

RF Surge Protector for High Altitude Electromagnetic Pulse (HEMP) and other Electromagnetic Pulse (EMP) Protection Applications

COTS products that meet MIL-STD 188-125-1, MIL-STD 188-125-2, & MIL-STD-461 standards.
 Custom versions are available, please contact NexTek or local representative.

-  High-Speed Protection Designs
-  Ultra-Low Let-Through Energy
-  Meet MIL-STD Requirements for EMP
-  Type N, TNC, SMA
-  Bands from DC to 18GHz
-  Tested and Verified Designs



Transient Specifications

MIL-STDs 188-125-1 and 188-125-2	E1 (20x500nsec) - Input Current Levels	5000A
	Peak Response Current Residuals (20x500nsec)	<1A (Levels 1, 2, 3 & 4) & <0.1A*
	Peak Rate of Rise 20x500nsec (A/s)	<1x10 ⁷
	Root Action 20x500nsec ((A-(sec) ^{1/2})	1.6x10 ⁻³
MIL-STD 461	CS115 & CS116 (1MHz, 30MHz, 100MHz) Residuals	<25V*
IEC 61000-4-5	Max Surge Current (8x20µs)	100A – 60kA*
	Protection (Let-Thru) Voltage (8x20µs) @ 3kA	<5V*

* Varies by model

RF Bands and Performance

Frequency Identifier	Frequency Range	Max VSWR	Max IL
BB	DC-100MHz	1.5	0.5
BC	1MHz -50MHz	1.1	0.1
BD	30-150MHz	1.2	0.2
BE (Dual Band)	50MHz-100MHz	1.1	0.1
	820MHz-2.2GHz	1.2	0.2
BF	2.2GHz-7.6GHz	1.2	0.2
BG	5.2GHz-18GHz	1.3	0.2

Additional Specifications

DC Voltage Options (@ 2Amp):	6, 12, 24
RF Power Ranges:	20dBm - 1kW*

* Varies by model

Environmental	
Temperature Range	-50°C to +85°C
Salt Fog	MIL-STD-202 Method 101D / Condition B (35°C/96 hrs)*
Immersion	MIL-STD-202 Method 104A / Condition A (65°C to 25°C w/NaCl – 2 cycles)
Moisture Resistance	MIL-STD-202 Method 106E (65 °C/98% RH condensing/240 hrs)
Temperature Shock	MIL-STD-202 Method 107D / Condition B-1 (25 cycles -55°C to +100°C)
Life (Elevated Temperature)	MIL-STD-202 Method 108A / Condition A (96 hours at 85°C)
Dust and Waterproof Rating	IEC529 IP68 (dust-tight and water proof 24 hrs / 1 m)
Vibration	MIL-STD-202 Method 204D / Condition D (10Hz-2kHz 0.06" DA/20g)
Mechanical Shock	MIL-STD-202 Method 213 / Condition A (50g/11ms ~24")

* Varies by model

Package Options (See Drawings on Pages 3-4)

	-A	-B	-C	-D	-E
Body Material	Aluminum	Aluminum	Aluminum	Brass	Brass
Body Finish	Nickel	Nickel	Nickel	Nickel	Nickel
Connector Material	Stainless steel	Brass	Stainless steel	Brass	Brass
Connector Finish	Nickel	Nickel	Nickel	Nickel	Nickel
Center Pin Material	BeCu	BeCu	BeCu	BeCu	BeCu
Center Pin Finish	Gold	Gold	Gold	Gold	Gold
Watertight	IP68	IP68	IP68	IP68	IP68

Part Number Configuration

Series	Type	Surge Conn	Surge Gender	Protected Con	Protected Gender	Freq	Polarity	Voltage	Package
FP	H	S	F	S	F	BC	P	24	-E

