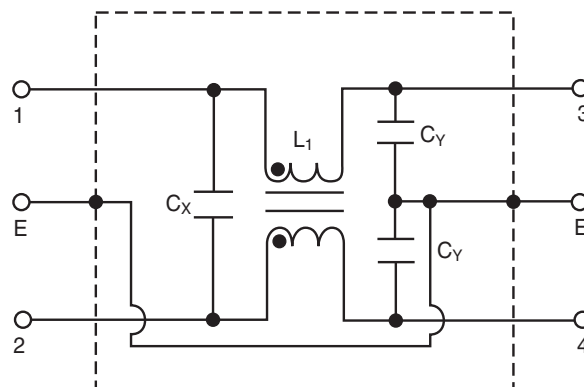
- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



Tested and found to be
IAW VDE 0565 Part 3.



Circuit Diagram



Specifications

Model*	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L ₁)	Temperature Rise (Max.)
				C _Y	C _X		
60-XXX-010-3-2	250VAC	1A	0.35mA	2200pF ± 20%	.022uF ± 20%	6.0mH	30°C
60-XXX-010-3-4					.047uF ± 20%		
60-XXX-010-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-XXX-010-5-4					.047uF ± 20%		
60-XXX-020-3-2	250VAC	2A	0.35mA	2200pF ± 20%	.022uF ± 20%	2.4mH	30°C
60-XXX-020-3-4					.047uF ± 20%		
60-XXX-020-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-XXX-020-5-4					.047uF ± 20%		
60-XXX-030-3-2	250VAC	3A	0.35mA	2200pF ± 20%	.022uF ± 20%	1.2mH	30°C
60-XXX-030-3-4					.047uF ± 20%		
60-XXX-030-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-XXX-030-5-4					.047uF ± 20%		
60-XXX-060-3-2	250VAC	6A	0.35mA	2200pF ± 20%	.022uF ± 20%	0.53mH	45°C
60-XXX-060-3-4					.047uF ± 20%		
60-XXX-060-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-XXX-060-5-4					.047uF ± 20%		
60-XXX-100-3-2	250VAC	10A	0.35mA	2200pF ± 20%	.022uF ± 20%	0.26mH	45°C
60-XXX-100-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-BPR-150-3-11	250VAC	15A	0.35mA	2200pF ± 20%	.1uF ± 20%	0.15mH	45°C

Note: Test voltage: 1500VAC one minute, line to ground
Insulation resistance: 300 Mohm min. at 500VDC
Voltage drop: 1V max. at rated current
Weight: 45g
Input: Compatible with IEC-320

* Substitute BPR or BPS for XXX

BPS - Solder lug terminals
BPR - Fast-on tab terminals

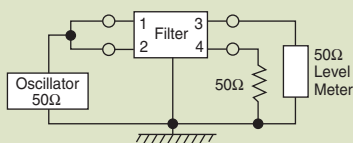
Power Entry Modules Bolt-in Rear Terminals

60-BPR & BPS Series

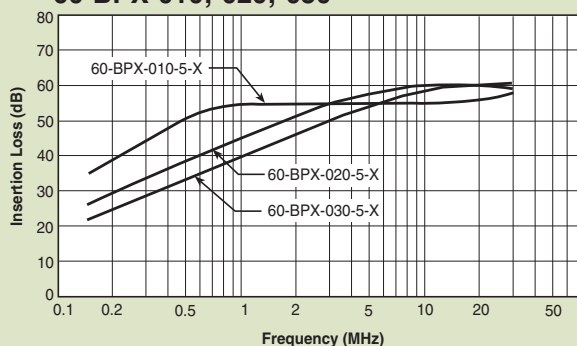
Temperature Characteristics



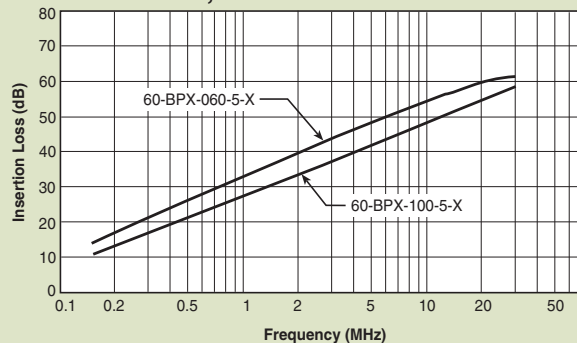
Common Mode



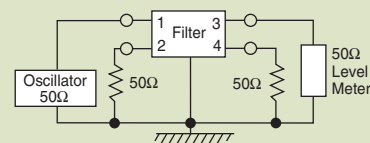
60-BPX-010;-020;-030



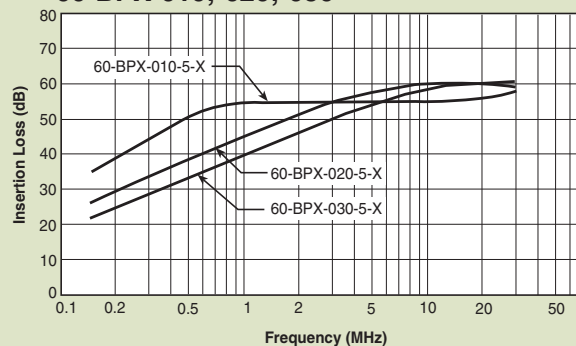
60-BPX-060;-100



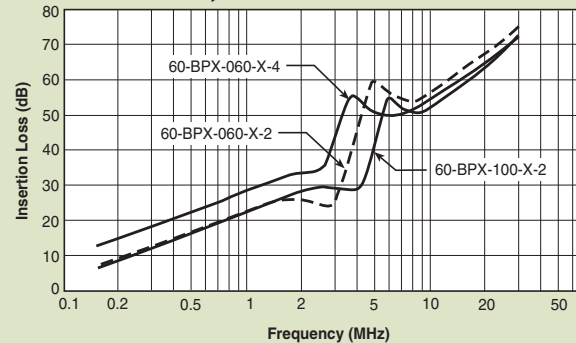
Normal Mode



60-BPX-010;-020;-030



60-BPX-060;-100



Power Entry Modules Bolt-in Right Angle Terminals

60-BPF Series

Features

- Ideally suited for products that must conform to FCC part 15 regulations
- Metal case offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards
- PCB mounting types available (see page PF46)
- Length under tab is shortened for small spaces
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF19)
- UL approved low leakage version also available

Applications

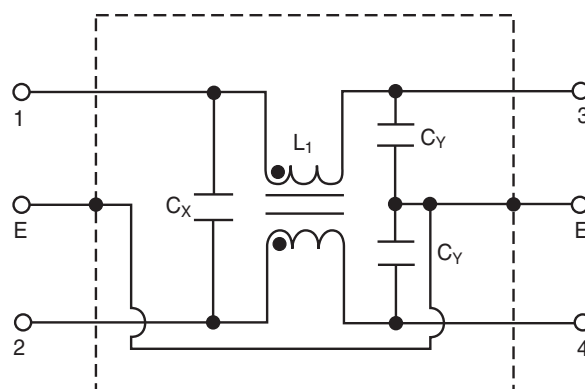
- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



Tested and found to be
IAW VDE 0565 Part 3.



Circuit Diagram



Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L ₁)	Temperature Rise (Max.)
				C _Y	C _X		
60-BPF-010-3-2	250VAC	1A	0.35mA	2200pF ± 20%	.022uF ± 20%	6.0mH	30°C
60-BPF-010-3-4					.047uF ± 20%		
60-BPF-010-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-BPF-010-5-4					.047uF ± 20%		
60-BPF-020-3-2	250VAC	2A	0.35mA	2200pF ± 20%	.022uF ± 20%	2.4mH	30°C
60-BPF-020-3-4					.047uF ± 20%		
60-BPF-020-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-BPF-020-5-4					.047uF ± 20%		
60-BPF-030-3-2	250VAC	3A	0.35mA	2200pF ± 20%	.022uF ± 20%	1.2mH	30°C
60-BPF-030-3-4					.047uF ± 20%		
60-BPF-030-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-BPF-030-5-4					.047uF ± 20%		
60-BPF-060-3-2	250VAC	6A	0.35mA	2200pF ± 20%	.022uF ± 20%	0.53mH	45°C
60-BPF-060-3-4					.047uF ± 20%		
60-BPF-060-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-BPF-060-5-4					.047uF ± 20%		

Note: Test voltage: 1500VAC one minute, line to ground
Insulation resistance: 300 Mohm min. at 500VDC
Voltage drop: 1V max. at rated current
Weight: 50g
Input: Compatible with IEC-320

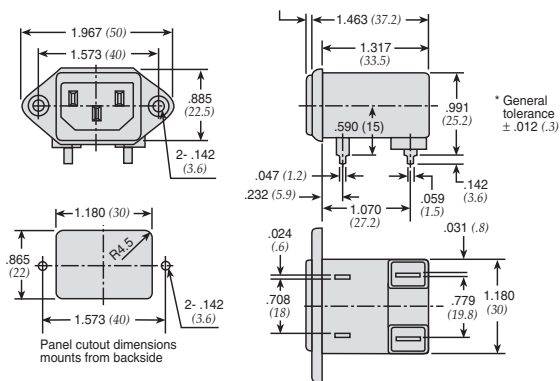
Power Entry Modules Bolt-in Right Angle Terminals

60-BPF Series

Temperature Characteristics

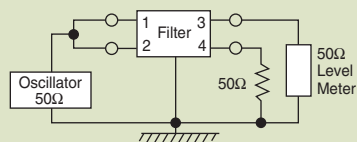


60-BPF Fast-on Terminals

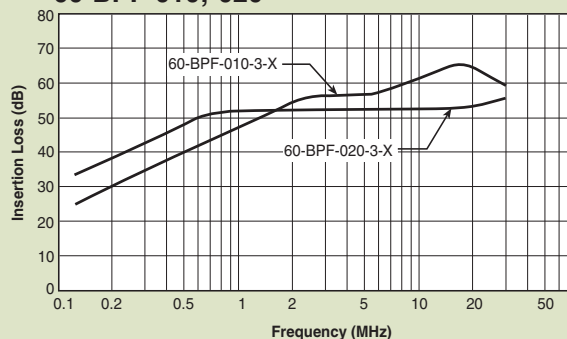


Dimensions in inches (mm)

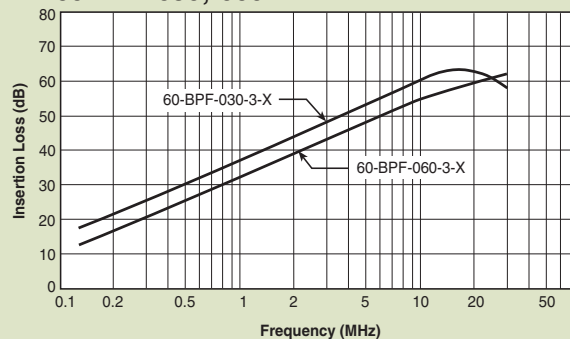
Common Mode



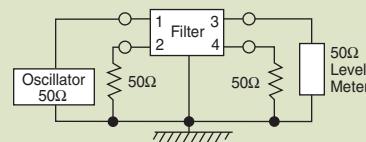
60-BPF-010;-020



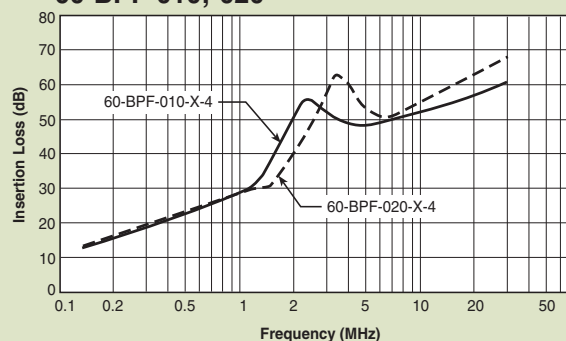
60-BPF-030;-060



Normal Mode



60-BPF-010;-020



60-BPF-030;-060



Power Entry Modules High Frequency Attenuation

60-BHS Series

Features

- Ideally suited for products that must conform to FCC part 15 regulations
- Metal cased miniature filter offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- PCB mounting types available (see page PF48)
- PCB mounting minimizes space and provides economical installation
- Excellent filtering characteristics for high frequencies
- Earth coil standard
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF21)

Applications

- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



Tested and found to be
IAW VDE 0565 Part 3.



