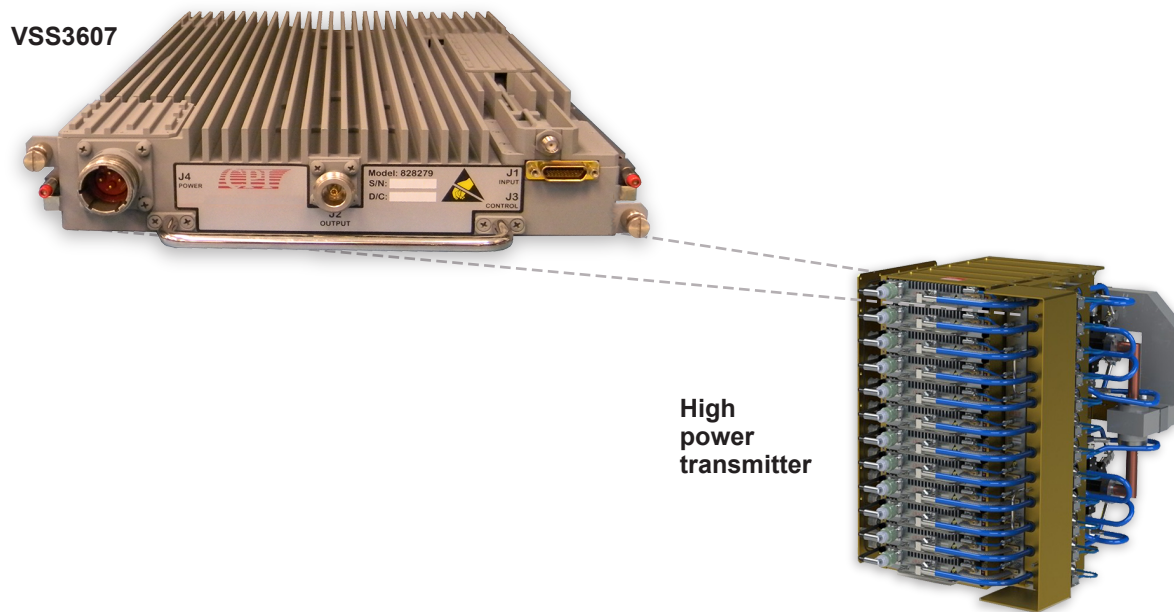


CPI Electron Device Business - Solid State Power Amplifier



CPI EDB -Built RF Power Modules

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

CPI EDB's Solid State Power Amplifiers are rugged, highly-efficient and easy to maintain. The VSS3607 Solid State Power Amplifiers are used in military (ATC & Search) radar applications and cover the 2.7 – 2.9 GHz frequency band. GaN transistors are combined into 1.3 kW bricks which are air cooled. The 1.3 kW bricks can be power-combined using radial combiners and waveguide combiners for high power transmitters.

FEATURES:

- Frequency range: 2.7 - 2.9 GHz
- 1.3 kW pulsed modules
- High efficiency GaN transistors
- BIT and controls via EIA-422 remote connection
- Easily power combined for any power level
- Hermetically sealed for extreme environments

BENEFITS:

- Ruggedized design
- High efficiency
- Excellent pulse fidelity
- Excellent AM/PM, phase-noise, and spectral regrowth performance

APPLICATIONS:

- ATC radars
- Air surveillance radar

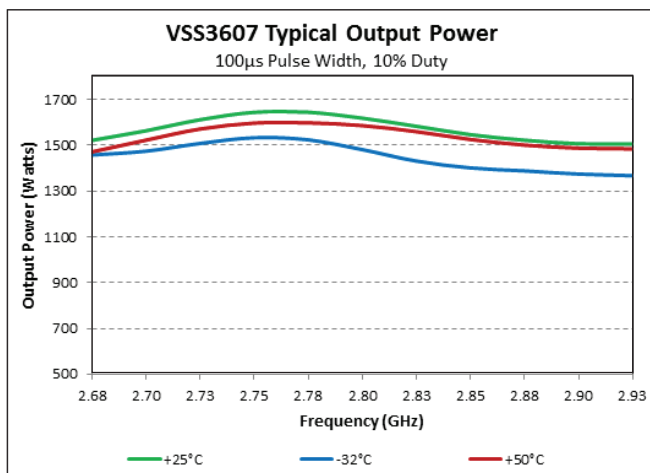
S-Band 1.3 kW Solid State Power Amplifier: VSS3607

Specifications

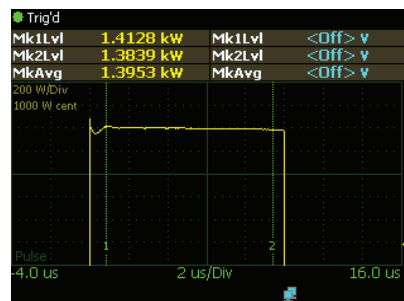
Frequency range	2.7 – 2.9 GHz
Minimum saturated peak	1.3 kW
RF Output	
Typical pulse width	1 to 100 μ sec
Maximum Pulse Droop	0.5 dB
Duty cycle	10%
Output power flatness across frequency range	1 dB
Nominal small signal gain	50 dB
Maximum input VSWR	1.5:1
Maximum output VSWR	1.5:1
Harmonic output	-65 dBc
Maximum interpulse thermal noise	-165 dBm/Hz
Noise power density	-100 dBc into a 1 MHz bandwidth
MTBF	>140,000 hours
NTIA Compliance	Compliant with customer pulse shaping as required

Specifications

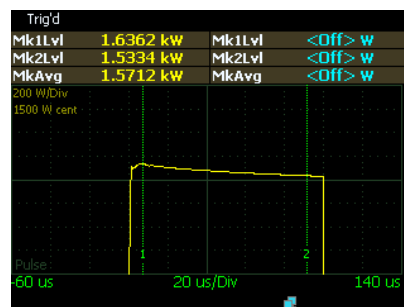
PrimePower	31 VDC @ 14 Amps
Ambient Temperature	-32C to +70C operating
Relative Humidity	100% non -condensing
Altitude	Operating 30,000 feet (9.14km) Non-operating 70,000 feet (21.34km)
Shock and Vibration	Ruggedized for harsh environments
Cooling	Forced air
RF Input Connection	SMA male
RF Output Connection	Type N female
RF Output Monitor	Control connector
Dimensions(width)	9.5 in (24.13 mm)
Dimensions(height)	1.75 in (4.45 cm)
Dimensions(depth)	15.5 in (39.37 cm)
Weight	11 lbs. max. (4.99 kg)
Output Isolator (optional)	May be provided for VSWR protection.



Peak RF Pulse Plots



10 μ sec PW,
1 kHz PRF



100 μ sec PW
1 kHz PRF
10 % Duty



Beverly Microwave Division
150 Sohier Road
Beverly, Massachusetts
USA 01915

tel +1 978-922-6000
email ElectronDevices@cpiedb.com
fax +1 978-922-8914
web www.cpiedb.com

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

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