



# SOLID STATE POWER AMPLIFIER 300W 2-18GHZ

PART NO.: PA02G18G300V6

An excellent alternative to traveling wave tube amplifiers, POAM – PA02G18G300V6 is a wideband solid-state Power Amplifier with an operating range of 2 to 18GHz while achieving a typical of 54.8 dBm (300 Watts) of instantaneous saturated power. With its maximum performance in gain, efficiency, signal flatness, and RF output power, this SSPA is the ideal building block for millimeter-wave sub-systems with wide-ranging applications.

## Product Features

- Frequency Range: 2– 18 GHz
- Saturated Power: 54.8 dBm
- Solid State MMIC Reliability
- Multi-Element Redundancy
- Instant On (no warm-up)
- Ultra-low weight (only 15kg)
- small in size: 4U standard Rack

## Application:

- Jamming
- Test system
- TWTA Replacement





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## Electrical Specifications

Parameter	Min	Typ.	Max	Units
Frequency	2		18	GHz
Pulse Saturated Power ( $P_{IN} = 0$ dBm)		54.8 (300W)		dBm
CW Saturated Power ( $P_{IN} = 0$ dBm)		54 (250W)		dBm
Input Power (Pulsed/CW)	-2	0	+6	dBm
Small Signal Gain		55		dB
Gain Flatness vs Freq.		2		dB
DC Pulsing, System Rise Time, Enable to 90% RF ON		150		nS
DC Pulsing, System Fall Time, Enable to 10% RF OFF		150		nS
Switching Time, RF Pulsing		25		nS
Second Harmonic, CW		-28		dBc
Third Harmonic, CW		-15		dBc
Input Return Loss (CW)		16		dB
DC Power (average)		800	1000	W
Operation Voltage		100-240		VAC
Operating Temperature	-40		75	°C
Input RF Interface J1	N-Type(F)			
Output RF Interface J2	N-Type(F)			
Power sample port (Built in Power Coupler)	N-Type(F)			
Auxiliary Interface	D38999/20WB35SN <b>MPHENOL</b>			
Operation mode	Remote / local			
Total Weight	15			kg
Total Dimensions (L) x (W) x (H)	4U standard rack case			
Cooling	Heatsink & Forced Air fan			

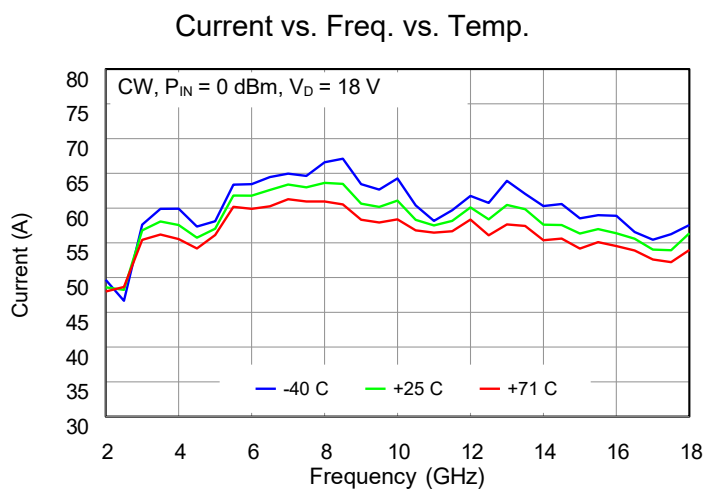
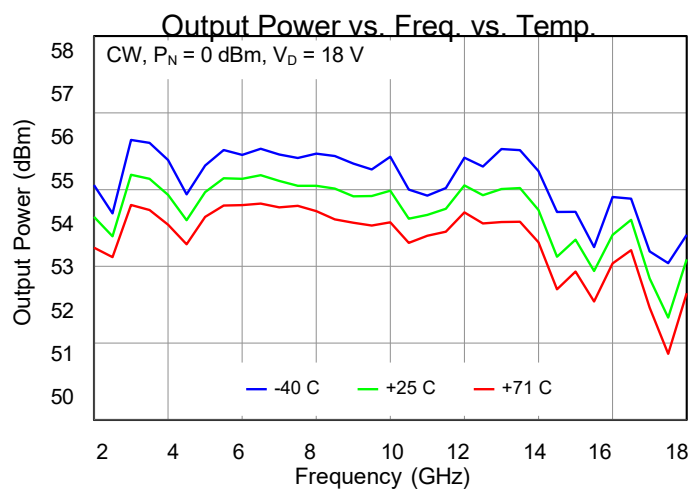


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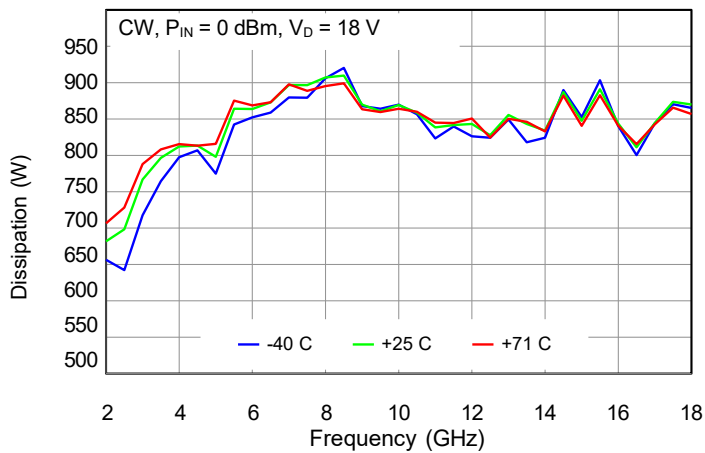
PART NO.: PA02G18G300V5

