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.	Typ.	Max.	Units	Comment
PASSBAND						
Operating Frequency Range	$F_{CARRIER}$	18.0		26.5	GHz	
Power Output	P_{OUT}	5			Watts	CW
Small Signal Gain	A_{RF_MIN}	37			dB	
Power Gain Flatness				4.0	dB_{P-P}	$A_{RF_MAX} - A_{RF_MIN}$
Input Return Loss	RL_{IN}	10			dB	Within the F_{SIG} bandwidth into 50Ω
Harmonics			-20		dBc	At rated POUT
Non Harmonic Spurious				-60	dBc	
Power						
Operating Voltage	V_{DD}	8.5	9.0	9.5	V_{DC}	
Current Consumption	I_{DD}			10	Amps	At rated POUT
Max Input Power	P_{IN_MIN}			+10	dBm	Without damage
Load VSWR Protection			∞ : 1			

Environmental & Physical

Parameter	Symbol	Min.	Typ.	Max.	Units	Comment
Operating Case Temperature	T_{OC}	-20		+75	℃	
Storage Temperature	T_{STR}	-40		+85	℃	
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-Sub			
Cooling			External Heat Sink			Forced air required

D-Sub Connector Pin Assignments		
1	N/C	Reserved
2	N/C	Reserved
3	Current Sensor	I_D @ 100 mV / 100 mA typ.
4	Temperature Sensor	V_T @ 10 mV / ℃ + 500 mV typ.
5	Shutdown	TTL
A1	V_{DD}	9 V_{DC}
A2	GND	Ground

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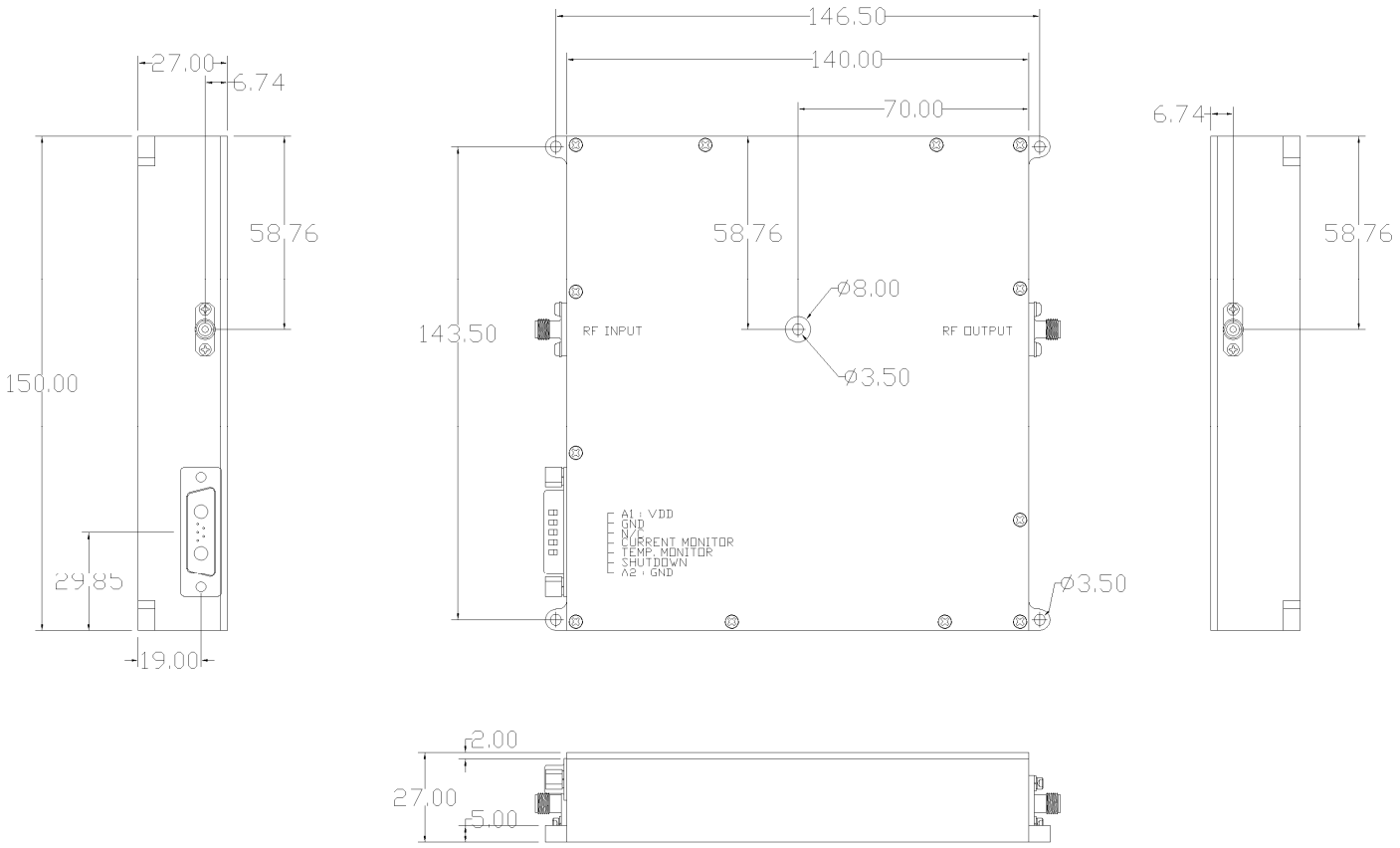
Case Outline



Revision History

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

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