

# X-Band Solid State Power Amplifier Module

## 9.2-10 GHz, 1000 Watts

### MODEL BPMC928109-1000

#### **Features:**

- AB Linear Gallium Nitride (GaN) Technology
- High Output Power Dynamic Range
- Excellent Efficiency
- RF Input & 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: 9.2 to 10.0 GHz
- Peak Output Power: 1000W
- Power Gain: 60dB nominal
- Power Gain Variation:  $\pm 2$  dB (9.2-10GHz)
- Pulse Width: 0.25 to 100  $\mu$ s max
- Duty Cycle: 10% max
- Pulse Droop:  $< 0.5$ dB
- Pulse Rise & Fall Time:  $< 60$ ns typical
- Input VSWR:  $< 1.5:1$
- Output Load VSWR:  $< 2:1$
- Load VSWR Protection:  $\infty$ VSWR
- Output Fwd. & Ref. Sample: -50dBc
- Harmonics:
  - 2Fo:  $< -40$ dBc
  - 3Fo:  $< -50$ dBc
- RF Pulse: On-Off Isolation  $\geq 110$  dBc

- DC Voltage Input: +28VDC  $\pm 1$ VDC
- DC Supply Current: 25.5 Amps nominal for 10% DF
- RF to DC Efficiency: 14% nominal
- Operating Temperature:  $-40^{\circ}\text{C}$  to  $+65^{\circ}\text{C}$  baseplate
- Operating Humidity: 0 to 95% non-condensing
- Operating Shock & Vibration: Per Mil-Std-810F
- Operating Altitude: 10,000 Ft.
- Control Interface: RS-485
- PA Enable/Disable: RS-422 ( $< 1\mu$ S)
- RF Connectors:
  - RF Input and Sample Ports: SMA
  - RF Output: Type TNC (WG -90 optional)
- DC & Interface Connector: Combo-D-Subminiature
- Size: 9.6" x 6.8" x 2.15"
- Weight: 5 lbs.

COMTECH PST proudly introduces a new Gallium Nitride (GaN) amplifier for applications in the X-Band radar market. The AB linear design operates over the 9.2-10.0 GHz frequency range intended for use in radar applications. The amplifier design features include options for control of phase and amplitude to allow for integration into high power systems utilizing conventional binary or phased array combining approaches for power levels of up to 10kW. Consistent with its planned technology development roadmap, Comtech is leading the field with the latest in GaN-based RF device performance and advanced amplifier development.