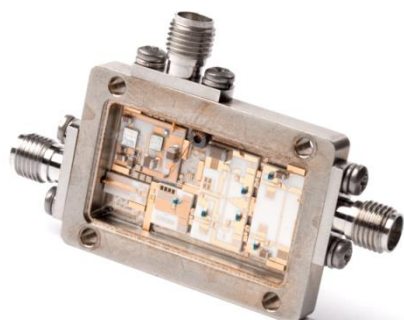


2.0 – 6.0 GHz, 4 Watt Hybrid Driver Amplifier



Features

- High Saturated Output Power to 4 Watts
- Class AB Design
- Rugged GaN Technology
- Broadband Quadrature Configured
- Small Hermetically Sealed Package
- Optional Heat Sink

The QB-904 is a class AB amplifier operating over the 2 to 6 GHz frequency range utilizing the latest in GaN die technology. With a wide DC input voltage range of +23 to +28 VDC, the QB-904 provides 38 dB of small signal gain and a saturated output power of +36 dBm.

Typical current draw from a nominal +24 VDC supply at rated output power is 900 mA. The QB-904 is packaged in a hermetically sealed, copper nickel housing configured with either 0.015" gold-plated pins for a direct launch to a printed circuit board, or optional field replaceable SMA connectors as shown for modular integration. A black anodized heat sink, designed to fit the package and accommodate port connections, is available when using the unit in a standalone or bench testing environment.

Technical Specifications

Parameter	Typical	Min / Max
Frequency Range	2.0 - 6.0 GHz	2.0 – 6.0 GHz
Saturated Output Power	4.0 Watts (+36 dBm)	2.5 Watts (+34 dBm) Min.
P _{SAT} Gain	30 dB	—
Linear Gain	38 dB	33/40 dB
Gain Flatness	± 2.0 dB	—
Input Return Loss	10 dB	9 dB Min.
Output Return Loss	12 dB	10 dB Min.
Noise Figure	6.5 dB	8.0 dB Max.
Reverse Isolation	48 dB	45 dB Min.
Spurious Signals	< -60 dBc	—
DC Supply Voltage	24 Volts	23 to 28 Volts
DC Current Draw (Quiescent)	500 mA	550 mA Max.
Housing Size	1.450" L x 1.00" W x 0.190" H	
RF / DC Connectors	Gold Plated Pins or SMA Female	
Operating Case Temp. (Min / Max Limits)	-40°C to +85°C	

