SOLID STATE POWER AMPLIFIER 250W KA-BAND

PART NO.: PA3436250V5

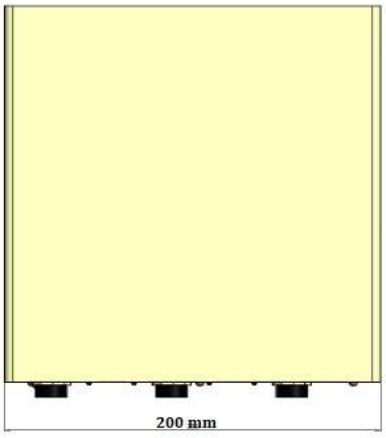
An excellent alternative to travelling wave tube amplifiers, POAM – PA3436250V5 is a solid-state Power Amplifier with an operating range of 34-36 GHz while achieving a minimum of 54 dBm (250 Watts) of instantaneous saturated power. With its maximum performance in gain, efficiency, signal flatness, and RF output power, this SSPA is the ideal building block for millimeter-wave sub-systems with wide-ranging applications.

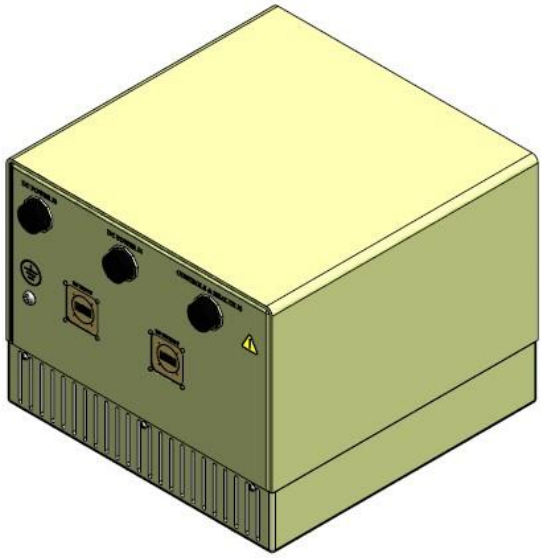
Product Features

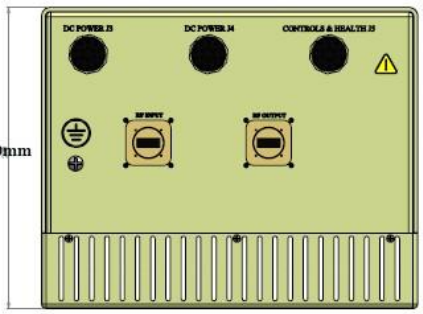
- Frequency Range: 34 – 36 GHz
- Saturated Power: 54 dBm
- Solid State MMIC Reliability
- Multi-Element Redundancy
- Instant On (no warm-up)

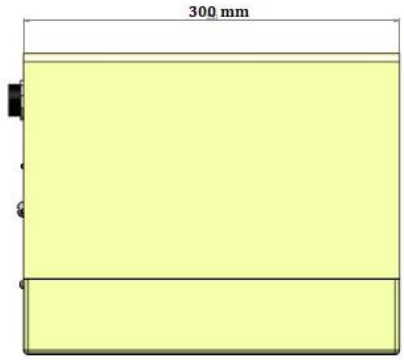
Application:

- Radar
- Satellite communication
- TWTA Replacement









SOLID STATE POWER AMPLIFIER 250W KA-BAND

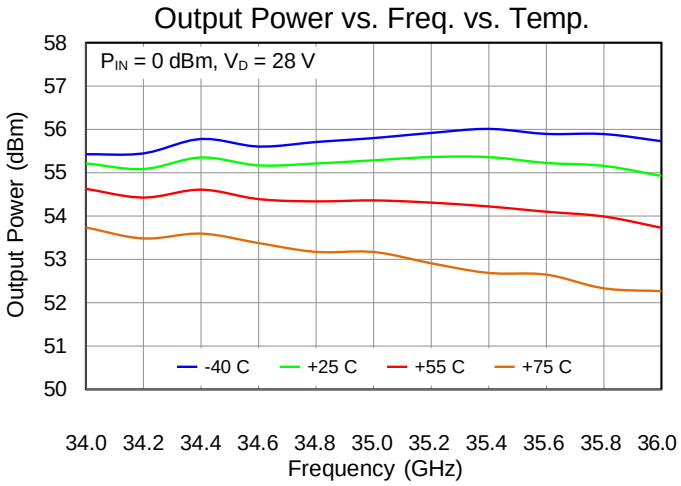
PART NO.: PA3436250V5

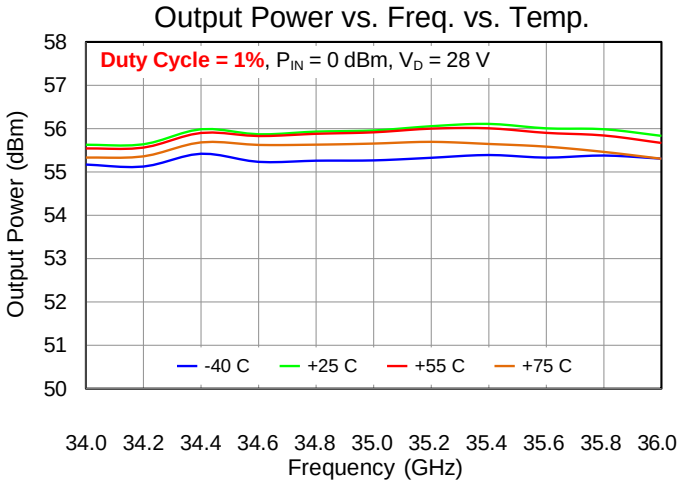
Electrical Specifications

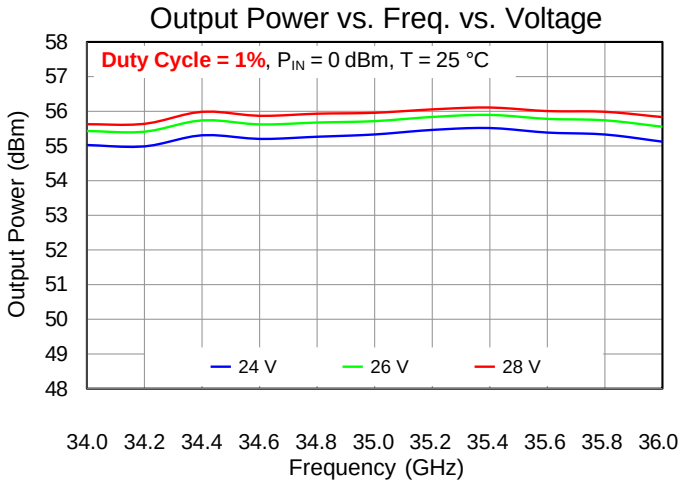
Parameter	Min	Typ.	Max	Units
Frequency	34		36	GHz
Output Power (Pulsed, PIN = 0 dBm)		54		dBm
Input Power (Pulsed)	-2	0	+6	dBm
Gain Flatness vs Freq. (Pulsed, PIN = 0 dBm)		0.6		dB
Pulse Droop (PW=50 us, F=35 GHz, PIN=0 dBm)				
−40 C		0.7		dB
+25 C		0.8		dB
+55 C		1.0		dB
+75 C		1.6		dB
Rise/Fall Time (PW=20 ns, F=35 GHz, PIN=0 dBm)				
−40 C		5.0 / 2.9		ns
+25 C		5.8 / 3.1		ns
+55 C		6.4 / 3.1		ns
+75 C		9.3 / 3.4		ns
Input Return Loss (CW)		13		dB
DC Power (average)		1100		W
Input RF Interface J1	WR-28 Waveguide			
Output RF Interface J2	WR-28 Waveguide			
Auxiliary Interface J5	D38999/20WD35SN **MPHENOL**			
Power Interface J3 & J4	D38999/20WD18PN **AMPHENOL**			
Total Weight	8			kg
Total Dimensions (L) x (W) x (H)	200 x 200 x 300			millimeters
IP Rating	IP68			
Cooling	Heatsink & Forced Air fan (IP68)			