Connector Types: S – SMA, N – Type N, T – TNC

Connector Genders: F – Female, M – Male

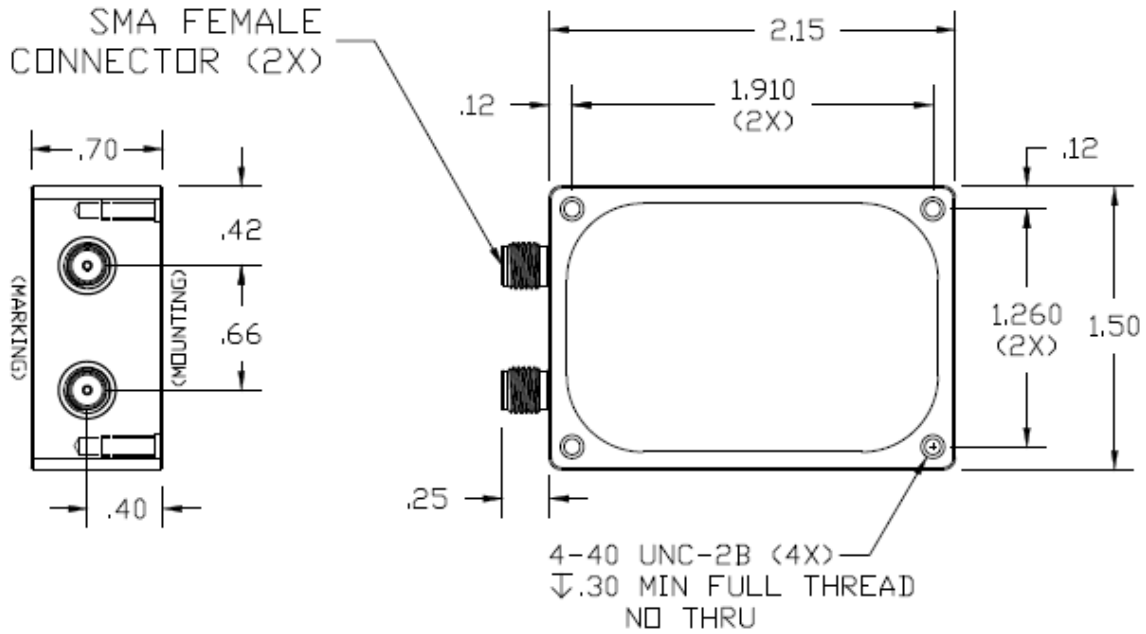
DC Polarity (for DC Pass only): P – Positive (+), N – Negative (-)

Example Part Numbers

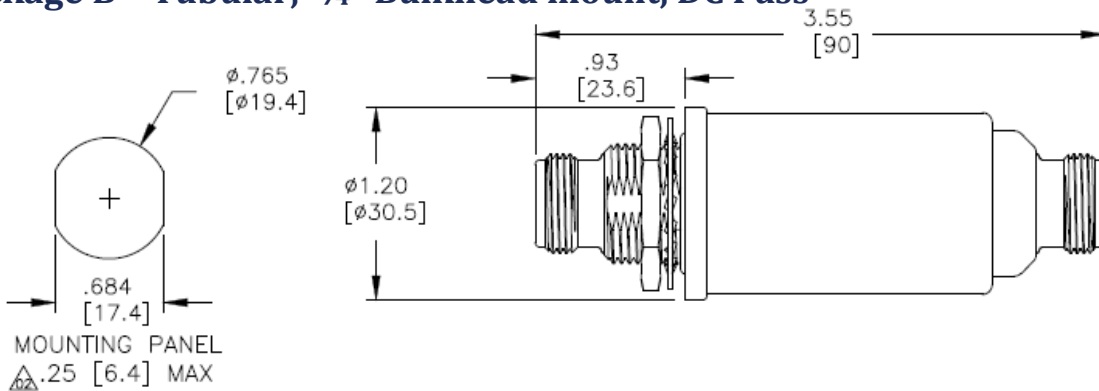
Model Number	Frequency Range, MHz	Max VSWR	MAX IL	DC Pass
FPHSFSFBCP12-B	1 – 50	1.2	0.2	Yes
FPHSFSFBEP24-A	50-100, 900-2200	1.2	0.2	Yes
FPHTFTFBF000-D	2200-7600	1.2	0.2	No
FPHNFNFBBP06-B	DC-100	1.1	0.1	Yes
FPHNFNFBF000-D	2200-7600	1.2	0.2	No
FPHNFNFBG000-E	5200-18000	1.3	0.3	No

