High Altitude Electromagnetic Pulse (HEMP) and Lightning (LEMP) Protection for VHF & UHF Bands (30-500 MHz)

These coaxial protectors dramatically reduce electrical energy from high-speed HEMP, Electro-Static Discharge (ESD), and lightning activity. The VHF & UHF bands are particularly difficult to protect, since much of the energy is in the pass band. NexTek has optimized the circuits to provide maximum suppression, while allowing desired operational throughput. These compact arrestors are designed to protect against HEMP and harden MIL-STD-188-125 and MIL-STD-461 systems.

FEATURES:

- High-Speed Protection Design
- Ultra-Low Let-Through Energy
- SMA(f) Protected to TNC(f) Exposed Connectors
- 30-500 MHz Operating Frequency
- DC Block
- HEMP Tested and Verified Design
- Excellent Insertion Loss and Return Loss
- Bulkhead Mounting

APPLICATION:

- Low Power (20W)
- MIL STD 188-125 Transmitter Applications

Transient Specifications

LEMP Waveform	IEC 61000-4-5 8 x 20µs		
LEMP Maximum Surge	30 kA		
LEMP Multi-Strike (10x)	20 kA		
LEMP Let-Through (@ 2kA)	**Peak Voltage (V)**	**Energy into 50Ω (nJ)**	
	0.30	16	
HEMP Waveform	MIL-STD 188-125 20 x 500ns		
HEMP Surge (250x)	300kV/5kA		
HEMP Residual (20x500ns @ 1kA)	**Peak Current (A)**	**Peak Rate of Rise (A/s)**	**Root Action (A√s)**
	1.70	3.3×10^{9}	1.4×10^{-4}

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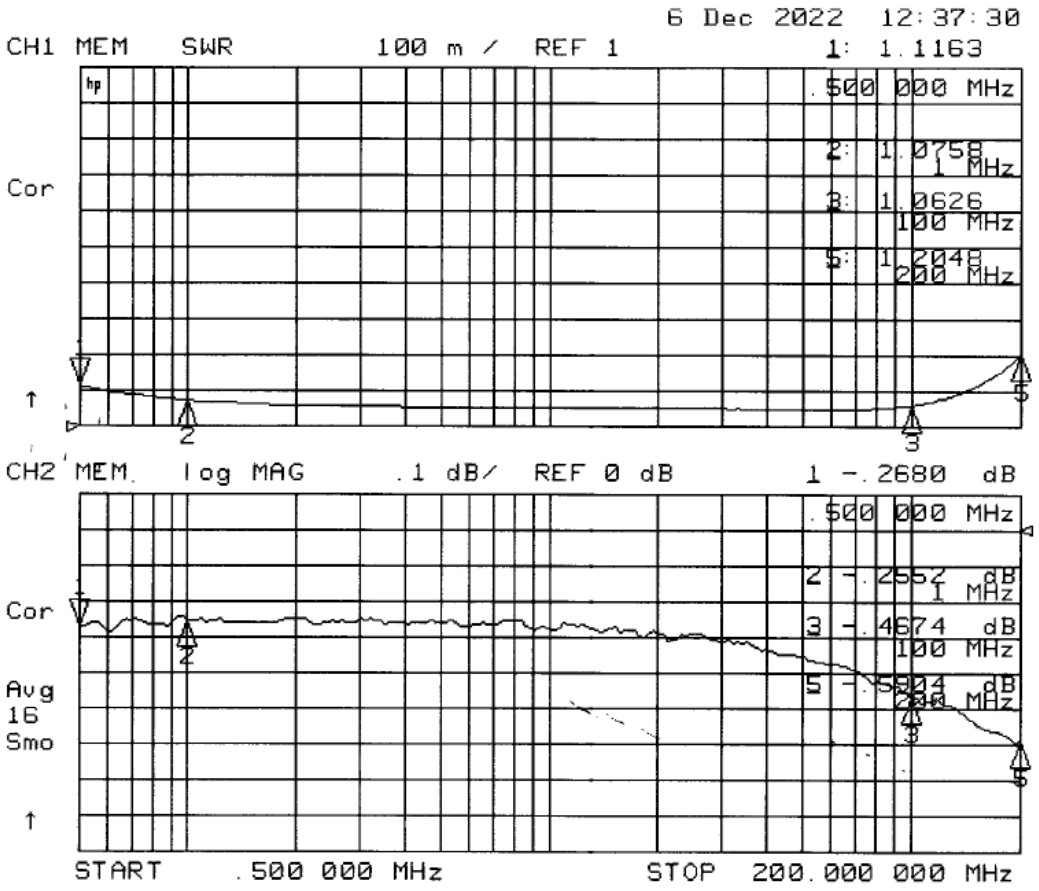
RF Bands and Performance

Impedance	50Ω	
Frequency	30 – 500 MHz	
VSWR (Typ / Max)		
30-300 MHz	1.15 / 1.30	
300-500 MHz	1.30 / 1.50	
Insertion Loss (dB) (Typ / Max)		
30-300 MHz	0.30 / 0.40	
300-500 MHz	0.40 / 0.60	
RF Power	**Watts**	**Peak RF Volts**
	20	60



Environmental Specifications (*when mated with sealed connectors)

Temperature Range	-50°C to +90°C
Salt Fog	MIL-STD-202 Method 101D / Cond B 24Hrs*
Water Proof	IEC529 IP68*
Moisture Resistance	MIL-STD-202 Method 106E (65°C/98% RH condensing/240 hours)*
Temperature Shock	MIL-STD-202 Method 107D / Condition B-1 (25x @ -65°C to +125°C)
Life (Elevated Temperature)	MIL-STD-202 Method 108A / Condition A (96 hours at 100°C)
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")

Material and Finish

Body Material	Aluminum
Body Finish	Nickel
Connector Material	Brass
Connector Finish	Nickel
Center Pin Material	BeCu
Center Pin Finish	Gold