Typical Performance

Conditions unless otherwise specified: V_D = +28 V, I_{DQ} = 6 A, P_{IN}= 0 dBm, Pulse Width = 5 us, Duty Cycle = 50%

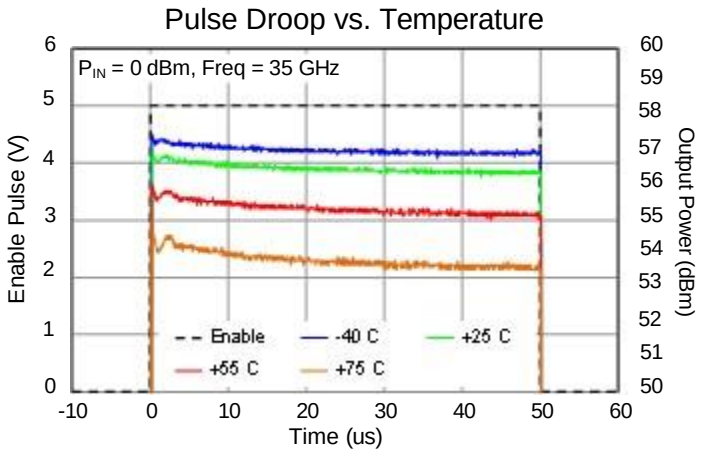


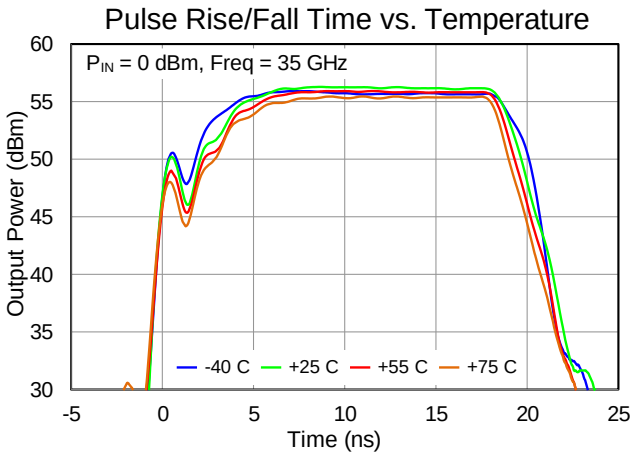




Typical Performance

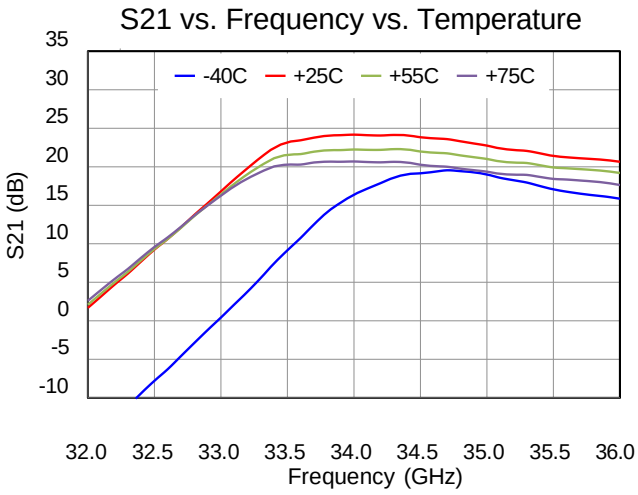
Conditions unless otherwise specified: V_D = +28 V, I_{DQ} = 6 A, P_{IN}= 0 dBm, Pulse Width = 5 us, Duty Cycle = 50%

