

Communications & Power Industries Beverly Microwave Division Solid State Power Amplifier



CPI-Built RF Power Modules

S-band Solid State Power Amplifiers produce high power and are compact with proven GaN transistor technology.

CPI's Solid State Power Amplifiers are rock-solid, highly-efficient and easy to maintain. The VSS3608 Solid State Power Amplifiers are designed for use in radar applications. Gallium Nitride transistors are combined into 1.0 kW bricks which are air cooled. The bricks can be power-combined using radial combiners and waveguide combiners for any power desired.

The bricks can be operated at an RF duty cycle of up to 15% for higher average power applications.

Optimized for Pulsed Radars

This amplifier utilizes GaN transistors to provide high gain, high efficiency and excellent pulse fidelity. The result is excellent AM/PM, phase-noise and spectral regrowth performance.

FEATURES:

- Frequency range: 2.9 – 3.1 GHz
- 1.0 kW pulsed modules
- High efficiency GaN transistors
- 15% RF duty operation
- BIT and controls via EIA-422 remote connection

BENEFITS:

- Easily power combined for any power level
- High efficiency
- Excellent pulse fidelity
- Excellent AM/PM, phase noise, and spectral regrowth performance

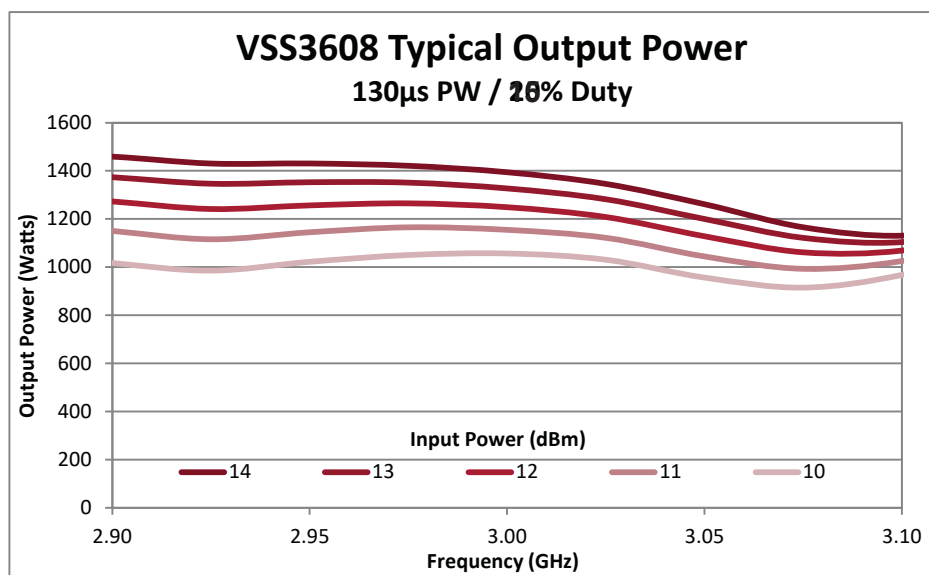
S-Band GaN Pulsed Solid State Power Amplifier: VSS3608

Electrical Specifications

Frequency	2.9 GHz - 3.1 GHz
Peak power output	1.1 kW saturated, minimum
Pulse width	20 to 130 μ sec (typical)
Pulse droop	0.5 dB maximum
Duty Cycle	20% maximum
Output power flatness	1.25 dB across frequency range
Small signal gain	50 dB nominal
Input VSWR	1.5:1 maximum
Output VSWR	1.5:1 maximum
Harmonic output	-65 dBc maximum
Interpulse thermal noise	-165 dBc / Hz maximum
Noise power density	-100 dBc into a 1 MHz bandwidth
MTBF	>140,000 hours
NTIA compliance	Compliant with customer pulse shaping as required

Specifications

Prime Power - @10% duty	31 VDC @ 14 Amps
- @20% duty	31 VDC @ 28 Amps
Ambient Temperature	-32°C to +70°C operating
Relative Humidity	100% non-condensing
Altitude - Operating	30,000 feet (9.14 kM)
- Non-operation	70,000 (21.34 kM)
Shock and Vibration	Ruggedized for harsh environments
Cooling	Forced Air
RF input connection	SMA female
RF output connection	Type N female
RF output monitor	Control connector
Dimensions (width)	9.5 in
Dimensions (height)	1.9 in
Dimensions (depth)	15.9 in
Weight	13.5 lbs max.
Output isolator (optional)	May be provided for VSWR protection



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For more detailed information, please refer to the corresponding CPI technical description if one has been published, or contact CPI. Specifications may change without notice as a result of additional data or product refinement. Please contact CPI before using this information for system design.

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