

# Solid State Power Amplifier (X-Band Radar)

## 9.8-10.5 GHz, 6000 Watts — Model BHCDP9881058-6000

Stellant PST introduces a new Gallium Nitride (GaN) amplifier for Ground, Airborne, and Surface Long Pulse X-Band radar applications. Operating from 9.8 to 10.5 GHz with pulse widths from 0.1 to 1000  $\mu$ s, it is designed as a TWT replacement or for new applications. The amplifier features self-protection for Load VSWR, Duty Factor, Pulse Width, and Temperature, along with graceful degradation in case of RF power module failure. With up to 10 times the MTBF of a TWTA, it offers enhanced reliability and reduced maintenance costs. Custom configurations and power levels up to 16 kW are available.



### KEY FEATURES

- AB Linear Gallium Nitride (GaN) Technology
- High Output Power Dynamic Range
- Excellent Efficiency
- RF Output (Forward/Reverse)
- Pulse Width & Duty Factor Protection
- Thermal and Load VSWR Protection
- Optional Digital Interface for Control & Status Monitoring
- Fast Blanking
- Low Phase Noise

### SPECIFICATIONS




Frequency Range	9.8-10.5 GHz
Instantaneous Bandwidth	700 MHz
Output Power	6000W Peak
Power Gain	68 dB (nominal)
Pulse Width	0.1-1000usec
Duty Cycle	8% (Max)
Pulse Droop	< 1.5 dB (Typical)
Pulse Rise & Fall Time	< 30ns
Input VSWR	< 1.5:1
Output Load VSWR	< 1.5:1
Load VSWR Protection	$\infty$ VSWR (Circulator)
Output Fwd. & Ref. Sample	-68 dBc (Nominal)
Harmonics/Spurs	-60 dBc
Phase Noise	-100 dBc/Hz @ 100 Hz
Noise Output (Gate Trigger Off)	-165 dBm/Hz (Typical)

AC Voltage Input	208VAC 60 Hz 3-Phase
Operating Temperature	-32°C to +55°C baseplate
Operating Humidity	0 to 95% Non-Condensing (option for 100% condensing)
Operating Shock & Vibration	Per Mil-Std-810F
Operating Altitude	10,000 ft
Control Interface	RS-422
Gate Trigger (On/Off)	Circular Mil Spec Connector
AC Power	Circular Mil Spec Connector
<b>RF Connectors</b>	
RF Input	Type N (F)
RF Output	WR-90 Choke Flange w/ Pressure Window
Size	19" x 12.25" x 24"
Weight	125 lbs

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