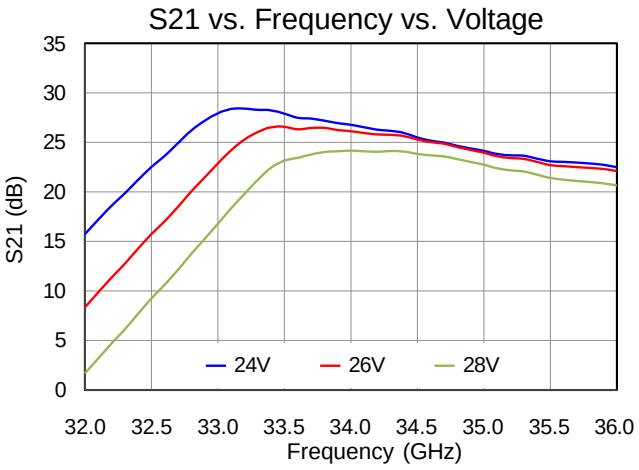


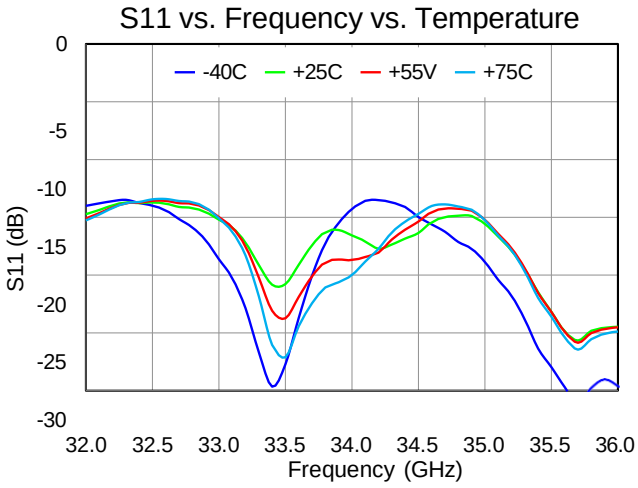


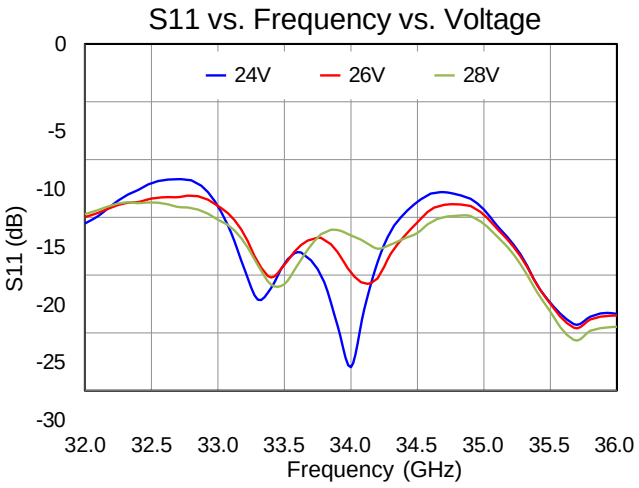
Typical Performance

Conditions unless otherwise specified: V_D = +28 V, I_{DQ} = 6 A, P_{IN}= 0 dBm, Pulse Width = 5 us, Duty Cycle = 50%

