

X-Band Solid State Power Amplifier Module 9.0-10 GHz, 1000 Watts

Model BPMCP99109-1000

Overview

Stellant PST proudly introduces a new Gallium Nitride (GaN) amplifier for applications in the X-Band radar market. The AB linear design operates over the 9-10.0 GHz frequency range intended for use in radar applications. This new robust design allows full operation across a 1 GHz instantaneous bandwidth at 25% duty cycle and 100 μ s pulse width. Consistent with its planned technology development roadmap, Stellant PST is leading the field with the latest in GaN-based RF device performance and advanced amplifier development.



Note: Shown with optional full-height WR-90 adapter

Features

- AB Linear Gallium Nitride (GaN) Technology
- High Output Power Dynamic Range
- Excellent Efficiency
- RF Output Sample Detectors
- Pulse Width and Duty Factor Protection
- Thermal and Load VSWR Protection
- Optional Digital Interface for Control & Status Monitoring
- Optional Phase and Amplitude Control
- Suitable Building Block for Phased Array Systems

Performance Specifications

• Frequency Range:	9 to 10.0 GHz	• DC Voltage Input:	+28 VDC \pm 4 VDC
• Peak Output Power:	1000 W typical	• DC Supply Current:	55 Amps typical for 25% DF
• Power Gain:	60 dB nominal	• RF to DC Efficiency:	20% typical
• Power Gain Variation:	\pm 2 dB (9-10 GHz, typical)	• Operating Temperature:	-40°C to +55°C baseplate
• Pulse Width:	0.25 to 100 μ s max	• Operating Humidity:	0 to 95% non-condensing
• Duty Cycle:	25% max	• Operating Shock & Vibration:	Per MIL-STD-810F
• Pulse Droop:	0.15 dB/ μ s typical	• Operating Altitude:	15,000 ft.
• Pulse Rise & Fall Time:	<50 ns typical	• PA Enable/Disable:	TTL Logic (<180ns delay)
• Input VSWR:	<2:1	• RF Connectors:	
• Output Load VSWR	<2:1	RF Input and Sample Port:	SMA
• Load VSWR Protection:	∞ VSWR	RF Output:	WR-90 Half-Height (Option: Full-Height WR-90 adapter)
• Output Fwd and Rev Detectors:	Analog VDC	• DC Power Connector:	ITT Canon P/N DCMC8H8PJK87
• RF Input Sample:	-12 dB typical	• Status/Ctl Connector:	TYCO/AMP P/N 5745781-3
• Harmonics:		• Size:	11.3" x 6.8" x 2.5"
2Fo:	<-40 dBc	• Weight:	12.5 lbs.
3Fo:	<-50 dBc		
• RF Pulse: On-Off Isolation	> 110 dBc		

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