Package Drawings

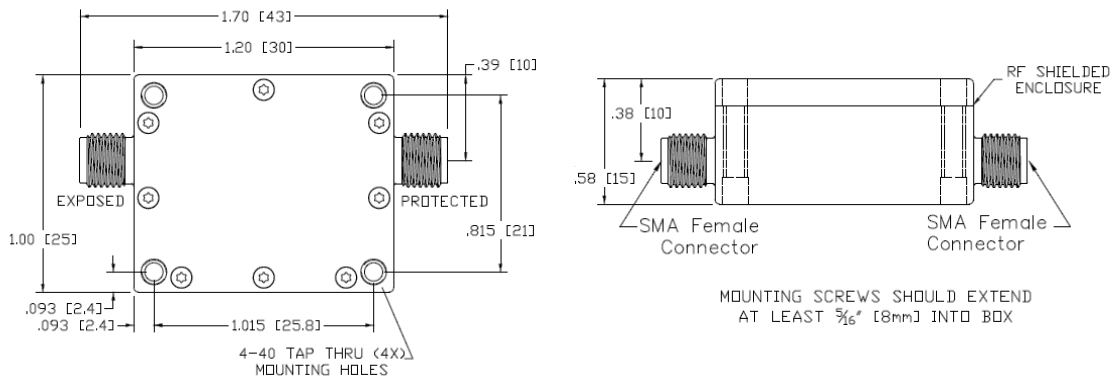
Package A – Small Box, DC Pass



Package B – Tubular, 3/4" Bulkhead mount, DC Pass

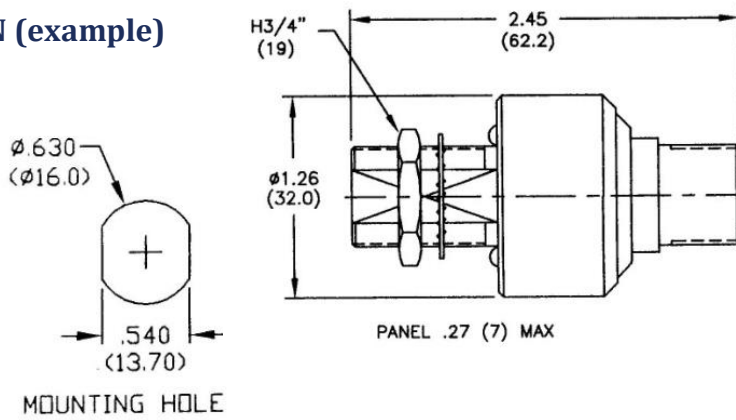


Package C – Small box, no DC Pass

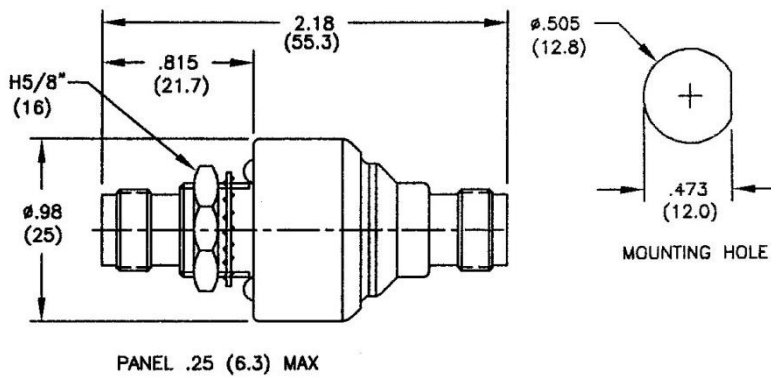


Package D – Tubular, Bulkhead Mount, no DC

Type N (example)



TNC (example)



Package E – Tubular Bulkhead Mount, no DC, Type N only