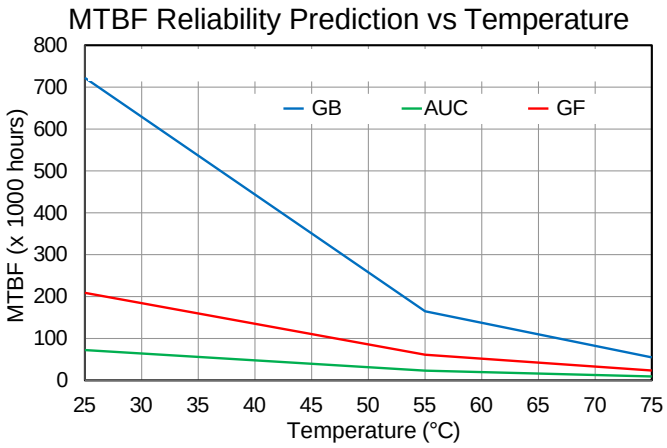


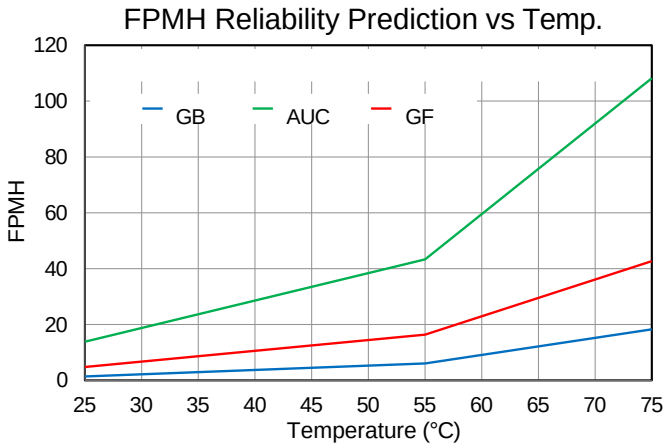






Reliability Information





Calculations derived from MIL-HDBK-217F

Operational environments are:
GB – Ground Benign
GF – Ground Fixed
AUC – Airborne Uninhabited Cargo

Connectors pins layout

Auxiliary connector PIN-OUT for J5:

Connector name/type: D38999/20WD35SN (AMPHENOL 37 pins circular connector)

J5 AUXILIARY		
	PIN	**SIGNAL**
SSPA AUXILARY	1	IDRAIN1
	2	IDRAIN2
	3	IDRAIN3
	4	IDRAIN4
	5	IDRAIN5
	6	IDRAIN6
	7	IDRAIN7
	8	IDRAIN8
	9	IDRAIN9
	10	IDRAIN10
	11	IDRAIN11
	12	IDRAIN12
	13	IDRAIN13
	14	IDRAIN14
	15	IDRAIN15
	16	IDRAIN16
	17	+5V
	18	+5V
	19	GND
	20	GND
	21	VTEMP
	22	ENABLE
	23	SLC
	24	SDA
	25	RESET
	26	GND
Driver Amp. AUXILARY	27	+8V
	28	+8V
	29	GND
	30	GND
	31	+30V
	32	TTL1(for +8V)
	33	TTL2(for +30V)
	34	GND
	35	+30V
	36	Free
	37	Free

Connector PIN-OUT for J3 & J4:

Connector name/type: D38999/20WD18PN (AMPHENOL 18 pins circular connector)

J3 & J4 POWER PIN-OUT		
	PIN	**SIGNAL**
SSPA POWER	1	+28VDC
	2	+28VDC
	3	+28VDC
	4	+28VDC
	5	+28VDC
	6	Free
	7	Free
	8	Free
	9	Free
	10	Free
	11	GND
	12	GND
	13	GND
	14	GND
	15	GND
	16	Free
	17	Free
	18	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.

Contact Information

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

Web: www.poamelectronics.com

Tel: +44 (0) 161 52 64 551

Email: sales@poamelectronics.com

Important Notice

The information contained herein is believed to be reliable; however, POAM makes no warranties regarding the information contained herein and assumes no responsibility or liability whatsoever for the use of the information contained herein. All information contained herein is subject to change without notice. Customers should obtain and verify the latest relevant information before placing orders for POAM products. The information contained herein or any use of such information does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other intellectual property rights, whether with regard to such information itself or anything described by such information. **THIS INFORMATION DOES NOT CONSTITUTE A WARRANTY WITH RESPECT TO THE PRODUCTS DESCRIBED HEREIN, AND POAM HEREBY DISCLAIMS ANY AND ALL WARRANTIES WITH RESPECT TO SUCH PRODUCTS WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

Without limiting the generality of the foregoing, Poam products are not warranted or authorized for use as critical components in medical, life-saving, or life-sustaining applications or other applications where a failure would reasonably be expected to cause severe personal injury or death.