

50 Watt Power Amplifier

20-800 MHz

Model QBS-559

FEATURES

- High Output Power to 50 Watts
- Class AB Design
- Ultra High Efficiency S.M.A.R.T. Design
- Built-in Fault Monitoring
- Harmonic Filters
- Thermal Temperature Compensating Circuitry



The QBS-559 is class AB amplifier operating over 20 to 800 MHz frequency range. Operating over a DC input voltage of +28 VDC, the QBS-559 provides 45 dB of linear gain and 42 dB saturated power gain. Output power of 50 watts is provided over the 20 to 800 MHz frequency band. The amplifier has an integrated DC to DC converter providing a 21 to 30 VDC operating voltage range drawing 5.0 amps of current. This rugged S.M.A.R.T. design automatically adjusts bias levels for peak efficiency and will not be damaged even with a 10:1 load mismatch.

Parameter	Typical	Min./Max.
Frequency Range	20 to 800 MHz	20 to 800 MHz
Output Power (Psat)	50 watts	-
Linear Gain	45 dB	-
Psat Gain	42 dB	-
Gain Flatness (Full Band)	-	-
Gain Change over Temp.	+/- 1 dB	-
Input Return Loss	-	15 dB Min.
Noise Figure	9 dB	10 dB Max.
2nd Harmonic @ Psat	15 dBm	-
3rd Harmonic @ Psat	25 dBm	-
Spurious Signals	60 dBc	-
Supply Voltage	28 volts	21 volts / 30 volts
Current Draw @ Psat	5000 mA	5100 mA
Current Draw (Quiescent)	1000 mA	-
Switching Time ON/OFF	1 μ s	-
Housing Size	8.0" L x 3.5" W x 1.3" H	
Weight (no heatsink)	874 grams (31 ounces)	
RF Connector	SMA Female	
Control/Monitoring Connector	7W2	

Maximum Ratings

Storage Temperature	-45°C to +100°C
Operating Temperature (Case)	-20°C to +70°C
DC Voltage	+32 VDC
Input Drive	+20 VDC

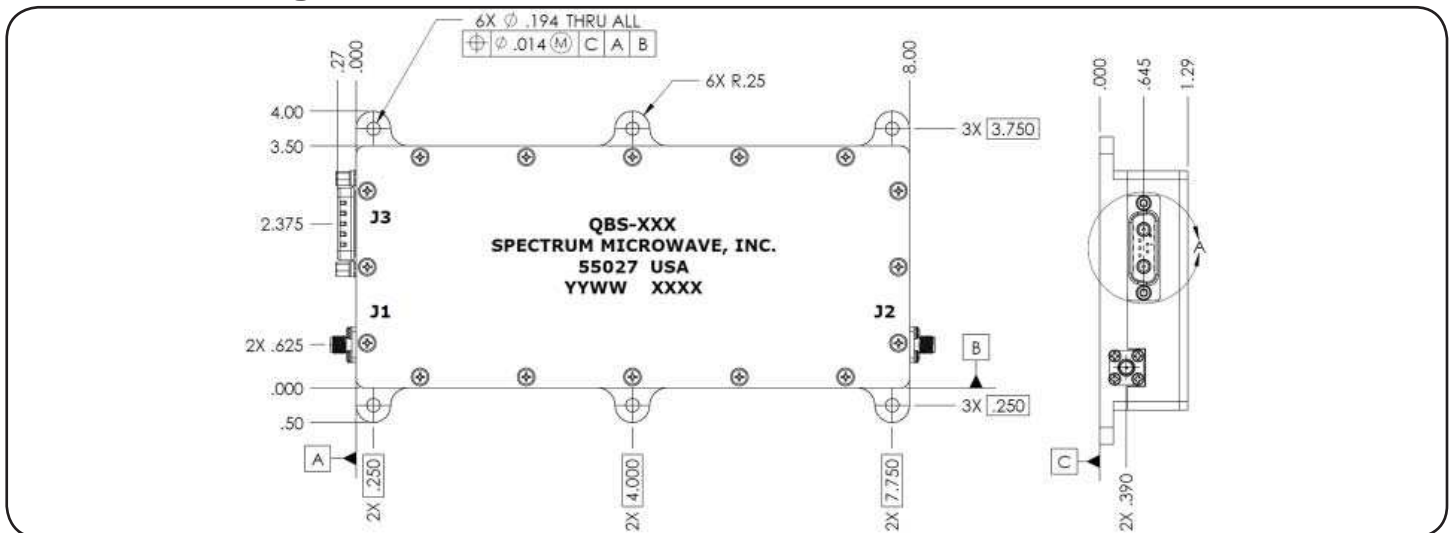
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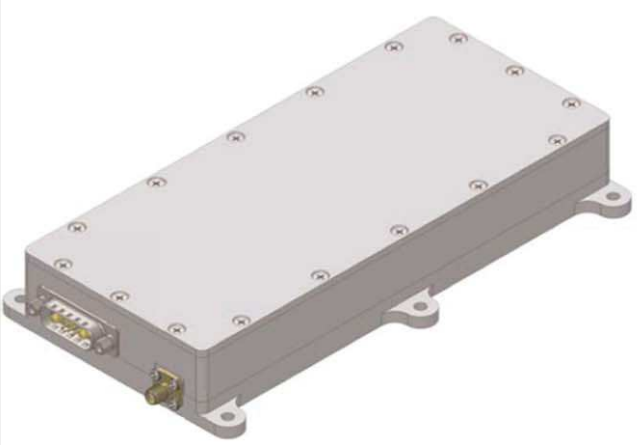
Protection

Maximum RF Input	+15 dBm
VSWR Tolerance	10:1
Case Shut Off Temperature	+85°C
Blanking Input	TTL HIGH "OFF"
Others	

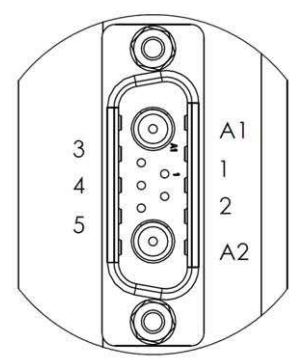
Outline Drawing



Control Logic



7W2 CONNECTOR PINOUT	
Pin Number	SIGNAL
A1	+28 VDC
A2	+28 VDC RETURN
1	BLANK +
2	B (+)
3	BLANK -
4	RTN/SHIELD
5	A (-)



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7W2 CONNECTOR
 DETAIL A