

CPI Electron Device Business - Solid State Power Amplifier



High efficiency, high power and compact with proven GaN technology.

CPI EDB's Solid State Power Amplifiers are reliable, highly-efficient and easy to maintain. The VSS3627-3 Solid State Power Amplifiers are designed for indoor high power driver applications as a replacement for TWT amplifiers. The units cover the 3.1 – 3.5 GHz frequency band. GaN transistors are combined into 1.5 kW bricks which are air cooled. Two 1.5 kW bricks are internal to the VSS3627-3 to generate the 2100 W output power. The system has the capability to incorporate more 1.5 kW bricks to achieve higher power levels required for other applications.

FEATURES:

- Designed for indoor high power driver applications
- Contains a high power termination rack capable of handling full output reflections
- One SSPA rack containing two 1.5 kW pulsed modules
- High efficiency GaN transistors
- BIT indicators on front panel and rear control connector via EIA-422

BENEFITS:

- Easy to maintain
- Easily scalable for higher output powers
- Excellent pulse fidelity
- Exceptional AM/PM, phase-noise and spectral regrowth performance

APPLICATIONS:

- Indoor high power driver
- TWTA Replacement

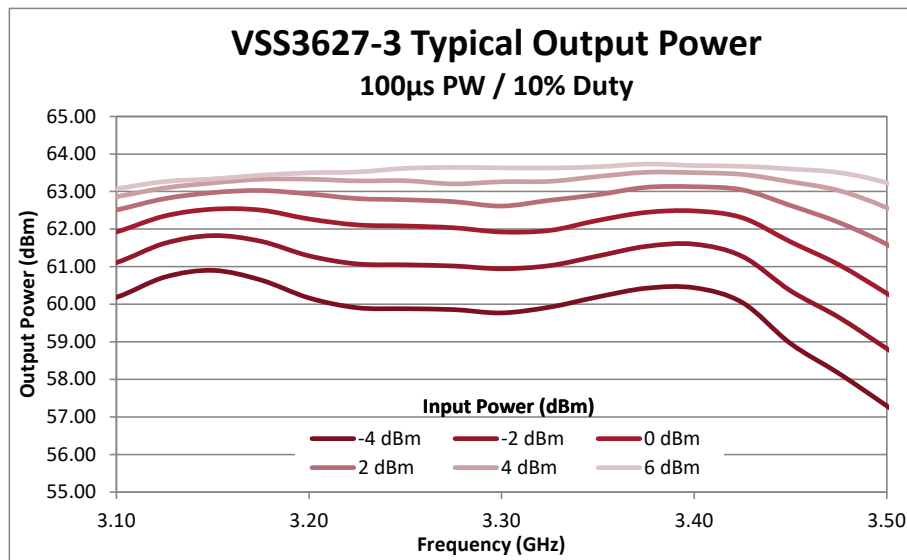
S-Band Solid State Power Amplifier: VSS3627-3

Specifications

Frequency range	3.1 – 3.5 GHz
Maximum saturated peak RF output	2.1 kW
Typical pulsewidth	1 to 100 μ sec
Maximum pulsedroop	0.5 dB
Maximum duty cycle	10 %
Output power flatness across frequency range	<1 dB
Nominal small signal gain	59 dB
Maximum input VSWR	1.5:1
Maximum output VSWR	1.5:1
Harmonic output	-65 dBc
Maximum interpulse thermal noise	-160 dBm/Hz
Noise power density	-100 dBc in a 1 MHz bandwidth
MTBF	>140,000 hours
NTIA Compliance	Compliant with customer pulse shaping as required.

Mechanical and Environmental Specifications

Prime power	220 VDC – single phase
Ambient Temperature	0 - 50° C
Non-condensing relative humidity	100%
Altitude Operating	30,000 ft (9.14 km)
Non-operating	70,000 ft (21.34 km)
Shock and vibration	Air & truck transportation
Cooling	Forced air
RF Input connection	Type N female
RF Output connection	7/16 DIN connector
RF Output detector	Control connector
Forward/reverse power monitor	Type N female
Dimensions (width)	22 in. (228.6 mm)
Dimensions (height)	24 in. (393.7 mm)
Dimensions (depth)	24 in. (533.4 mm)
Maximum weight	250 lbs. (113.4 kg)
Internal output isolator	Provided – capable of handling full output reflection



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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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