

X-Band Linear Solid State Power Amplifier 7.125-7.725 GHz, 500 Watts

Model BHED718778-500

Overview

Stellant PST proudly introduces a Solid-State Power Amplifier for Ground Mobile Military Communication and Datalink applications using the latest Gallium Nitride (GaN) RF power devices. The efficient class AB design operates from 7.125 to 7.725 GHz frequency while maintaining excellent linearity performance at rated power. Developed to replace older TWTAs technology, this product operates reliably in harsh environmental conditions. The amplifier design features Self Protection for Load VSWR, Temperature, as well as a graceful degradation in case of a RF power module failure. High MTBF supports improved reliability and lower maintenance costs. Stellant will custom design specific configurations and features over a wide frequency range and power levels to meet your exact application.



Features

- Smallest Footprint SSPA
- Class AB Gallium Nitride (GaN) Technology
- High Output Power Dynamic Range
- Excellent Efficiency
- RF Output Sample Port
- Digital RF Forward/Reverse Power Monitoring
- Spectrum Regrowth -25 dBc @ 56dBm
- Thermal and Load VSWR Protection
- Remote Status/Control Interface
- Weatherproof for Harsh Environmental Apps
- Graceful Degradation
- Cold Start

Performance Specifications

• Frequency Range:	7.125 to 7.725 GHz	• AC Voltage Input:	180-264 VAC 47-63Hz 3KVA
• Instantaneous 3dB Bandwidth:	600 MHz	• Operating Temperature:	-40°C to +60°C
• Rated Output Power:	500W Class AB	• Operating Humidity:	0 to 100% condensing
• Power Gain:	50 dB (Minimum)	• Operating Shock & Vibration:	Per Mil-Std-810G
• Gain Adjustment:	-10 dB (Minimum)	• Operating Altitude:	10,000 Ft.
• Gain Variation at 500 W	± 1.6 dB (Full Band)	• MTBF	>50K Hours
• Gain Variation at any Power	± 0.5 dB (any 40MHz)	• RF Power Monitoring:	Fwd, Rev, Input
• Gain Stability at 500W	± 0.25 dB (24hours)	• Control Interface:	RS485, RS232
• Gain Slope	± 0.02 dB/MHz (Typical)	• RF Connectors:	
• Duty Cycle:	100%	RF Input:	Type N (F)
• AM/PM Conversion	3.5°/dB @ P _{Rated} -1dB	RF Output:	CPR-112G WG Flange
• Spectrum Regrowth (QPSK)	-25 dBc @ P _{Rated} -1dB	RF Monitoring 50 dB	Type N (F) Front Panel
• QPSK ±1 to 1.5 Symbol rate offset		• EMI/EMC Requirements	MIL-STD-461G CE102, CS114, CS115, CS116, RE102, CE106, RS103
• Output Load VSWR	<1.5:1	• Size:	14" x 10.4" x 23"
• Load VSWR Protection:	2:1 VSWR (No Damage)	• Weight:	65 lbs.
• Output Sample:	-50 dB Nominal		
• Harmonics:	-77 dBc		
• Noise Figure	18 dB (Max.)		

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