



# 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

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.

### APPLICATIONS

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

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 <sub>P-P</sub>	$A_{RF\_MAX} - A_{RF\_MIN}$
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	°C	
Storage Temperature	$T_{STR}$	-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-Sub			
Cooling			External Heat Sink			Forced air required
D-Sub Connector Pin Assignments						
1	N/C		Reserved			
2	N/C		Reserved			
3	Current Sensor		$I_D @ 100\text{ mV} / 100\text{ mA typ.}$			
4	Temperature Sensor		$V_T @ 10\text{ mV} / ^\circ\text{C} + 500\text{ mV typ.}$			
5	Shutdown		TTL			
A1	$V_{DD}$		9 $V_{DC}$			
A2	GND		Ground			