Circuit Diagram



Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance		Temperature Rise (Max.)
				C _Y	C _X	(L ₁)	(L ₂)	
60-BHS-010-3-11	250VAC	1A	0.35mA	2200pF ± 20%	0.1uF ± 20%	6mH	18.3uH	30°C
60-BHS-010-3-4					.047uF ± 20%			
60-BHS-010-5-11			0.50mA	3300pF ± 20%	0.1uF ± 20%			
60-BHS-010-5-4					.047uF ± 20%			
60-BHS-020-3-11	250VAC	2A	0.35mA	2200pF ± 20%	0.1uF ± 20%	2.4mH	18.3uH	30°C
60-BHS-020-3-4					.047uF ± 20%			
60-BHS-020-5-11			0.50mA	3300pF ± 20%	0.1uF ± 20%			
60-BHS-020-5-4					.047uF ± 20%			
60-BHS-030-3-11	250VAC	3A	0.35mA	2200pF ± 20%	0.1uF ± 20%	1.2mH	18.3uH	30°C
60-BHS-030-3-4					.047uF ± 20%			
60-BHS-030-5-11			0.50mA	3300pF ± 20%	0.1uF ± 20%			
60-BHS-030-5-4					.047uF ± 20%			
60-BHS-060-3-11	250VAC	6A	0.35mA	2200pF ± 20%	0.1uF ± 20%	.53mH	18.3uH	45°C
60-BHS-060-3-4					.047uF ± 20%			
60-BHS-060-5-11			0.50mA	3300pF ± 20%	0.1uF ± 20%			
60-BHS-060-5-4					.047uF ± 20%			

Note: Test voltage: 1500VAC one minute, line to ground
Insulation resistance: 300 Mohm min. at 500VDC
Voltage drop: 1V max. at rated current
Weight: 50g
Input: Compatible with IEC-320

Power Entry Modules High Frequency Attenuation

60-BHS Series

Temperature Characteristics



Common Mode



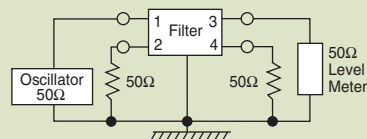
60-BHS-XXX-X-11



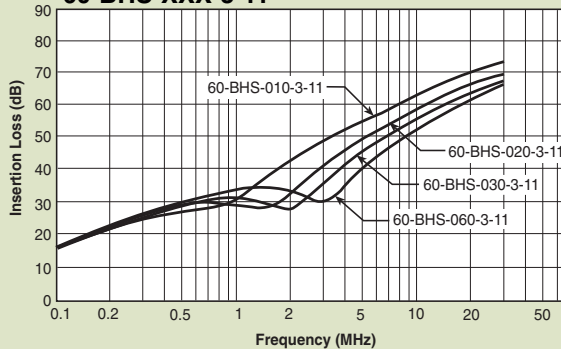
60-BHS-XXX-X-4



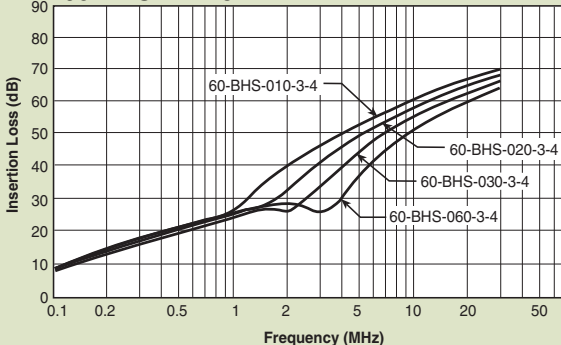
Normal Mode



60-BHS-XXX-3-11



60-BHS-XXX-3-4



Power Entry Modules Bolt-in Rear Terminals For General Purpose Applications

10-BPF Series



Features

- Ideally suited for products that must conform to FCC part 15 regulations
- Metal case offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards
- Operating temperature: -25°C to +70°C
- Compact configuration

Applications

- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



Circuit Diagram



Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L ₁)	Circuit Diagram	Figure	Temperature Rise (Max.)	
10-BPF-001-5-A	120/250VAC	1A	0.50mA	3300pF	2200pF	3.0mH	1	A	30°C	
10-BPF-001-5-C								C		
10-BPF-003-5-A		3A		4700pF	0.01uF	1.5mH	2	A		
10-BPF-003-5-C								C		
10-BPF-003-5-D		6A		3300pF		0.5mH	1	A		
10-BPF-006-5-A								C		
10-BPF-006-5-C				3300pF & 0.01uF	3300pF & 0.01uF	1.5mH	2	B		
10-BPF-006-5-D				10A		3300pF	0.01uF	0.5mH		1
10-BPF-010-5-A		3300pF & 0.01uF				3300pF & 0.01uF	1.5mH	3		B
10-BPF-010-5-D										

Note: Test voltage: 1500VAC one minute, line to ground
Insulation resistance: 300 Mohm min. at 500VDC
Voltage drop: 1V max. at rated current
Weight: 45g
Input: Compatible with IEC-320

Power Entry Modules Bolt-in Rear Terminals For General Purpose Applications

10-BPF Series

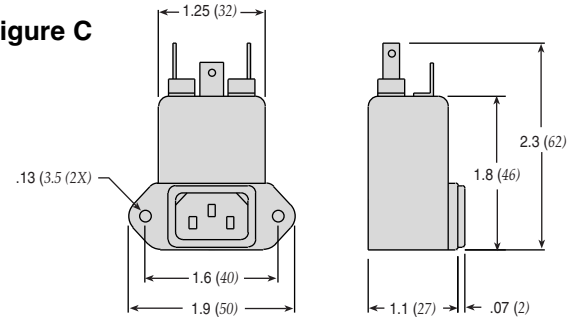
Figure A



Figure B



Figure C



Dimensions in inches (mm)

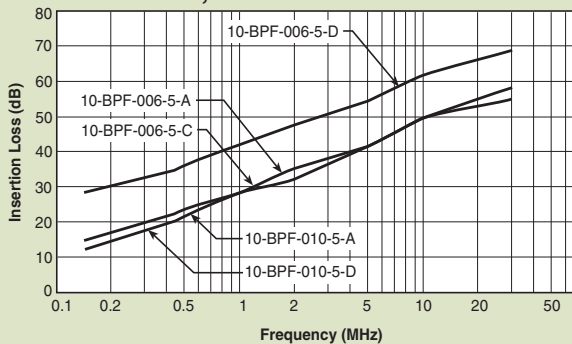
Common Mode



10-BPF-001;-003



10-BPF-006;-010



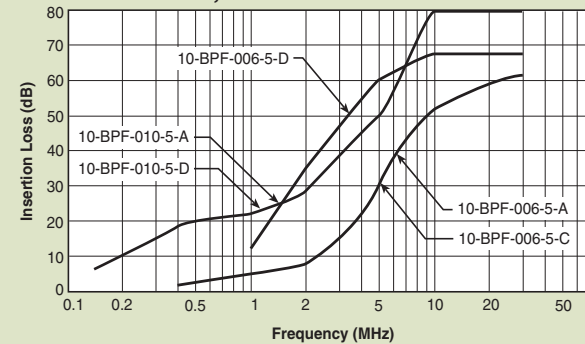
Normal Mode



10-BPF-001;-003



10-BPF-006;-010



Power Entry Modules Bolt-in Rear Terminals For Medical Purpose Applications

10-BPF Series



Features

- Ideally suited for products that must conform to FCC part 15 regulations
- Metal case offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards
- Operating temperature: -25°C to +70°C
- Compact configuration
- Low leakage current

Applications

- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



Circuit Diagram



Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance C_x	Inductance (L_1)	Circuit Diagram	Figure	Temperature Rise (Max.)
10-BPF-001-2-A	120/250VAC	1A	5uA	0.01uF	3.0mH	1	A	30°C
10-BPF-003-2-A		3A			1.5mH			
10-BPF-006-2-A		6A			0.5mH			

Note: Test voltage: 1500VAC one minute, line to ground
Insulation resistance: 300 Mohm min. at 500VDC
Voltage drop: 1V max. at rated current
Weight: 45g
Input: Compatible with IEC-320

Power Entry Modules Bolt-in Rear Terminals For Medical Purpose Applications

10-BPF Series



Dimensions in inches (mm)



Common Mode



10-BPF-001;-003;-006



Normal Mode



10-BPF-001;-003;-006



Power Entry Modules Snap-in with Wire Leads

60-SPL Series

Features

- Ideally suited for products that must conform to FCC part 15 regulations
- Metal cased miniature filter offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards
- Snap-in style saves labor and hardware inventory
- Wire output minimizes space and provides economical installation
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF27)

Applications

- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



Tested and found to be
IAW VDE 0565 Part 3.



Circuit Diagram



Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L ₁)	Temperature Rise (Max.)
				C _y	C _x		
60-SPL-010-3-2	250VAC	1A	0.35mA	2200pF ± 20%	22nF ± 20%	6.0mH	30°C
60-SPL-010-3-3					33nF ± 20%		
60-SPL-010-5-2			0.50mA	3300pF ± 20%	22nF ± 20%		
60-SPL-010-5-3					33nF ± 20%		
60-SPL-020-3-2	250VAC	2A	0.35mA	2200pF ± 20%	22nF ± 20%	2.4mH	30°C
60-SPL-020-3-3					33nF ± 20%		
60-SPL-020-5-2			0.50mA	3300pF ± 20%	22nF ± 20%		
60-SPL-020-5-3					33nF ± 20%		
60-SPL-030-3-2	250VAC	3A	0.35mA	2200pF ± 20%	.022uF ± 20%	1.2mH	30°C
60-SPL-030-3-3					3300pF ± 20%		
60-SPL-030-5-2			0.50mA	2200pF ± 20%	.033uF ± 20%		
60-SPL-030-5-3					3300pF ± 20%		
60-SPL-060-3-2	250VAC	6A	0.35mA	2200pF ± 20%	22nF ± 20%	0.53mH	45°C
60-SPL-060-3-3					33nF ± 20%		
60-SPL-060-5-2			0.50mA	3300pF ± 20%	22nF ± 20%		
60-SPL-060-5-3					33nF ± 20%		

Note: Test voltage: 1500VAC one minute, line to ground
Insulation resistance: 300 Mohm min. at 500VDC
Voltage drop: 1V max. at rated current
Weight: 50g
Input: Compatible with IEC-320

Power Entry Modules Snap-in with Wire Leads

60-SPL Series

Temperature Characteristics

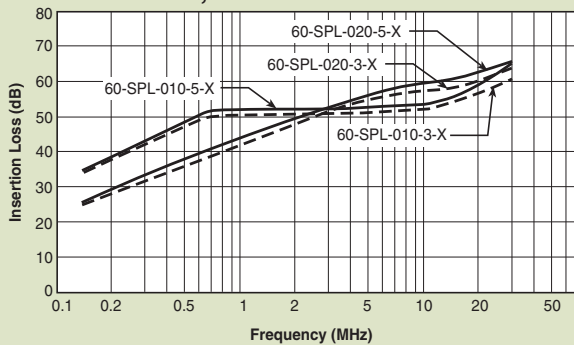


Dimensions in inches (mm)

Common Mode



60-SPL-010;-020



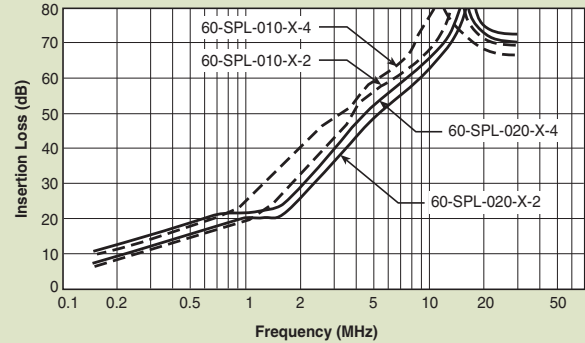
60-SPL-030;-060



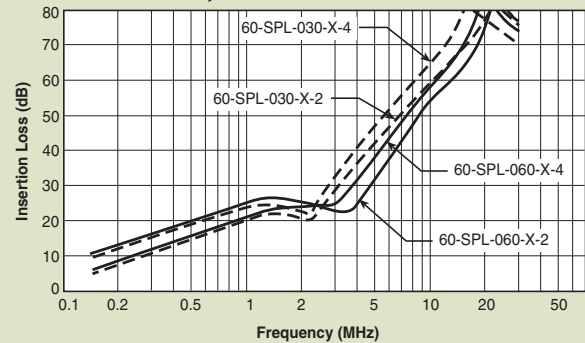
Normal Mode



60-SPL-010;-020



60-SPL-030;-060



Power Entry Modules Bolt-in with Wire Leads

60-BPL Series

Features

- Ideally suited for products that must conform to FCC part 15 regulations
- Metal case filter offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards
- Wire output for minimizing space use and economical installation
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF28)

Applications

- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



Tested and found to be
IAW VDE 0565 Part 3.



