

PA-513

Space-qualified solid-state power amplifier

The PA-513 is a space-qualified Gallium Nitride (GaN) Solid State Power Amplifier (SSPA), which provides pre-drivers, driver and final amplifiers to produce up to 3 watts narrowband output power and 12 watts wideband output power. The PA-513 is designed for use with our C/TT-524 narrowband transceiver and our T-751 wideband transmitter and can also be provided as a standalone unit.

PA-513 X-BAND SSPA	
RF Performance	
Frequency Range	X-Band, 8025 to 8500 MHz
Antenna Impedance	50 Ohms
Output Power (end of life)	3 W max (narrowband) or 10 W max (wideband)
Spurious Outputs Mismatch Operation	Per NTIA, SFCG, ITC spectral emissions masks No damage into open or short output for at least 1 hour
IO Characteristics	
RF Input/Output	SMA
DC Power Interface	SMA, connects to radio
Telemetry Signals	RF power, temperature, secondary voltage, via SSPA power connector
Power	
Input Voltage	+28 VDC
Input Power	Narrowband: 30 W max (3 W output) Wideband: 75 W max (10 W output)
Environmental	
Qualification Temperature	-20°C to +60°C
Random Vibration	14.9 G _{rms} , normal axis, 9.4 G _{rms} , parallel axis to mounting surface
Pyrotechnic Shock	656 g (1 kHz to 10 kHz)
Altitude	Unlimited
Total Dose	16 krad minimum
Physical	
Volume	7.3 L x 6.6 W x 2.7 H in (18.54 L x 16.76 W x 6.86 H cm)
Weight	4.2 lbs (1.95 kg)



KEY FEATURES

- > Connects directly to the transmitter or power and telemetry with +28 V primary power
- > SSPA on/off control
- > RF power, temperature and secondary voltage telemetries

SPACE QUALIFIED HERITAGE

The PA-513 is designed, built, assembled and tested all within one facility and is serviced and supported by engineering professionals with decades of spaceflight design experience. Every PA-513 delivered is accompanied by domain expertise in parts, materials, radiation analysis, mechanical engineering, power supply design, digital signal processing, radio frequency design and manufacturing engineering. For most applications, we can provide existing data items for review, reducing the analysis and testing required.

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