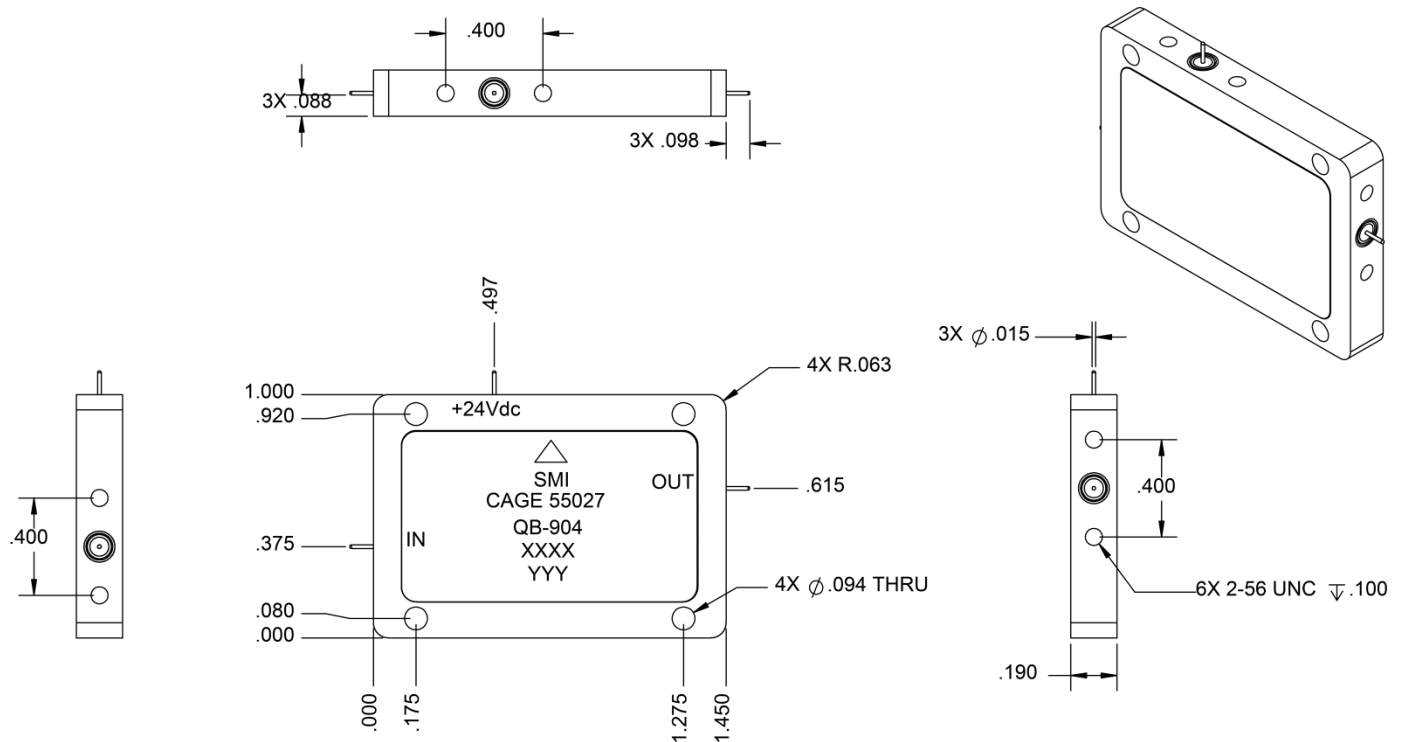
Maximum Ratings

Storage Temp.	-55°C to +125 °C
Operating Case Temp.	-55°C to +90°C
DC Voltage @ 25°C	+32 VDC
Input Drive @ 25°C	+13 dBm

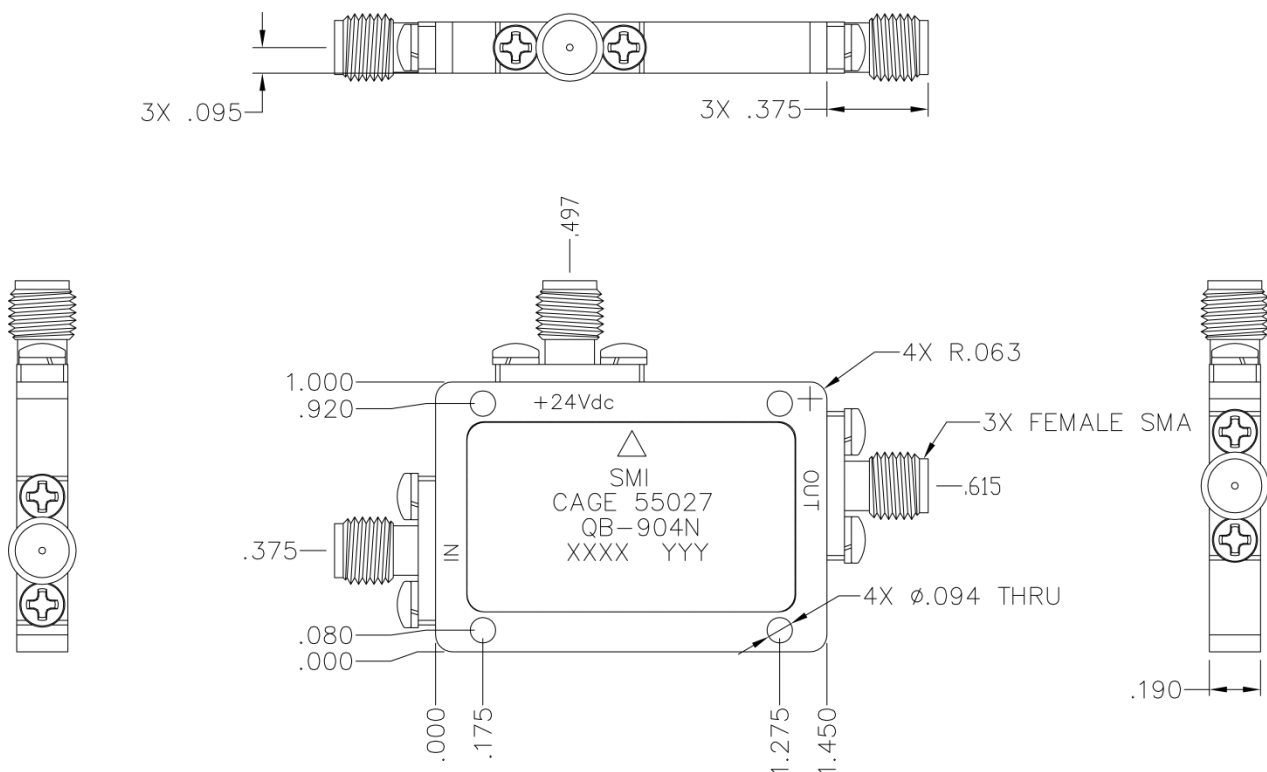
Notes:

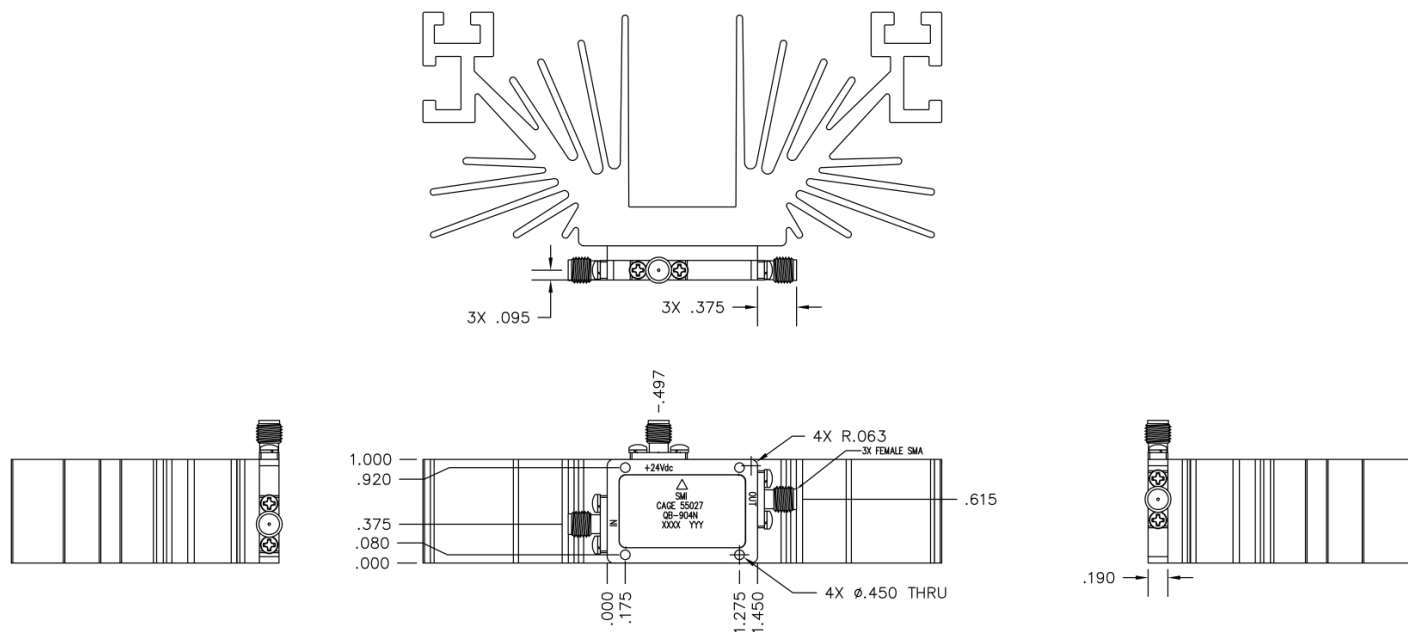
1. Typical values are measured at 25°C, but not guaranteed.
2. Adequate heat transfer / cooling must be provided when operating the amplifier. An optional heat sink is available.
3. Additional Package Options:
 - QB-904N: Amplifier with field replaceable SMA-F connectors for RF Input / Output and DC Power.
 - QB-904N-01: Amplifier with SMA-F connectors mounted on a heat sink (picture not shown).
 - 450-00001-0001: Optional heat sink only.

Outline Drawing - Model QB-904



Outline Drawing - Model QB-904N





Typical Performance Data