Circuit Diagram



Specifications

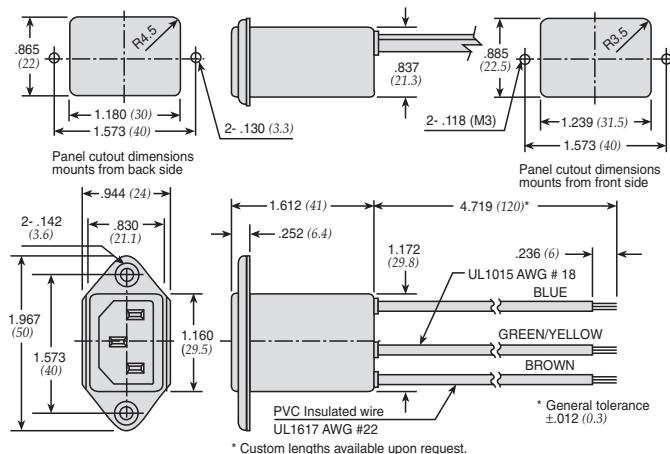
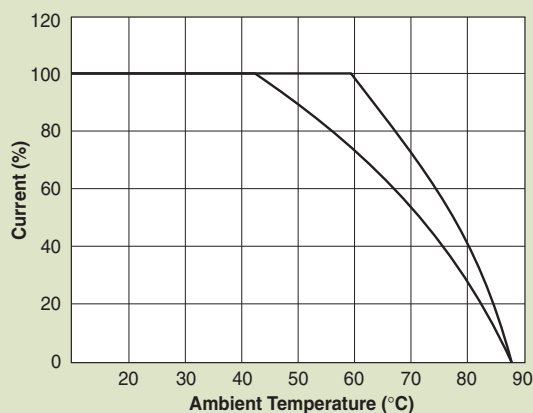
Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L ₁)	Temperature Rise (Max.)
				C _Y	C _X		
60-BPL-010-3-2	250VAC	1A	0.35mA	2200pF ± 20%	22nF ± 20%	6.0mH	30°C
60-BPL-010-3-3					33nF ± 20%		
60-BPL-010-5-2			0.50mA	3300pF ± 20%	22nF ± 20%		
60-BPL-010-5-3					33nF ± 20%		
60-BPL-020-3-2	250VAC	2A	0.35mA	2200pF ± 20%	22nF ± 20%	2.4mH	30°C
60-BPL-020-3-3					33nF ± 20%		
60-BPL-020-5-2			0.50mA	3300pF ± 20%	22nF ± 20%		
60-BPL-020-5-3					33nF ± 20%		
60-BPL-030-3-2	250VAC	3A	0.35mA	2200pF ± 20%	.022uF ± 20%	1.2mH	30°C
60-BPL-030-3-3				3300pF ± 20%			
60-BPL-030-5-2			0.50mA	2200pF ± 20%	.033uF ± 20%		
60-BPL-030-5-3				3300pF ± 20%			
60-BPL-060-3-2	250VAC	6A	0.35mA	2200pF ± 20%	22nF ± 20%	0.53mH	45°C
60-BPL-060-3-3					33nF ± 20%		
60-BPL-060-5-2			0.50mA	3300pF ± 20%	22nF ± 20%		
60-BPL-060-5-3					33nF ± 20%		

Note: Test voltage: 1500VAC one minute, line to ground
Insulation resistance: 300 Mohm min. at 500VDC
Voltage drop: 1V max. at rated current
Weight: 50g
Input: Compatible with IEC-320

Power Entry Modules Bolt-in with Wire Leads

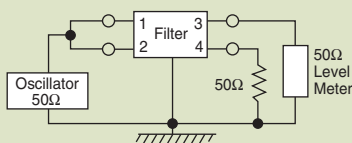
60-BPL Series

Temperature Characteristics

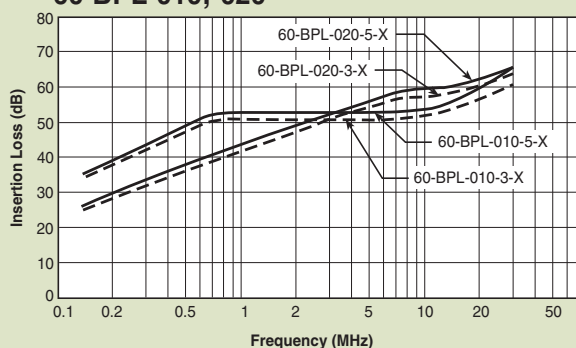


Dimensions in inches (mm)

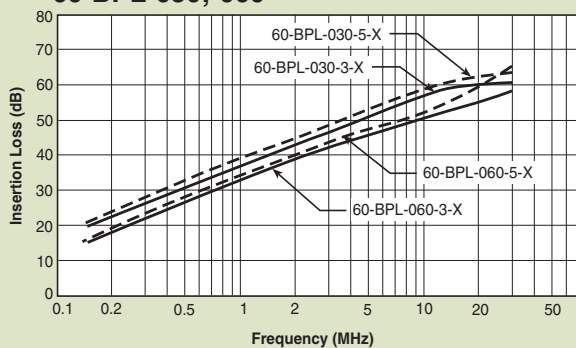
Common Mode



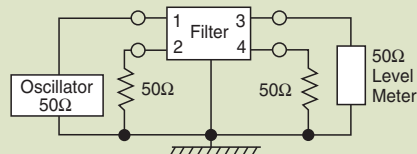
60-BPL-010;-020



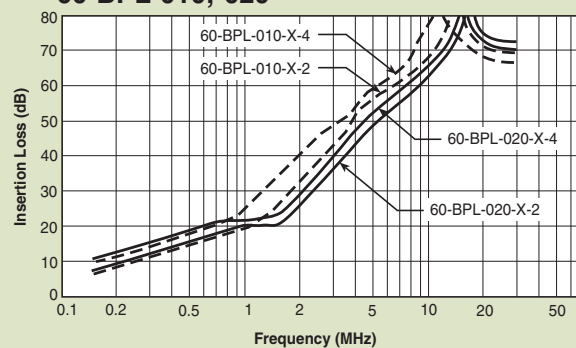
60-BPL-030;-060



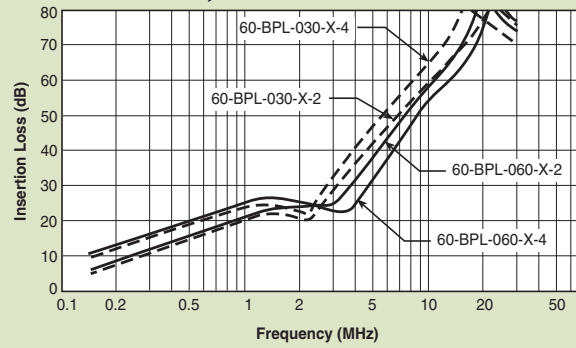
Normal Mode



60-BPL-010;-020



60-BPL-030;-060



Power Entry Modules Bolt-in with Wire Leads

10-BPL Series



Features

- Ideally suited for products that must conform to FCC part 15 regulations
- Metal case filter offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards
- Wire output for minimizing space use and economical installation
- Operating temperature: -25°C to +70°C
- Compact configuration

Applications

- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



Circuit Diagram



Specifications

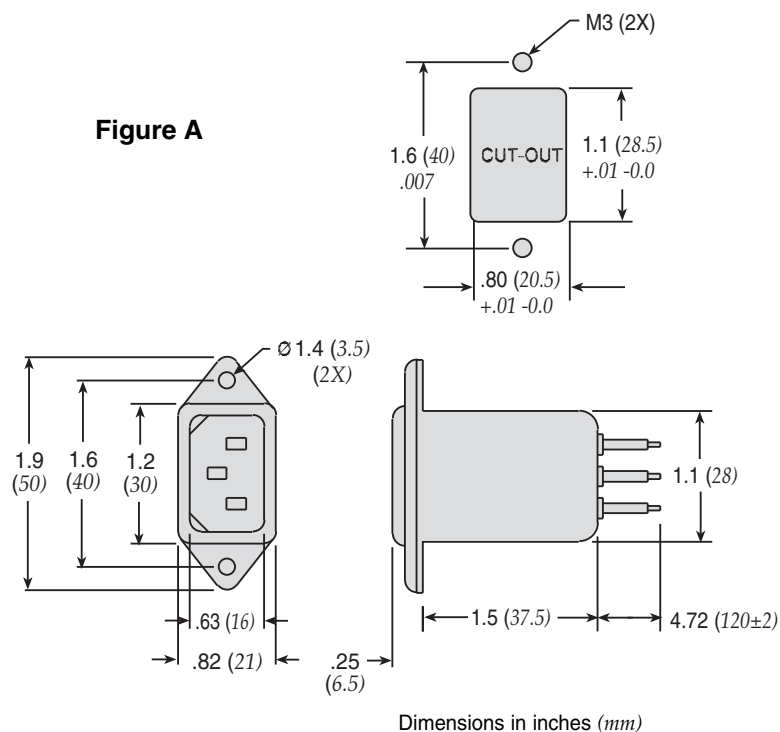
Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L ₁)	Circuit Diagram	Figure	Temperature Rise (Max.)
				C _Y	C _X				
10-BPL-001-5-B	250VAC	1A	0.50mA	3300pF	0.01uF	3.0mH	1	A	30°C
10-BPL-003-5-B		3A				1.5mH			
10-BPL-006-5-B		6A				0.5mH			

Note: Test voltage: 1500VAC one minute, line to ground
 Insulation resistance: 300 Mohm min. at 500VDC
 Voltage drop: 1V max. at rated current
 Weight: 50g
 Input: Compatible with IEC-320

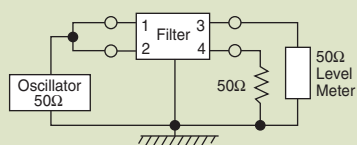
Power Entry Modules Bolt-in with Wire Leads