## Typical Performance

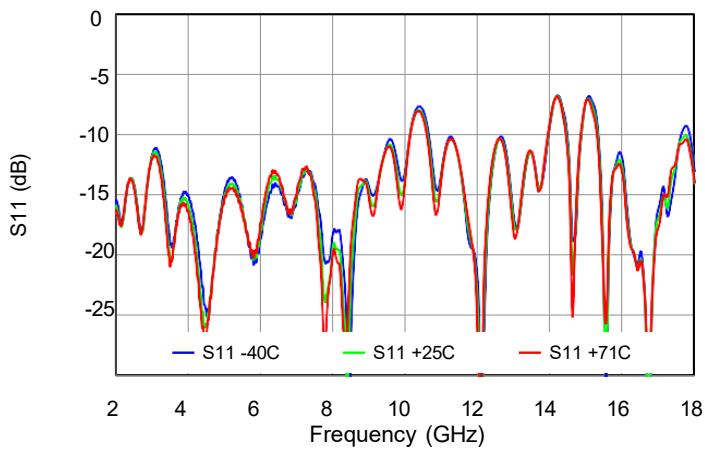
Conditions unless otherwise specified:  $V_D = 18\text{ V}$ ,  $P_{IN} = 0\text{ dBm}$ ,  $T_{CLAMP} = 25\text{ }^{\circ}\text{C}$



Dissipation vs. Freq. vs. Temp

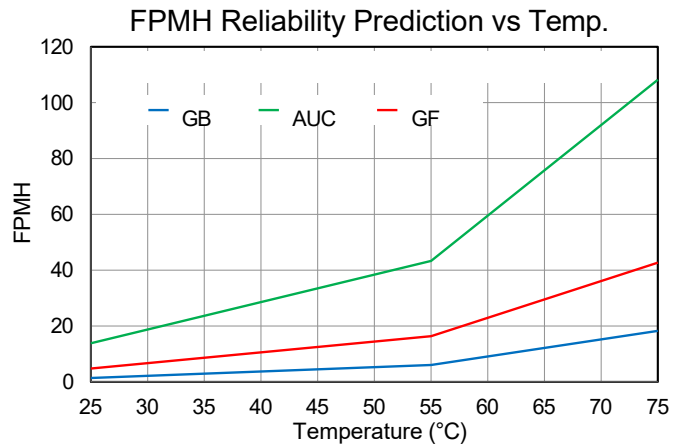
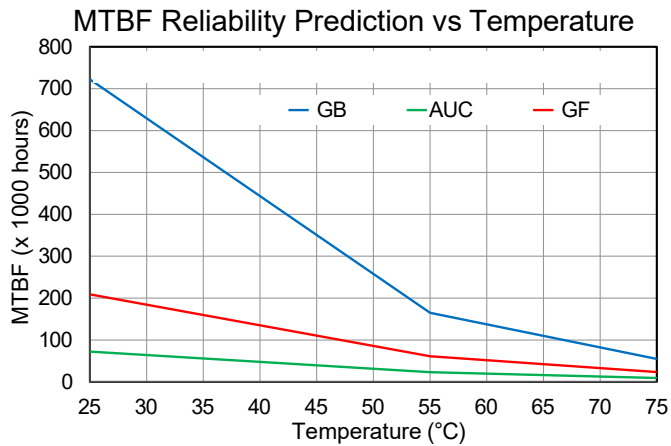


S11 vs. Frequency vs. Temperature





### Reliability Information



Calculations derived from MIL-HDBK-217F

Operational environments are:

GB – Ground Benign

GF – Ground Fixed

AUC – Airborne Uninhabited Cargo

## Connectors pin layout

### Auxiliary connector PIN-OUT for J5:

**Connector name/type:** D38999/20WB35SN (AMPHENOL 13 pins circular connector)

J5 AUXILIARY			
SSPA AUXILIARY	PIN	SIGNAL	
	1	RS422 Tx+	Heath, Temp, Voltage, and current monitoring
	2	RS422 Tx-	
	3	RS422 Rx+	
	4	RS422 Rx-	
	5	RS422 Tx+	Enable and disable SSPA  5V logic command bit to turn on/off the drain voltage. 0V puts the unit into a low-power state while 5V will allow normal operation. In the absence of an external logic signal (open), the amplifier will power on with the application of the supply voltage.
	6	RS422 Tx-	
	7	RS422 Rx+	
	8	RS422 Rx-	
	9	Logic ground	
	10	Logic ground	
	11	Free	
	12	Free	
	13	Free	

### Handling Precautions



Caution!  
ESD-Sensitive Device

**RF VOLTAGE HAZARD:** Contact with RF fields at the output connector can cause burns or electric shock. High levels of RF/Microwave energy may be present when the unit is operating.

**HIGH DC CURRENT HAZARD:** High levels of DC current are present when the unit is operating.

Each amplifier is  
shipped in a hard and  
well-protected carry case.



### Contact Information

For the latest specifications, additional product information, worldwide sales and distribution locations:

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