

# Solid State High Power Amplifier

18.0 – 26.5 GHz, 5 W, Wide Instantaneous Bandwidth, K-Band

# **Ultra Broadband Series: PA3028**

# **FEATURES**

Class AB linear GaAsFET hybrid design 18.0 – 26.5 GHz 5 Watt output power 37 dB gain 9 Volt operation Monitoring and remote shutdown

# APPLICATIONS

Complex modulation standards applications Point-to-point digital K-Band satellite communications

# High data rate. Line of sight. K-Band.

#### Millimeter wave power.

Demand for more data bandwidth is pushing operating frequencies up and modulation toward more complex constellations. The MtronPTI PA3028 Solid State Power Amp provides 5 Watts across the K-Band from 18.0 to 26.5 GHz off a 9 volt power supply.

MtronPTI's line of Solid State Power Amplifiers is backed by a multi-national design and manufacturing team with more than 150 years combined PA design experience. MtronPTI's continuing focus on client service ensures full program life engineering support from specification to production to next generation architecture planning.

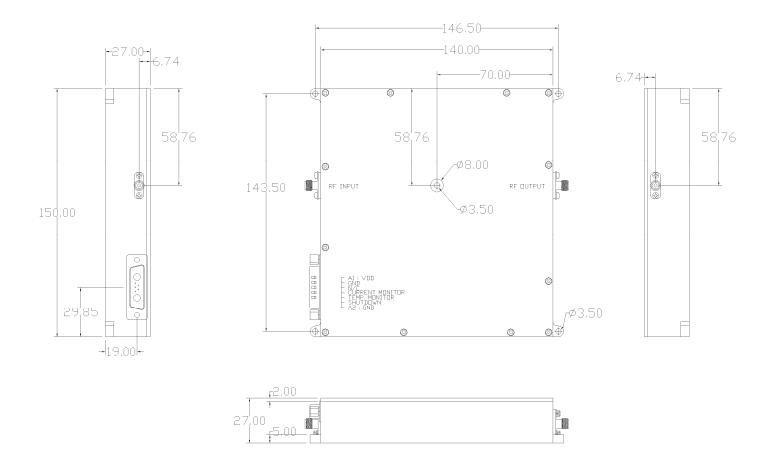
## **Electrical Characteristics**

Parameter	Symbol	Min.	Тур.	Max.	Units	Comment
PASSBAND						
Operating Frequency Range	FCARRIER	18.0		26.5	GHz	
Power Output	POUT	5			Watts	CW
Small Signal Gain	A <sub>RF MIN</sub>	37			dB	
Power Gain Flatness	—			4.0	dB <sub>P-P</sub>	A <sub>RE MAX</sub> – A <sub>RE MIN</sub>
Input Return Loss	RLIN	10			dB	Within the $F_{SIG}$ bandwidth into 50 $\Omega$
Harmonics			-20		dBc	At rated POUT
Non Harmonic Spurious				-60	dBc	
Power						
Operating Voltage	V <sub>DD</sub>	8.5	9.0	9.5	V <sub>DC</sub>	
Current Consumption	IDD			10	Amps	At rated POUT
Max Input Power				+10	dBm	Without damage
Load VSWR Protection			∞:1			, i i i i i i i i i i i i i i i i i i i

# **Environmental & Physical**

Parameter	Symbol	Min.	Тур.	Max.	Units	Comment
Operating Case Temperature	T <sub>oc</sub>	-20		+75	°C	
Storage Temperature	T <sub>STR</sub>	-40		+85	°C	
Relative Humidity		5		95	%	Non-condensing
Dimensions			140 x 150 x 27		mm	Excluding connectors
Weight						
RF Connectors IN / OUT			SMA female			
DC Power / Interface Connector		7	-Pin Hybrid D-S	du		
Cooling		E	External Heat Sir	ık		Forced air required
D-Sub Connector Pin Assignments					1	
1 N/C	Reserved					
2 N/C	Reserved	Reserved				
3 Current Sensor	l <sub>D</sub> @ 100 m	I <sub>D</sub> @ 100 mV / 100 mA typ.				
4 Temperature Sensor	V <sub>T</sub> @ 10 mV / ℃ + 500 mV typ.					
5 Shutdown	TTL					
A1 V <sub>DD</sub>	9 V <sub>DC</sub>					
A2 GND	Ground					

# **Case Outline**



## **Revision History**

Date	Rev.	Orig.	Details of Revision
20150317	Α	DPD	Initial

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