10-BPL Series

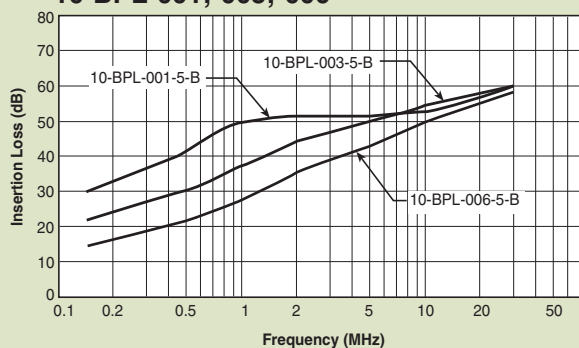
Figure A



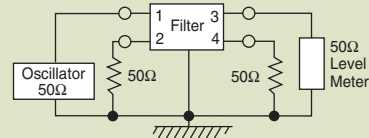
Common Mode



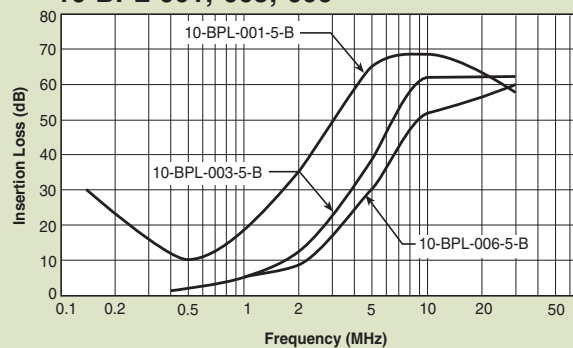
10-BPL-001;-003;-006



Normal Mode



10-BPL-001;-003;-006



Power Entry Modules Snap-in Mount

60-SPR & SPS Series

Features

- Ideally suited for products that must conform to FCC part 15 regulations
- Metal cased miniature filter offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards
- Snap-in style saves labor and hardware inventory
- Solder lug and fast-on tab terminations available
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF33)
- UL approved low leakage version also available

Applications

- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units

Specifications

Model*	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L ₁)	Temperature Rise (Max.)
				C _Y	C _X		
60-XXX-010-3-2	250VAC	1A	0.35mA	2200pF ± 20%	.022uF ± 20%	6.0mH	30°C
60-XXX-010-3-4					.047uF ± 20%		
60-XXX-010-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-XXX-010-5-4					.047uF ± 20%		
60-XXX-020-3-2	250VAC	2A	0.35mA	2200pF ± 20%	.022uF ± 20%	2.4mH	30°C
60-XXX-020-3-4					.047uF ± 20%		
60-XXX-020-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-XXX-020-5-4					.047uF ± 20%		
60-XXX-030-3-2	250VAC	3A	0.35mA	2200pF ± 20%	.022uF ± 20%	1.2mH	30°C
60-XXX-030-3-4					.047uF ± 20%		
60-XXX-030-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-XXX-030-5-4					.047uF ± 20%		
60-XXX-060-3-2	250VAC	6A	0.35mA	2200pF ± 20%	.022uF ± 20%	0.53mH	45°C
60-XXX-060-3-4					.047uF ± 20%		
60-XXX-060-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-XXX-060-5-4					.047uF ± 20%		
60-XXX-100-3-2	250VAC	10A	0.35mA	2200pF ± 20%	.022uF ± 20%	0.26mH	45°C
60-XXX-100-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-SPR-150-3-11	250VAC	15A	0.35mA	2200pF ± 20%	.1uF ± 20%	0.15mH	45°C

Note: Test voltage: 1500VAC one minute, line to ground
Insulation resistance: 300 Mohm min. at 500VDC
Voltage drop: 1V max. at rated current
Weight: 45g
Input: Compatible with IEC-320

* **Substitute SPR or SPS for XXX**
60-SPR - Fast-on terminals
60-SPS - Solder lug terminals



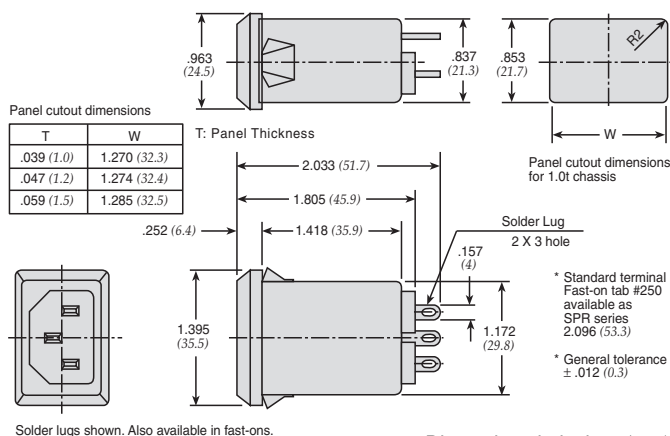
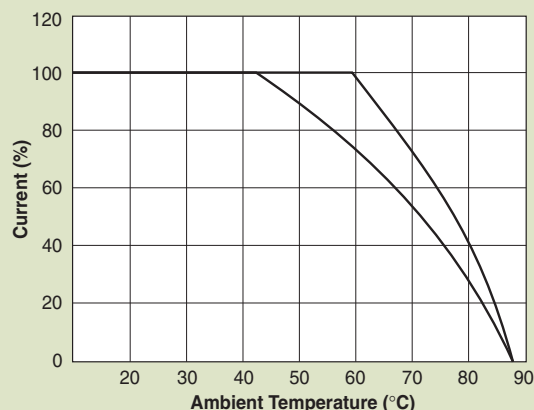
Circuit Diagram



Power Entry Modules Snap-in Mount

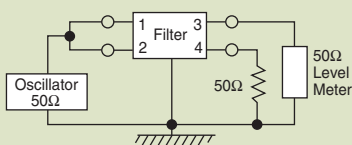
60-SPR & SPS Series

Temperature Characteristics

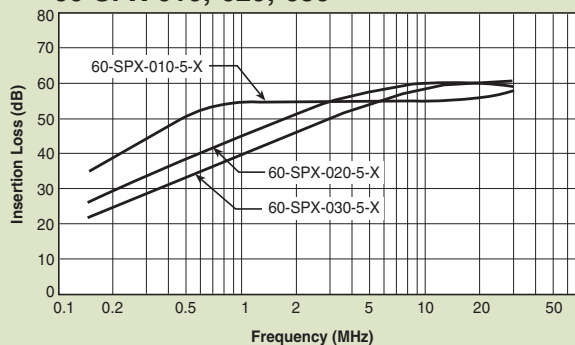


Dimensions in inches (mm)

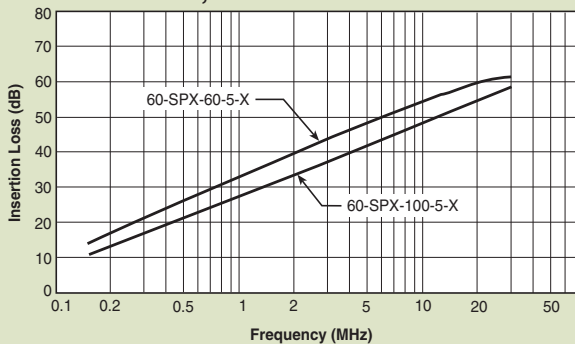
Common Mode



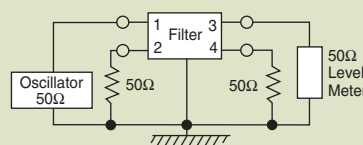
60-SPX-010;-020;-030



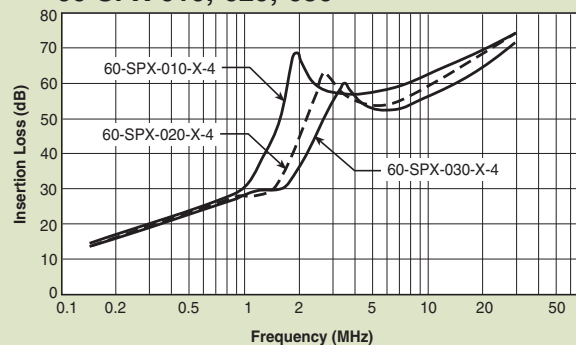
60-SPX-060;-100



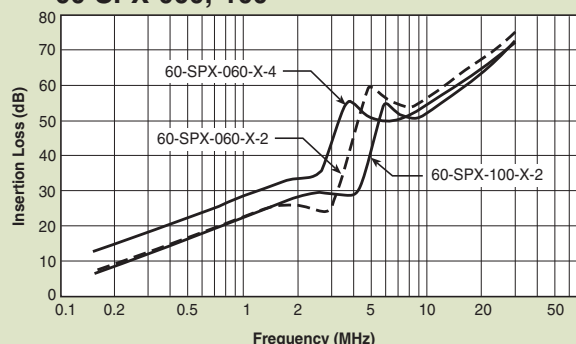
Normal Mode



60-SPX-010;-020;-030



60-SPX-060;-100



Fused Filtered Power Entry Modules For General Purpose Applications

64-65-BFF/64-65-BFS Series



Tested and found to be
IAW VDE 0565 Part 3.

Features

- North American and Metric fuse holders available
- Fuse holder provides effective EMI suppression of common and differential mode
- Suitable for products that must conform to FCC and FTZ requirements
- Meets over voltage category II of IEC 664 and complies with IEC 950
- Fast-on terminals or solder lug terminals
- Metal case provides effective EMI shielding
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF35)

Applications

- Computers and peripheral equipment
- Electronic equipment
- Digital equipment
- Measuring and testing instruments
- Telecommunications equipment



Circuit Diagram



Specifications

Model*	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L ₁)	Temperature Rise (Max.)
				C _Y	C _X		
64-XXX-020-3-11	250VAC	2A	0.35mA	2200pF ± 20%	0.1uF	6.5mH	40°C
64-XXX-020-5-11			0.50mA	3300pF ± 20%			
64-XXX-020-3-12			0.35mA	2200pF ± 20%	0.22uF		
64-XXX-020-5-12			0.50mA	3300pF ± 20%			
64-XXX-040-3-11	250VAC	4A	0.35mA	2200pF ± 20%	0.1uF	4.2mH	45°C
64-XXX-040-5-11			0.50mA	3300pF ± 20%			
64-XXX-040-3-12			0.35mA	2200pF ± 20%	0.22uF		
64-XXX-040-5-12			0.50mA	3300pF ± 20%			
64-XXX-060-3-11	250VAC	6A	0.35mA	2200pF ± 20%	0.1uF	1.6mH	45°C
64-XXX-060-5-11			0.50mA	3300pF ± 20%			
64-XXX-060-3-12			0.35mA	2200pF ± 20%	0.22uF		
64-XXX-060-5-12			0.50mA	3300pF ± 20%			
65-XXX-020-3-11	125VAC	2A	0.20mA	2200pF ± 20%	0.1uF	6.5mH	40°C
65-XXX-020-5-11			0.25mA	3300pF ± 20%			
65-XXX-020-3-12			0.20mA	2200pF ± 20%	0.22uF		
65-XXX-020-5-12			0.25mA	3300pF ± 20%			
65-XXX-040-3-11	125VAC	4A	0.20mA	2200pF ± 20%	0.1uF	4.2mH	45°C
65-XXX-040-5-11			0.25mA	3300pF ± 20%			
65-XXX-040-3-12			0.20mA	2200pF ± 20%	0.22uF		
65-XXX-040-5-12			0.25mA	3300pF ± 20%			
65-XXX-060-3-11	125VAC	6A	0.20mA	2200pF ± 20%	0.1uF	1.6mH	45°C
65-XXX-060-5-11			0.25mA	3300pF ± 20%			
65-XXX-060-3-12			0.20mA	2200pF ± 20%	0.22uF		
65-XXX-060-5-12			0.25mA	3300pF ± 20%			

Note: Test Voltage 1500VAC one minute, line to ground
Insulation Resistance: 300 MΩ min. at 500VDC
F(S) = Fast-on or (Solder lug terminals)

Voltage Drop: 1V max. at rated current
Weight: 78g
Inlet: Compatible with IEC-320

* **Substitute BFF or BFS for XXX**
BFF - Fast-on terminals
BFS - Solder lug terminals

