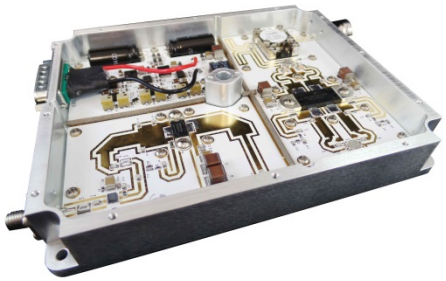
Model Number: QBS-617

Signal Jamming Power Amplifier

Communications Band Microwave Power Module



Features

- 150W Peak Output Power
- Typical frequency range of 1930-2000 MHz
- Communications Signal Jamming Applications
- Class "A" Amplifier
- Typical Gain of 50dB

The LDMOS-based, QBS-617 is a Class "A" Amplifier operating in a frequency band of 1930MHz to 1990MHz to specifically jam communication band frequencies. This addition to API's power amplifier product line offers a minimum output power of 100 watts with a gain of 50dB, with multiple carrier inputs. Typical current draw from a nominal +28 VDC supply at rated output power is 8 A. This design offers a isolator protected output to guard against transistor failure due to infinite VSWR mismatch.

In addition API has incorporated an array of control and monitoring features including amplifier enable, high temperature alarm, thermal shutdown, forward / reverse power monitoring and temperature monitoring. The entire assembly is packaged in an aluminum chassis for heat dissipation and protection from harsh environmental conditions.

Electrical Ratings

Parameter	Unit	Specification (1)		Comment
		Typical 25°C	Guaranteed 25°C	
Frequency Range	MHz	1930 - 2000		Minimum Bandwidth
Saturated Output Power	Watts	150		
P_{OUT} @ 1dB Compression	Watts	120	100 min.	
Gain @ 1dB Compression	dB	50 dB	48 min.	
Input VSWR	—	1.3 :1	1.5 :1 max.	
Output VSWR	—	1.3 :1	1.5 :1 max.	
3rd Order Output Intercept Point	dBm	+55		Note 2
Noise Figure	dB	8	10 max.	
DC Voltage	Vdc	+28.0		Nominal
Current (Quiescent)	A	1.5	2.0 max.	No RF Input
Current (P_{OUT} = 100W)	A	8	10 max.	

Absolute Maximum Ratings

Parameter	Limit	Unit	Specification	Comment
DC Voltage	Max.	Vdc	+32	
RF Input Power	Max.	dBm	+13	CW
Operating Temperature*	Min.	°C	- 20	Baseplate
	Max.	°C	+70	
Storage Temperature	Min.	°C	- 40	Baseplate
	Max.	°C	+100	

**Maximum Operating Temperature is defined as the baseplate temperature which, if exceeded for extended periods, could result in premature unit failure. This data is provided for user reliability information. This may or may not represent the maximum temperature for electrical parameter specifications.*

Features

Parameter	Specification	Comment
DC Input	Reverse Polarity	
RF Output Protection	Integrated Isolator	Infinite VSWR (P_{OUT} = 100W)
Amplifier Enable	High → Disable Low or Open → Enable	TTL Logic
High Temperature Alarm	High → Alarm Low → Normal	TTL Logic
Thermal Shutdown	90 ± 5°C	70 ± 5°C; Auto Enable
Forward Power Monitor	4.0V @P_{OUT} = +50 dBm, 0.1 V/dB	Analog
Reverse Power Monitor	4.0V @P_{OUT} = +50 dBm, 0.1 V/dB	Analog
Temperature Monitor	V_O = (T/100) + 0.5V	Analog

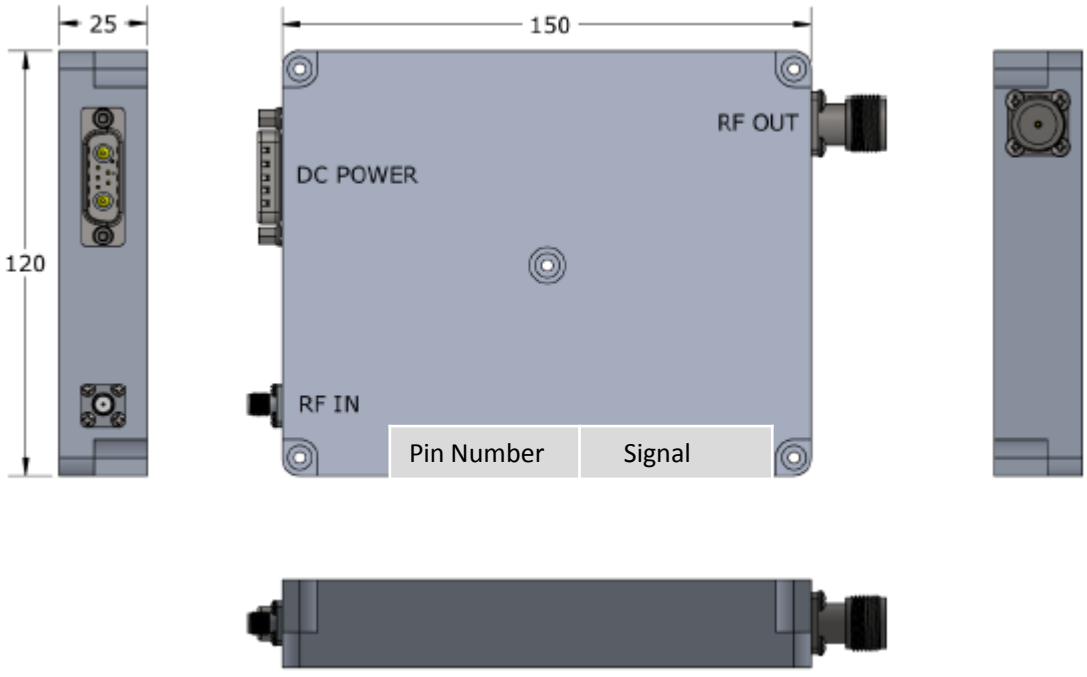
Notes:

1) *Specification ratings are based on measurements in a 50 ohm system with a DC supply voltage tolerance of ± 2%.*
2) *Two tone measurement with a 1 MHz spacing and an output single carrier level of +38 dBm.*

Mechanical Specifications

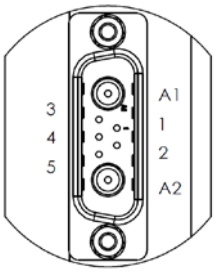
Parameter	Specification	Comment
Maximum Case Dimensions	150 (L) x 120 (W) x 25 (H) mm	
Material	Aluminum Alloy 6061-T6	
Finish	Clear Iridite	MIL-STD-5541F, Class 3
Connectors		
RF Input	SMA Female (4-Hole Flange)	Captivated; Extended Teflon
RF Output	Type N Female (4-Hole Flange)	Extended Teflon
I/O Interface	9 Pin D-Sub; Male	Figure 1
+VDC	Filtered Feed Thru	Solderable
+VDC Return	Threaded Turret	Solderable
Grounding	Chassis	
Cooling	Adequate Heat Sink Required	
Relative Humidity	0 to 90%	Non-condensing
Weight	2.2 lbs Max.	1.9 lbs Typical

Outline Drawing



NOTES:

- Interpret drawing IAW ASME Y14.100-2004
- Dimensions and tolerancing IAW ASME Y14.5-1994
- Dimensions are in millimeters
- TOLERANCES
  - Angles: ± 1.0°



7W2 Connector

A1	+28 VDC
A2	Ground
1	N/C
2	PA Enable
3	N/C
4	N/C
5	Temp Alarm