

C-Band GaN 50 kW Pulsed Solid State Transmitter

VSC3702

Features:

- 48 combined 1.1 kW pulsed modules
- High efficiency GaN transistors
- BIT & controls via EIA-422 remote connection
- Blind mate DC and control connectors
- Controllable output power reduction

Benefits:

- Easy to maintain
- High gain
- Excellent pulse fidelity
- Outstanding spectral performance
- Output power graceful degradation



C-Band RF Power Modules

High efficiency, high power, with proven GaN technology, the VSC3702 has 48 combined modules to achieve 50 kW of output power (min).

CPI BMD's solid state power amplifiers are reliable, highly-efficient and easy to maintain. The VSC3702 solid state RF transmitters are designed for use in maritime surveillance, ATC, and weather radar applications and cover the 5.2 – 5.9 GHz frequency band. Combining GaN transistors into liquid cooled modules, then combining them using waveguide combiners to produce a 50 kW transmitter.

Applications:

- Maritime and defense radars
- High resolution weather radars



C-Band GaN 50 kW Pulsed Solid State RF Power Amplifier - VSC3702

Specifications	
Frequency range	5.4 to 5.9 GHz
Maximum saturated peak RF output	50 kW
Typical pulse width	1 to 100 µsec
Maximum pulse droop	0.5 dB
Maximum duty cycle	10%
Output power flatness across frequency range	±1 dB
Nominal small signal gain	58 dB
Stability	60 dB
Maximum output VSWR	1.5:1
Maximum harmonic output	-35 dBc
Maximum Interpulse Thermal Noise	-105 dBm/Hz
Noise power density	-160 dBc in a 100 MHz Bandwidth
Pulse repetition rate	To 1.2 KHz
NTIA Compliance	Compliant for a radar of this frequency – with customer pulse shaping as required.

Mechanical and Environmental Specifications	
Prime power	55 VDC @ 9.4 Amps
Operating ambient Temperature	+5° to +50° C
Non-condensing relative humidity	95%
Operating altitude	15,000 ft (4.57 km)
Shock and vibration	Rack mounted – shipboard/ground
Cooling	Liquid (propylene glycol) to +50C
RF Input connection	BMA Male
RF Output connection	N-type Female (one per side)
RF Output and VSWR monitor	DC Power and Monitor
Dimensions	Nominally 70 in.(177.8 cm) Nominally 57 in.(144.8 cm) Nominally 46 in.(116.8 cm)
Maximum weight	2900 lbs.(1315.4 kg)

The values listed above represent specified limits for the product and are subject to change. The data should be used for basic information only. Formal, controlled specifications may be obtained from CPI for use in equipment design.