Fused Filtered Power Entry Modules

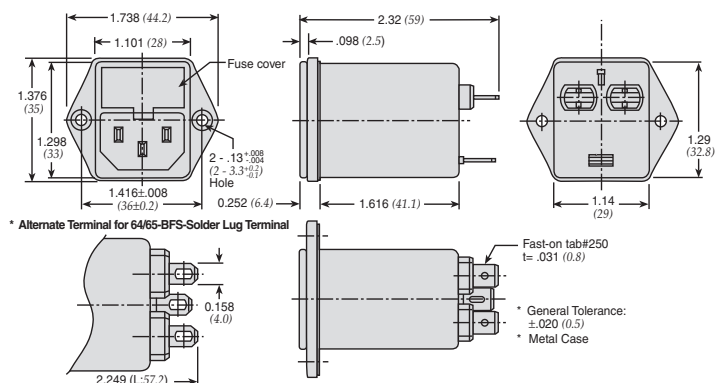
For General Purpose Applications

64-65-BFF/64-65-BFS Series

Temperature Characteristics



Dimensions 64/65-BFF Series



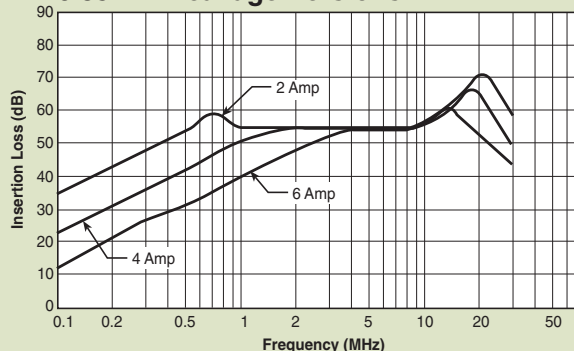
Common Mode



0.50 mA Leakage Versions



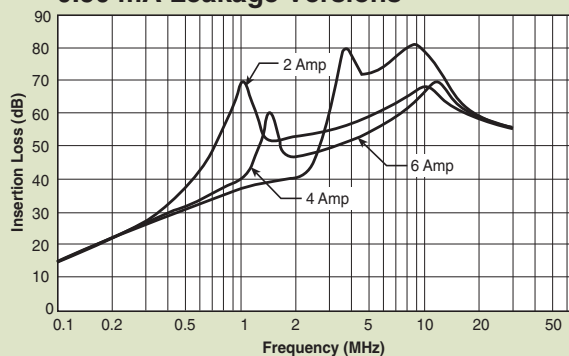
0.35 mA Leakage Versions



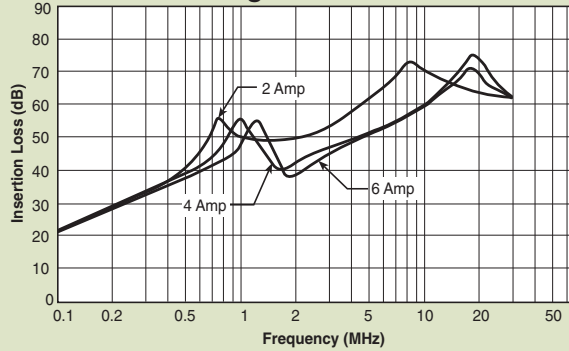
Normal Mode



0.50 mA Leakage Versions



0.35 mA Leakage Versions



Fused Filtered Power Entry Modules

For Medical or General Purpose Applications

66-67-BFF/66-67-BFS Series



Tested and found to be
IAW VDE 0565 Part 3.

Features

- Metric and North American fuse holders available
- Fuse holder provides effective EMI suppression of common and differential mode
- Suitable for products that must conform to FCC and FTZ requirements
- Meets over voltage category II of IEC 664 and complies with IEC 950
- Fast-on terminations or solder lug terminations
- Metal case provides effective EMI shielding
- Provides susceptibility protection without the leakage current associated with line-to-ground capacitance
- Reduces the line to ground capacitance in order to meet patient care requirements
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF37)



Applications

- Medical equipment
- Electronic equipment
- Digital equipment
- Industrial equipment
- Telecommunications equipment
- Measuring and testing instruments
- Personal computers and peripherals

Circuit Diagrams

66/67-BFF(S)-XXX-1-X Filter



66/67-BFF(S)-XXX-0-X and
66/67-BFF(S)-XXX-4-X Filters



Specifications

Model*	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L ₁)	Temperature Rise (Max.)	
				C _Y	C _X			
66-XXX-020-1-11	250VAC	2A	0.01mA	none	0.1uF	6.5mH	40°C	
66-XXX-020-1-12					0.22uF			
66-XXX-020-0-11				0.075mA	330pF ± 20%			0.1uF
66-XXX-020-4-11				0.1mA	470pF ± 20%			
66-XXX-020-0-12				0.075mA	330pF ± 20%			
66-XXX-020-4-12				0.1mA	470pF ± 20%			
66-XXX-040-1-11	250VAC	4A	0.01mA	none	0.1uF	2.4mH	45°C	
66-XXX-040-1-12					0.22uF			
66-XXX-040-0-11				0.075mA	330pF ± 20%			0.1uF
66-XXX-040-4-11				0.1mA	470pF ± 20%			
66-XXX-040-0-12				0.075mA	330pF ± 20%			
66-XXX-040-4-12				0.1mA	470pF ± 20%			
66-XXX-060-1-11	250VAC	6A	0.01mA	none	0.1uF	1.6mH	45°C	
66-XXX-060-1-12					0.22uF			
66-XXX-060-0-11				0.075mA	330pF ± 20%			0.1uF
66-XXX-060-4-11				0.1mA	470pF ± 20%			
66-XXX-060-0-12				0.075mA	330pF ± 20%			
66-XXX-060-4-12				0.1mA	470pF ± 20%			
67-XXX-020-1-11	125VAC	2A	0.005mA	none	0.1uF	6.5mH	40°C	
67-XXX-020-1-12					0.22uF			
67-XXX-020-0-11				0.035mA	330pF ± 20%			0.1uF
67-XXX-020-4-11				0.05mA	470pF ± 20%			
67-XXX-020-0-12				0.035mA	330pF ± 20%			
67-XXX-020-4-12				0.05mA	470pF ± 20%			
67-XXX-040-1-11	125VAC	4A	0.005mA	none	0.1uF	2.4mH	45°C	
67-XXX-040-1-12					0.22uF			
67-XXX-040-0-11				0.035mA	330pF ± 20%			0.1uF
67-XXX-040-4-11				0.05mA	470pF ± 20%			
67-XXX-040-0-12				0.035mA	330pF ± 20%			
67-XXX-040-4-12				0.05mA	470pF ± 20%			
67-XXX-060-1-11	125VAC	6A	0.005mA	none	0.1uF	1.6mH	45°C	
67-XXX-060-1-12					0.22uF			
67-XXX-060-0-11				0.035mA	330pF ± 20%			0.1uF
67-XXX-060-4-11				0.05mA	470pF ± 20%			
67-XXX-060-0-12				0.035mA	330pF ± 20%			
67-XXX-060-4-12				0.05mA	470pF ± 20%			

Note: Test Voltage 1500VAC one minute, line to ground
Insulation Resistance: 300 MΩ min. at 500VDC
F(S) = Fast-on or (Solder lug terminals)

Voltage Drop: 1V max. at rated current
Weight: 78g
Inlet: Compatible with IEC-320

* **Substitute BFF or BFS for XXX**
BFF - Fast-on terminals
BFS - Solder lug terminals

Fused Filtered Power Entry Modules

For Medical or General Purpose Applications

66-67-BFF/66-67-BFS Series

Temperature Characteristics



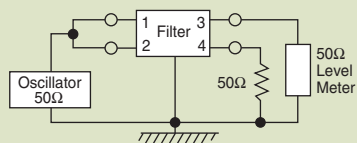
Dimensions

66-67-BFF/66-67-BFS Series



Dimensions in inches (mm)

Common Mode



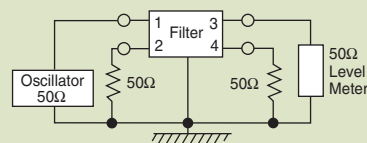
0.01 mA Leakage Current



0.075 and 0.1 mA Leakage Current



Normal Mode



0.01 mA Leakage Current



0.075 and 0.1 mA Leakage Current



Switched and Fused Filtered Power Entry Modules For General Purpose Applications

64-65-BSF/64-65-SSF Series



Tested and found to be
IAW VDE 0565 Part 3.

Features

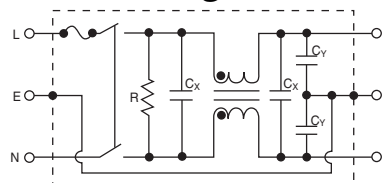
- North American and Metric fuse holders available
- Fuse holder and double pole power ON/OFF switch provided in a convenient/compact package
- Suitable for products that must conform to FCC and FTZ requirements
- Meets over voltage category II of IEC 664 and complies with IEC 950
- Metal case provides effective EMI shielding
- Easy access fuse drawer with space for spare fuse
- Flange-mounted or snap-in styles available for quick mounting
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF39)



Applications

- Computers and peripheral equipment
- Digital equipment
- Electronic equipment
- Measuring and testing instruments
- Telecommunications equipment

Circuit Diagram



Specifications

Model*	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance			Inductance (L ₁)	Temperature Rise (Max.)
				C _Y	C _{X1}	C _{X2}		
64-XXX-020-3-12	250VAC	2A	0.35mA	2200pF	0.22uF	NONE	10.5mH	45°C
64-XXX-020-3-04						0.22uF		
64-XXX-020-3-14						NONE		
64-XXX-020-3-06			0.50mA	3300pF	0.47uF	0.22uF		
64-XXX-020-5-12						NONE		
64-XXX-020-5-04						0.22uF		
64-XXX-020-5-14	250VAC	4A	0.35mA	2200pF	0.22uF	NONE	4.2mH	45°C
64-XXX-020-5-06						0.22uF		
64-XXX-040-3-12						NONE		
64-XXX-040-3-04			0.50mA	3300pF	0.47uF	0.22uF		
64-XXX-040-3-14						NONE		
64-XXX-040-3-06						0.22uF		
64-XXX-040-5-12	250VAC	6A	0.35mA	2200pF	0.22uF	NONE	1.6mH	45°C
64-XXX-040-5-04						0.22uF		
64-XXX-040-5-14						NONE		
64-XXX-060-3-12			0.50mA	3300pF	0.47uF	0.22uF		
64-XXX-060-3-04						NONE		
64-XXX-060-3-06						0.22uF		
64-XXX-060-5-12	125VAC	2A	0.20mA	2200pF	0.22uF	NONE	10.5mH	45°C
64-XXX-060-5-04						0.22uF		
64-XXX-060-5-14						NONE		
64-XXX-060-5-06			0.25mA	3300pF	0.47uF	0.22uF		
64-XXX-060-5-12						NONE		
64-XXX-060-5-04						0.22uF		
64-XXX-060-5-14	125VAC	4A	0.20mA	2200pF	0.22uF	NONE	4.2mH	45°C
64-XXX-060-5-06						0.22uF		
64-XXX-060-5-12						NONE		
64-XXX-060-5-04			0.25mA	3300pF	0.47uF	0.22uF		
64-XXX-060-5-14						NONE		
64-XXX-060-5-06						0.22uF		
64-XXX-060-5-12	125VAC	6A	0.20mA	2200pF	0.22uF	NONE	1.6mH	45°C
64-XXX-060-5-04						0.22uF		
64-XXX-060-5-14						NONE		
64-XXX-060-5-06			0.25mA	3300pF	0.47uF	0.22uF		
64-XXX-060-5-12						NONE		
64-XXX-060-5-04						0.22uF		
64-XXX-060-5-14	125VAC	2A	0.20mA	2200pF	0.22uF	NONE	10.5mH	45°C
64-XXX-060-5-06						0.22uF		
64-XXX-060-5-12						NONE		
64-XXX-060-5-04			0.25mA	3300pF	0.47uF	0.22uF		
64-XXX-060-5-14						NONE		
64-XXX-060-5-06						0.22uF		

Note: Test Voltage 1500VAC one minute, line to ground
Insulation Resistance: 300 MΩ min. at 500VDC
B(S) = Bolt-in terminals or (Snap-in terminals)

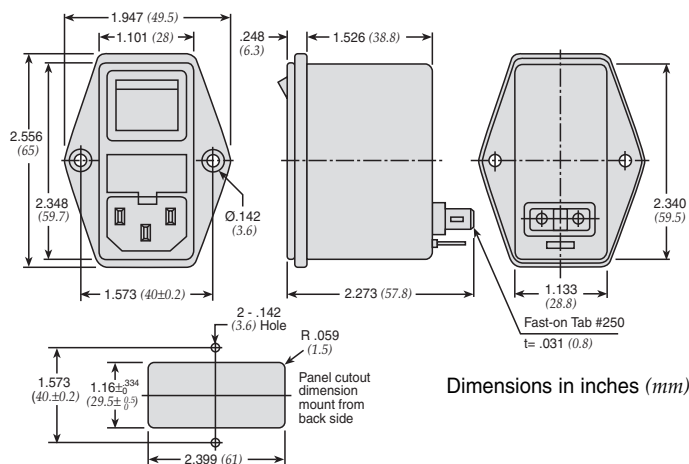
Voltage Drop: 1V max. at rated current
Weight: 130g
Inlet: Compatible with IEC-320

* **Substitute BSF or SSF for XXX**
BSF - Bolt-in switched and fused
SSF - Snap-in switched and fused

The graph plots Current (%) on the y-axis (0 to 120) against Ambient Temperature (°C) on the x-axis (20 to 90). Two curves are shown: a solid line for the 1000 Series and a dashed line for the 1000 Series. Both curves maintain 100% current until approximately 40°C, after which they decrease. The solid line (1000 Series) drops more sharply than the dashed line (1000 Series).

Ambient Temperature (°C)	1000 Series (Solid Line) Current (%)	1000 Series (Dashed Line) Current (%)
20	100	100
30	100	100
40	100	100
50	95	100
60	80	90
70	55	75
80	25	50
90	0	25

64/65-BSF Series



Technical drawings of the R-079 panel cutout showing front, side, and rear views with dimensions in inches and millimeters.

Front View Dimensions:

- Top width: 1.313 (33.4)
- Top width (inner): 1.101 (28)
- Left height: 2.556 (65)
- Bottom height: 2.348 (59.7)

Side View Dimensions:

- Top width: 1.131 (28.8)
- Left height: 2.48 (6.3)
- Right height: 1.514 (38.8)
- Bottom width: 2.273 (57.8)
- Fast-on tab #250, t = .031 (0.8)

Rear View Dimensions:

- Top width: 1.131 (28.8)
- Right height: 2.340 (59.5)
- Bottom width: 2.079 (2.0)

Panel Cutout Dimensions:

- Top width: 1.16^{±.02} (29.5^{±.5})
- Left height: A
- Panel cutout dimension mount from back side

Thickness of Panel	A
.031 (0.8)	2.430 (61.8±0.1)
.039 (1.0)	2.446 (62.2±0.1)
.047 (1.2)	2.462 (62.6±0.1)
.059 (1.5)	2.470 (62.8±0.1)
.071 (1.8)	2.473 (62.9±0.1)
.079 (2.0)	2.477 (63.0±0.1)

* General Tolerance ± .039 (1.0)
* Metal Case

The graph plots Insertion Loss (dB) on the y-axis (0 to 90) against Frequency (MHz) on the x-axis (0.1 to 50). Three curves are shown for different current levels: 2 Amp, 4 Amp, and 6 Amp. The 2 Amp curve starts at ~40 dB at 0.1 MHz, peaks at ~62 dB around 0.5 MHz, and then rises to a sharp peak of ~78 dB at ~15 MHz. The 4 Amp curve starts at ~30 dB at 0.1 MHz, peaks at ~50 dB around 1 MHz, and rises to a sharp peak of ~70 dB at ~15 MHz. The 6 Amp curve starts at ~22 dB at 0.1 MHz, peaks at ~42 dB around 1 MHz, and rises to a sharp peak of ~65 dB at ~15 MHz. All curves converge to ~50 dB at 10 MHz and then decrease after their respective peaks.

Frequency (MHz)	2 Amp (dB)	4 Amp (dB)	6 Amp (dB)
0.1	40	30	22
0.5	62	45	40
1	55	50	42
10	52	50	50
15	78	70	65
20	55	50	50

The graph shows the insertion loss of a 100-ohm resistor as a function of frequency and current. The x-axis represents Frequency in MHz on a logarithmic scale from 0.1 to 50. The y-axis represents Insertion Loss in dB on a linear scale from 0 to 90. Three curves are plotted: 2 Amp (solid line), 4 Amp (dashed line), and 6 Amp (dotted line). All curves show a peak in insertion loss around 0.5 MHz and a sharp peak around 20 MHz. The 2 Amp curve has the highest peak at 20 MHz, while the 6 Amp curve has the lowest peak at 20 MHz.

Frequency (MHz)	2 Amp (dB)	4 Amp (dB)	6 Amp (dB)
0.1	38	32	20
0.2	45	38	28
0.5	62	48	38
1.0	50	45	42
2.0	50	45	42
5.0	50	45	42
10.0	50	45	42
20.0	78	70	62
50.0	55	60	65

The graph shows the insertion loss characteristics of the 2 Amp, 4 Amp, and 6 Amp models. The 2 Amp model has the highest loss, peaking at 100 dB at 2 MHz. The 4 Amp and 6 Amp models have lower losses, peaking at approximately 90 dB and 85 dB respectively at 2 MHz. All models show a significant drop in loss at higher frequencies, with the 6 Amp model showing a sharp drop after 20 MHz.

Frequency (MHz)	2 Amp (dB)	4 Amp (dB)	6 Amp (dB)
0.1	40	30	25
0.2	60	40	35
0.5	85	75	65
1	100	90	80
2	100	90	85
5	80	75	70
10	90	70	65
20	80	60	60
30	65	65	65

Figure 10 is a line graph showing Insertion Loss (dB) on the y-axis (0 to 100) versus Frequency (MHz) on the x-axis (0.1 to 50). Three curves are plotted for different power levels: 2 Amp, 4 Amp, and 6 Amp. The curves show that insertion loss increases with frequency and power, peaking around 5-10 MHz before decreasing at higher frequencies.

Frequency (MHz)	2 Amp (dB)	4 Amp (dB)	6 Amp (dB)
0.1	15	15	15
0.2	25	25	25
0.5	35	35	35
1	40	40	40
2	50	55	60
5	60	65	70
10	65	70	70
20	60	60	60
50	60	60	60

Switched and Fused Filtered Power Entry Modules

For Medical or General Purpose Applications

66-67-BSF/66-67-SSF Series



Tested and found to be
IAW VDE 0565 Part 3

Features

- Metric and North American fuse holders available
- Fuse holder and a double pole power ON/OFF switch provides a convenient/compact package
- Suitable for products that must conform to FCC and FTZ requirements
- Meets over voltage category II of IEC 664 and complies with IEC 950
- Provides susceptibility protection without the leakage current associated with line-to-ground capacitors
- Designed to meet requirements for non-patient and patient care equipment
- Metal case provides effective EMI shielding
- Easy access fuse drawer - space for spare fuse
- Flange-mounted or snap-in styles available for quick mounting
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF41)

Specifications

Model*	Rated Voltage 50/60Hz	Rated Current	Leakage Current (Max.)	Capacitance C _Y C _{X1} C _{X2}			Temp. Induct. (L ₁)	Rise (Max.)
66-XXX-020-0-12	250 VAC	2A	.075mA	330pF	0.22uF	NONE	10.5mH	40°C
66-XXX-020-0-04					0.22uF			
66-XXX-020-0-14					NONE			
66-XXX-020-0-06					0.22uF			
66-XXX-020-1-12			0.22uF	NONE				
66-XXX-020-1-04			0.22uF					
66-XXX-020-1-14			NONE					
66-XXX-020-1-06			0.22uF					
66-XXX-020-4-12			0.1mA	470pF	0.22uF	NONE		
66-XXX-020-4-04					0.22uF			
66-XXX-020-4-14					NONE			
66-XXX-020-4-06					0.22uF			
66-XXX-040-0-12		4A	.075mA	330pF	0.22uF	NONE	4.2mH	
66-XXX-040-0-04					0.22uF			
66-XXX-040-0-14					NONE			
66-XXX-040-0-06					0.22uF			
66-XXX-040-1-12			.01mA	NONE	0.22uF	NONE		
66-XXX-040-1-04					0.22uF			
66-XXX-040-1-14					NONE			
66-XXX-040-1-06					0.22uF			
66-XXX-040-4-12			.01mA	470pF	0.22uF	NONE		
66-XXX-040-4-04					0.22uF			
66-XXX-040-4-14					NONE			
66-XXX-040-4-06					0.22uF			
66-XXX-060-0-12		6A	.075mA	330pF	0.22uF	NONE	1.6mH	
66-XXX-060-0-04					0.22uF			
66-XXX-060-0-14					NONE			
66-XXX-060-0-06					0.22uF			
66-XXX-060-1-12			.01mA	NONE	0.22uF	NONE		
66-XXX-060-1-04					0.22uF			
66-XXX-060-1-14					NONE			
66-XXX-060-1-06					0.22uF			
66-XXX-060-4-12			0.1mA	470pF	0.22uF	NONE		
66-XXX-060-4-04					0.22uF			
66-XXX-060-4-14					NONE			
66-XXX-060-4-06					0.22uF			

Note: Test Voltage: 1500VAC one minute, line to ground
Insulation Resistance: 300 MΩ min. at 500VDC
Voltage Drop: 1V max. at rated current

Weight: 130g
Inlet: Compatible with IEC-320
B(S) = Bolt-in terminals or (Snap-in terminals)

* Substitute BSF or SSF for XXX
BSF - Bolt-In Switched and Fused
SSF - Snap-In Switched and Fused

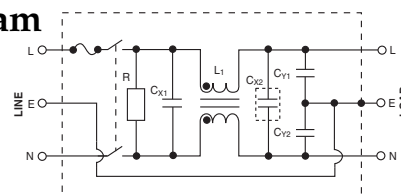


Applications

- Medical equipment
- Industrial equipment
- Telecommunications equipment
- Measuring and testing instruments
- Digital equipment (including switching power supplies)
- General purpose filter for susceptibility or high frequency "clean up" applications

Circuit Diagram

Note: C_{Y1} and C_{Y2} capacitors
omitted on 66/67
B(S)F-XXX-1-X Filters



Model*	Rated Voltage 50/60Hz	Rated Current	Leakage Current (Max.)	Capacitance C _Y C _{X1} C _{X2}			Temp. Induct. (L ₁)	Rise (Max.)
67-XXX-020-0-12	125 VAC	2A	0.04mA	330pF	0.22uF	NONE	10.5mH	40°C
67-XXX-020-0-04					0.22uF			
67-XXX-020-0-14					NONE			
67-XXX-020-0-06					0.22uF			
67-XXX-020-1-12			0.22uF	NONE				
67-XXX-020-1-04			0.22uF					
67-XXX-020-1-14			NONE					
67-XXX-020-1-06			0.22uF					
67-XXX-020-4-12			0.05mA	470pF	0.22uF	NONE		
67-XXX-020-4-04					0.22uF			
67-XXX-020-4-14					NONE			
67-XXX-020-4-06					0.22uF			
67-XXX-040-0-12		4A	0.04mA	330pF	0.22uF	NONE	4.2mH	45°C
67-XXX-040-0-04					0.22uF			
67-XXX-040-0-14					NONE			
67-XXX-040-0-06					0.22uF			
67-XXX-040-1-12			.005mA	NONE	0.22uF	NONE		
67-XXX-040-1-04					0.22uF			
67-XXX-040-1-14					NONE			
67-XXX-040-1-06					0.22uF			
67-XXX-040-4-12			0.05mA	470pF	0.22uF	NONE		
67-XXX-040-4-04					0.22uF			
67-XXX-040-4-14					NONE			
67-XXX-040-4-06					0.22uF			
67-XXX-060-0-12		6A	0.04mA	330pF	0.22uF	NONE	1.6mH	
67-XXX-060-0-04					0.22uF			
67-XXX-060-0-14					NONE			
67-XXX-060-0-06					0.22uF			
67-XXX-060-1-12			.005mA	NONE	0.22uF	NONE		
67-XXX-060-1-04					0.22uF			
67-XXX-060-1-14					NONE			
67-XXX-060-1-06					0.22uF			
67-XXX-060-4-12			0.05mA	470pF	0.22uF	NONE		
67-XXX-060-4-04					0.22uF			
67-XXX-060-4-14					NONE			
67-XXX-060-4-06					0.22uF			

Ambient Temperature (°C)	Current (%) - 100% Duty Cycle	Current (%) - 50% Duty Cycle
20	100	100
30	100	100
40	100	100
50	100	95
60	85	85
70	60	60
80	30	30
90	0	0

Technical drawing of the Fast-on Tab #250 showing three views: front, side, and back. The drawing includes the following dimensions:

- Front View:**
 - Overall width: 1.947 (49.5)
 - Overall height: 2.556 (65)
 - Top width: 1.101 (28)
 - Bottom width: 1.573 (40±0.2)
 - Left side height: 2.348 (59.7)
 - Right side height: 2.340 (59.5)
 - Central rectangular cutout width: 1.133 (28.8)
 - Central rectangular cutout height: 1.16^{+0.02}_{-0.015} (29.5^{+0.5}₋₀)
 - Mounting hole diameter: Ø.142 (3.6)
 - Mounting hole spacing: 2.399 (61)
- Side View:**
 - Overall width: 1.526 (38.8)
 - Overall height: 2.273 (57.8)
 - Top radius: R.059 (1.5)
- Back View:**
 - Overall width: 1.573 (40±0.2)
 - Overall height: 2.340 (59.5)
 - Top width: 1.101 (28)
 - Bottom width: 1.573 (40±0.2)
 - Left side height: 2.348 (59.7)
 - Right side height: 2.340 (59.5)
 - Central rectangular cutout width: 1.133 (28.8)
 - Central rectangular cutout height: 1.16^{+0.02}_{-0.015} (29.5^{+0.5}₋₀)
 - Mounting hole diameter: Ø.142 (3.6)
 - Mounting hole spacing: 2.399 (61)

Fast-on Tab #250
±.031 (0.8)

Panel cutout dimension mount from back side

Dimensions in inches (mm)

Dimensions in inches (mm)

Technical drawings of the R-079 metal case showing front, side, and rear views with dimensions in inches and millimeters.

Front View Dimensions:

- Top width: 1.313 (33.4)
- Top width (inner): 1.101 (28)
- Top width (mounting): 2.48 (6.3)
- Top width (flange): 1.131 (28.8)
- Overall height: 2.556 (65)
- Mounting hole height: 2.348 (59.7)

Side View Dimensions:

- Top width (flange): 1.514 (38.8)
- Fast-on tab #250
- Tab thickness: $t = .031 (0.8)$
- Bottom width: 2.273 (57.8)

Rear View Dimensions:

- Top width (flange): 1.131 (28.8)
- Overall height: 2.340 (59.5)

Bottom View Dimensions:

- Mounting hole diameter: R.079 (2.0)
- Panel cutout dimension: A
- Panel cutout dimension (with tolerance): $1.16^{+0.02}_{-0.01}$ (29.5 $^{+0.5}_{-0.1}$)

Thickness of Panel	A
.031 (0.8)	2.430 (61.8±0.1)
.039 (1.0)	2.446 (62.2±0.1)
.047 (1.2)	2.462 (62.6±0.1)
.059 (1.5)	2.470 (62.8±0.1)
.071 (1.8)	2.473 (62.9±0.1)
.079 (2.0)	2.477 (63.0±0.1)

* General Tolerance $\pm .039 (1.0)$

* Metal Case

The graph shows the insertion loss of a 100 ohm resistor as a function of frequency and current. The y-axis represents Insertion Loss in dB, ranging from 0 to 90. The x-axis represents Frequency in MHz on a logarithmic scale, with major ticks at 0.1, 0.2, 0.5, 1, 2, 5, 10, 20, and 50. Three curves are plotted for different current levels: 2 Amp, 4 Amp, and 6 Amp. The 2 Amp curve starts at approximately 33 dB at 0.1 MHz, peaks at about 45 dB around 0.5 MHz, and then decreases. The 4 Amp curve starts at approximately 20 dB at 0.1 MHz, peaks at about 35 dB around 0.5 MHz, and then decreases. The 6 Amp curve starts at approximately 18 dB at 0.1 MHz, peaks at about 33 dB around 0.5 MHz, and then decreases. All curves show a general downward trend as frequency increases beyond their respective peak points.

Frequency (MHz)	2 Amp (dB)	4 Amp (dB)	6 Amp (dB)
0.1	33	20	18
0.2	40	25	22
0.5	45	35	33
1	40	30	30
2	35	25	25
5	25	18	18
10	18	12	12
20	12	8	8
50	8	5	5

Graph of Insertion Loss (dB) vs Frequency (MHz) for a 100 ohm resistor. The graph shows three curves for 2 Amp, 4 Amp, and 6 Amp currents. The 2 Amp curve peaks at ~45 dB around 0.5 MHz. The 4 Amp curve peaks at ~35 dB around 0.5 MHz. The 6 Amp curve is relatively flat, around 30-35 dB. All curves show a slight decrease in loss at higher frequencies.

Frequency (MHz)	2 Amp (dB)	4 Amp (dB)	6 Amp (dB)
0.1	35	25	20
0.2	40	30	25
0.5	45	35	30
1	40	35	30
2	35	35	30
5	30	30	30
10	28	28	30
20	28	28	30
50	28	28	30

The graph shows the insertion loss of a 100 pF capacitor across a frequency range from 0.1 MHz to 50 MHz. The y-axis represents Insertion Loss in dB, ranging from 0 to 90. The x-axis represents Frequency in MHz on a logarithmic scale. Three curves are plotted for different current levels: 2 Amp, 4 Amp, and 6 Amp. All curves show a peak in insertion loss around 5 MHz. The 2 Amp curve has the highest peak loss (approximately 48 dB), followed by the 4 Amp curve (approximately 45 dB) and the 6 Amp curve (approximately 42 dB). At lower frequencies (below 1 MHz), the loss is relatively low and increases with frequency. At higher frequencies (above 10 MHz), the loss decreases for all curves.

Frequency (MHz)	2 Amp (dB)	4 Amp (dB)	6 Amp (dB)
0.1	12	11	10
0.2	15	14	13
0.5	22	21	20
1.0	30	28	26
2.0	42	40	38
5.0	48	45	42
10.0	45	42	40
20.0	35	32	30
50.0	20	18	16

The graph shows the insertion loss of a 100 ohm resistor as a function of frequency and current. The x-axis represents Frequency in MHz on a logarithmic scale from 0.1 to 50. The y-axis represents Insertion Loss in dB on a linear scale from 0 to 90. Three curves are plotted for different current levels: 2 Amp, 4 Amp, and 6 Amp. All curves start at approximately 12 dB at 0.1 MHz and increase with frequency. The 2 Amp curve peaks at about 52 dB around 5 MHz. The 4 Amp curve peaks at about 50 dB around 10 MHz. The 6 Amp curve peaks at about 45 dB around 10 MHz. At higher frequencies, the curves tend to level off or slightly decrease.

Frequency (MHz)	2 Amp (dB)	4 Amp (dB)	6 Amp (dB)
0.1	12	12	12
0.2	15	15	15
0.5	22	22	22
1	30	28	26
2	40	35	32
5	52	42	38
10	48	50	45
20	45	48	43
50	42	45	40

Switched and Fused Filtered Power Entry Modules

Dual Fuse for European Applications

68-BSF Series

Features

- Dual fuse for European applications
- Fuse holder and double pole power ON/OFF switch provides a convenient/compact package
- Suitable for products that must conform to FCC and FTZ requirements
- Meets over voltage category II of IEC 664 and complies with IEC 950
- Metal case provides effective EMI shielding
- IEC connector meets the safety standards of most certifying agencies
- Easy access fuse drawer
- Flange-mounted
- UL, CSA, and SEMKO approved
- Designed to be in accordance with VDE 0565, part 3
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF43)

Applications

- Computers and peripheral equipment
- Electronic equipment
- Digital equipment
- Measuring and testing instruments
- Telecommunications equipment



Circuit Diagram



Specifications

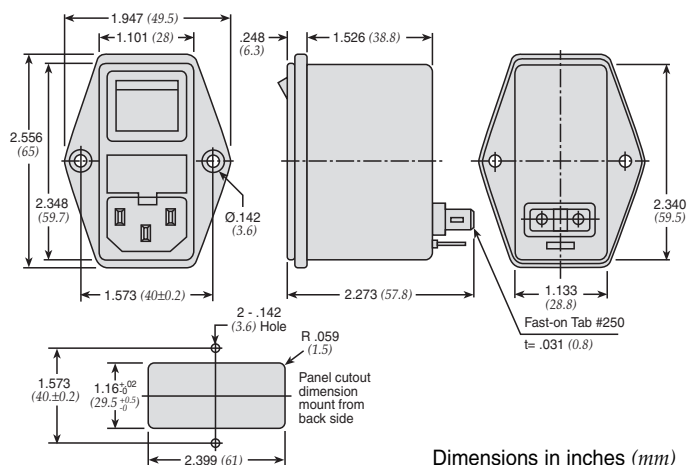
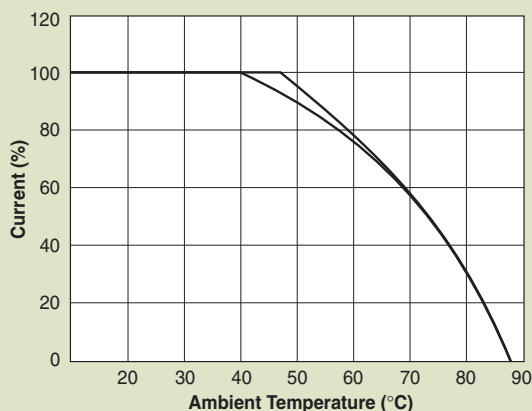
Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	C _{Y1}	Capacitance			Inductance (L ₁)	Temperature Rise (Max.)
					C _{Y2}	C _{X1}	C _{X2}		
68-BSF-020-3-01	250VAC	2A	0.35mA	2200pF	2200pF	0.1uF	0.1uF	10.5mH	45°C
68-BSF-020-3-04						0.22uF	0.22uF		
68-BSF-040-3-01		4A				0.1uF	0.1uF	4.2mH	
68-BSF-040-3-04						0.22uF	0.22uF		
68-BSF-060-3-01		6A				0.1uF	0.1uF	1.6mH	
68-BSF-060-3-04						0.22uF	0.22uF		

Note: Test Voltage 1500VAC one minute, line to ground
Insulation Resistance: 300 MΩ min. at 500VDC
Voltage Drop: 1V max. at rated current
Weight: 130g
Inlet: Compatible with IEC-320
B(S) = Bolt-in terminals

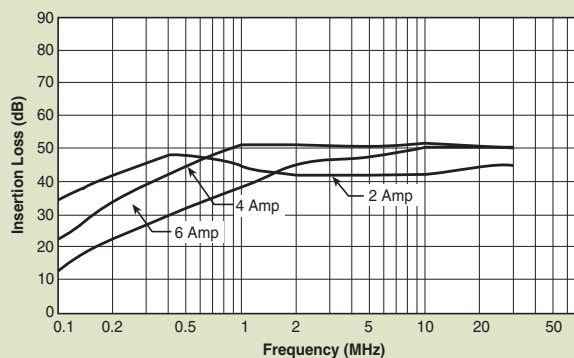
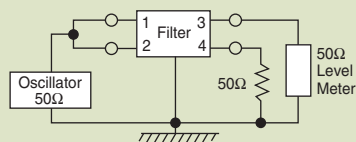
Switched and Fused Filtered Power Entry Modules

Dual Fuse for European Applications

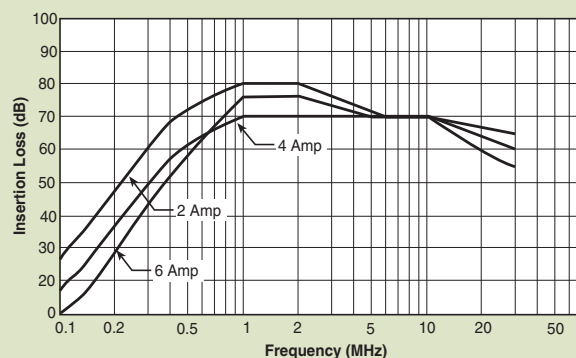
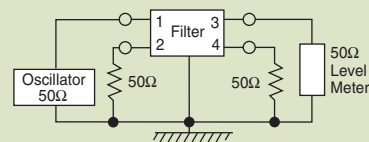
68-BSF Series



Common Mode



Normal Mode



PCB Power Filters Miniature Printed Circuit Board

61-MPC Series



Tested and found to be
IAW VDE 0565 Part 3

Features

- Miniature general purpose PCB mounted filter
- Requires minimal PCB real estate space
- Low cost
- Designed for two wire cord systems
- For three wire cord systems, Y capacitors can be attached externally
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF45)

Applications

- Personal computers and peripherals
- Digital equipment
- Measuring instruments and medical equipment
- TV & VCR monitors and display units
- Home appliances



Circuit Diagram



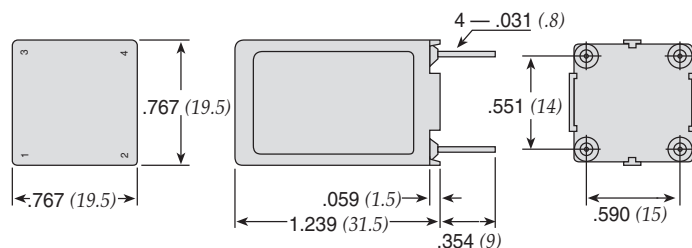
Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L ₁)	Temperature Rise (Max.)
				C _{x1}	C _{x2}		
61-MPC-010-1-11	250VAC	1A	0.1mA	0.1uF	0.1uF	11mH	40°C
61-MPC-016-1-11		1.6A				6.0mH	
61-MPC-025-1-11		2.5A				2.4mH	
61-MPC-036-1-11		3.6A				1.2mH	

Note: Test voltage: 1500VAC one minute, line to ground
Insulation resistance: 300 Mohm min. at 500VDC
Voltage drop: 1V max. at rated current
Weight: 17.5g

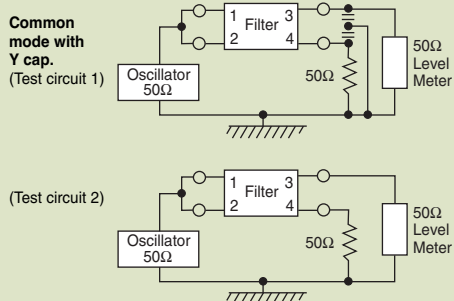
PCB Power Filters Miniature Printed Circuit Board

61-MPC Series



Dimensions in inches (mm)

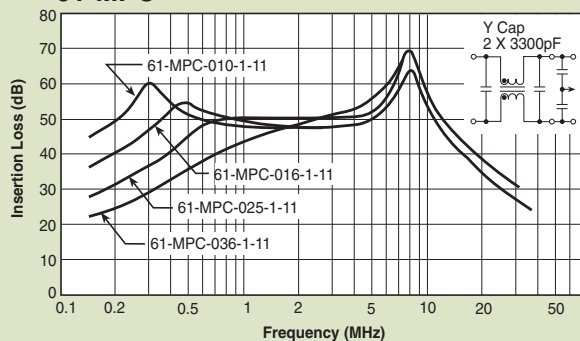
Common Mode



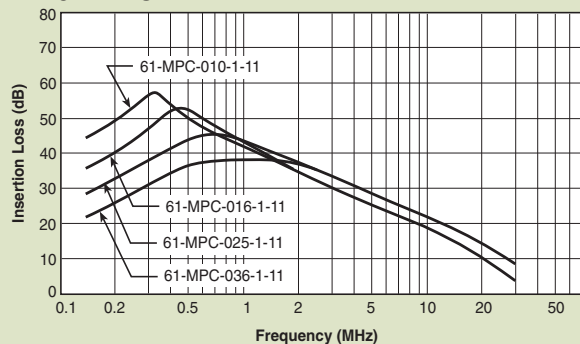
Temperature Characteristics



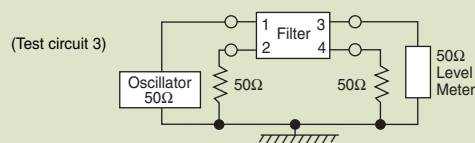
61-MPC



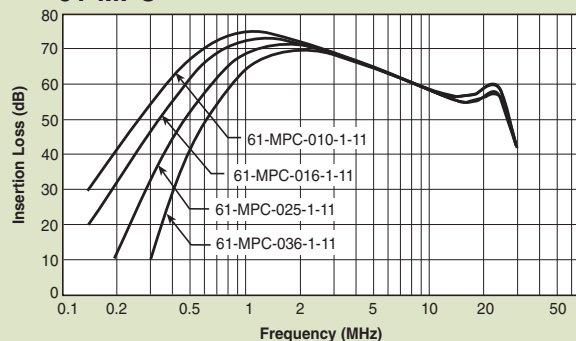
61-MPC



Normal Mode



61-MPC



Power Entry Modules Bolt-in Right Angle Terminals for PCB Applications

60-BPP Series



Tested and found to be
IAW VDE 0565 Part 3

Features

- Ideally suited for products that must conform to FCC part 15 regulations
- Metal case offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards Solder lug, Fast-on tab styles available (see page PF18)
- PCB mounting style minimizes space and provides economical installation
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF47)
- UL approved low leakage version also available

Applications

- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



Circuit Diagram



Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L ₁)	Temperature Rise (Max.)
				C _Y	C _X		
60-BPP-010-3-2	250VAC	1A	0.35mA	2200pF	0.022uF	6.0mH	30°C
60-BPP-010-3-4					0.047uF		
60-BPP-010-5-2			0.50mA	3300pF	0.022uF		
60-BPP-010-5-4					0.047uF		
60-BPP-020-3-2		2A	0.35mA	2200pF	0.022uF	2.4mH	
60-BPP-020-3-4					0.047uF		
60-BPP-020-5-2			0.50mA	3300pF	0.022uF		
60-BPP-020-5-4					0.047uF		
60-BPP-030-3-2		3A	0.35mA	2200pF	0.022uF	1.2mH	
60-BPP-030-3-4					0.047uF		
60-BPP-030-5-2			0.50mA	3300pF	0.022uF		
60-BPP-030-5-4					0.047uF		
60-BPP-060-3-2		6A	0.35mA	2200pF	0.022uF	0.53mH	45°C
60-BPP-060-3-4					0.047uF		
60-BPP-060-5-2			0.50mA	3300pF	0.022uF		
60-BPP-060-5-4					0.047uF		

Note: Test voltage: 1500VAC one minute, line to ground
Insulation resistance: 300 Mohm min. at 500VDC
Voltage drop: 1V max. at rated current
Weight: 50g
Input: Compatible with IEC-320

Power Entry Modules Bolt-in Right Angle Terminals

for PCB Applications

60-BPP Series

Temperature Characteristics



60-BPP PCB Mounting Type



Common Mode



60-BPP-010;-020



60-BPP-030;-060



Normal Mode



60-BPP-010;-020



60-BPP-030;-060



Power Entry Modules High Frequency Attenuation

Bolt-in for PCB Applications

60-BHP Series



Tested and found to be
IAW VDE 0565 Part 3

Features

- Ideally suited for products that must conform to FCC part 15 regulations
- Metal cased filter offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Solder lug, Fast-on tab styles available (see page PF20)
- PCB mounting minimizes space and provides economical installation
- Excellent filtering characteristics for high frequencies
- Earth coil standard
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF49)

Applications

- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



Circuit Diagram



Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance		Temperature Rise (Max.)
				C _Y	C _X	(L ₁)	(L ₂)	
60-BHP-010-3-11	250VAC	1A	0.35mA	2200pF±20%	0.1uF±20%	6mH	18.3 uH	30°C
60-BHP-010-3-4					.047uF±20%			
60-BHP-010-5-11			0.50mA	3300pF±20%	0.1uF±20%			
60-BHP-010-5-4					.047uF±20%			
60-BHP-020-3-11		2A	0.35mA	2200pF±20%	0.1uF±20%	2.4mH		
60-BHP-020-3-4					.047uF±20%			
60-BHP-020-5-11			0.50mA	3300pF±20%	0.1uF±20%			
60-BHP-020-5-4					.047uF±20%			
60-BHP-030-3-11		3A	0.35mA	2200pF±20%	0.1uF±20%	1.2mH		
60-BHP-030-3-4					.047uF±20%			
60-BHP-030-5-11			0.50mA	3300pF±20%	0.1uF±20%			
60-BHP-030-5-4					.047uF±20%			
60-BHP-060-3-11		6A	0.35mA	2200pF±20%	0.1uF±20%	0.53mH		45°C
60-BHP-060-3-4					.047uF±20%			
60-BHP-060-5-11			0.50mA	3300pF±20%	0.1uF±20%			
60-BHP-060-5-4					.047uF±20%			

Note: Test voltage: 1500VAC one minute, line to ground
Insulation resistance: 300 Mohm min. at 500VDC
Voltage drop: 1V max. at rated current
Weight: 50g
Input: Compatible with IEC-320

Power Entry Modules High Frequency Attenuation

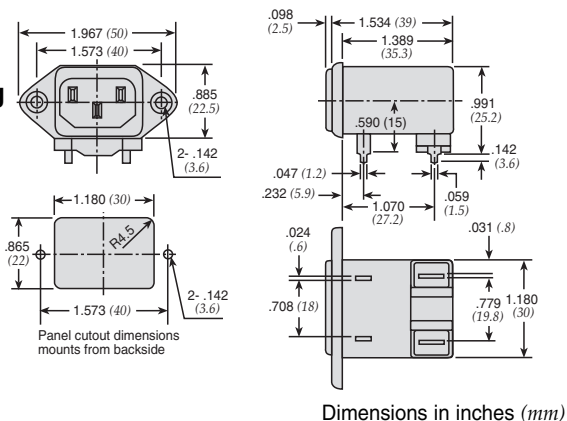
Bolt-in for PCB Applications

60-BHP Series

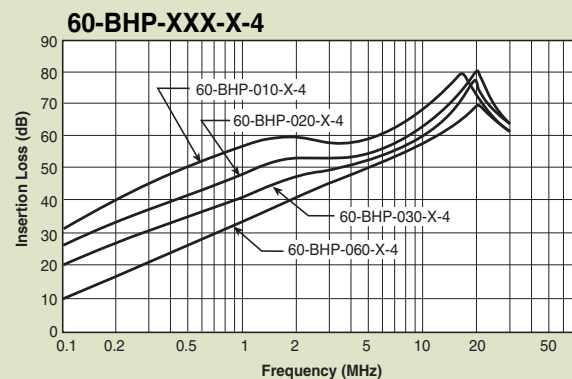
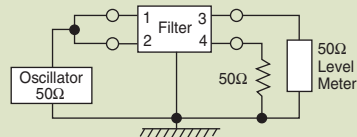
Temperature Characteristics



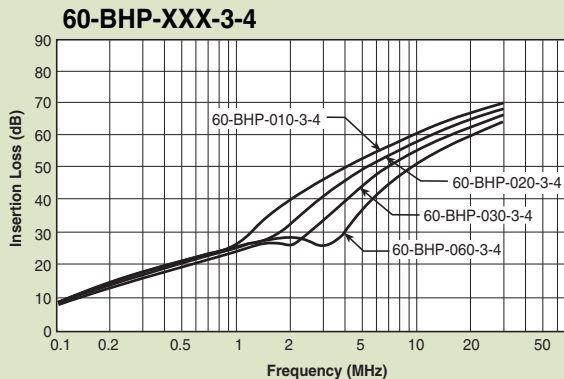
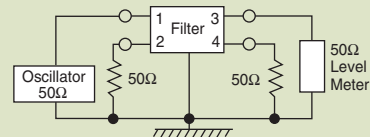
60-BHP PCB Mounting Type



Common Mode



Normal Mode



Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: org@lifeelectronics.ru

www.lifeelectronics.ru