

# 2.0 – 6.0 GHz, 4 Watt Hybrid Driver Amplifier

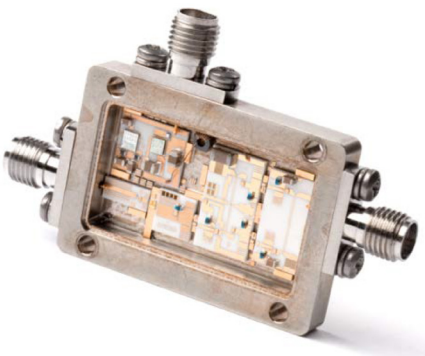
Model # QB-904

## Features

- High Saturated Output Power: 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, minimum.

Typical current draw from a nominal +24 VDC supply at rated output power is <1200 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 (at 25°C)	Min / Max
Frequency Range	2.0 - 6.0 GHz	2.0 – 6.0 GHz
Saturated Output Power	5.0 Watts (+37 dBm)	4 Watts (+36 dBm) Min.
P <sub>SAT</sub> Gain	30 dB	–
Linear Gain	36 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	

## Maximum Ratings

Storage Temp.	-55°C to +125 °C
Operating Case Temp.	-40°C to +85°C
DC Voltage @ 25°C	+32 VDC
Input Drive @ 25°C	+13 dBm

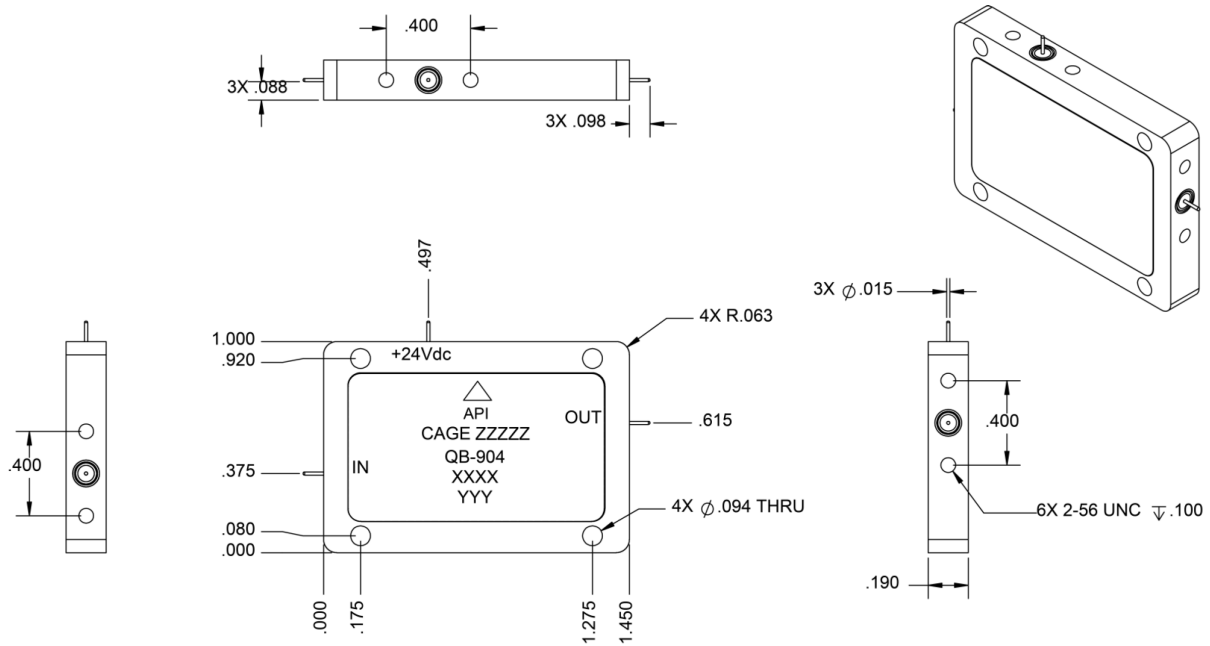
### Notes:

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.

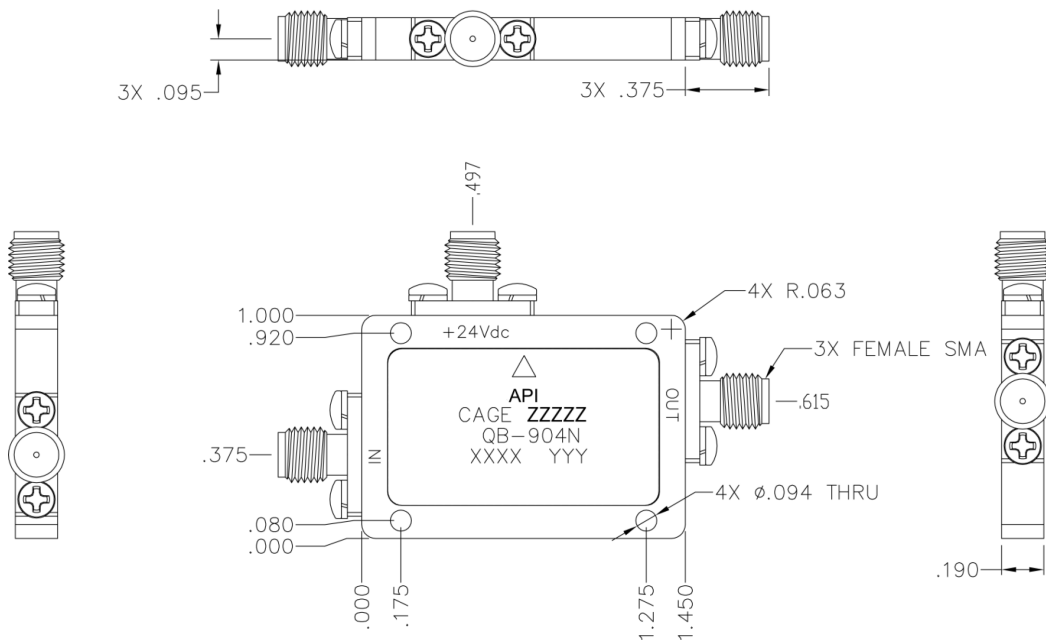
# 2.0 – 6.0 GHz, 4 Watt Hybrid Driver Amplifier

Model # QB-904

## Outline Drawing: Model QB-904



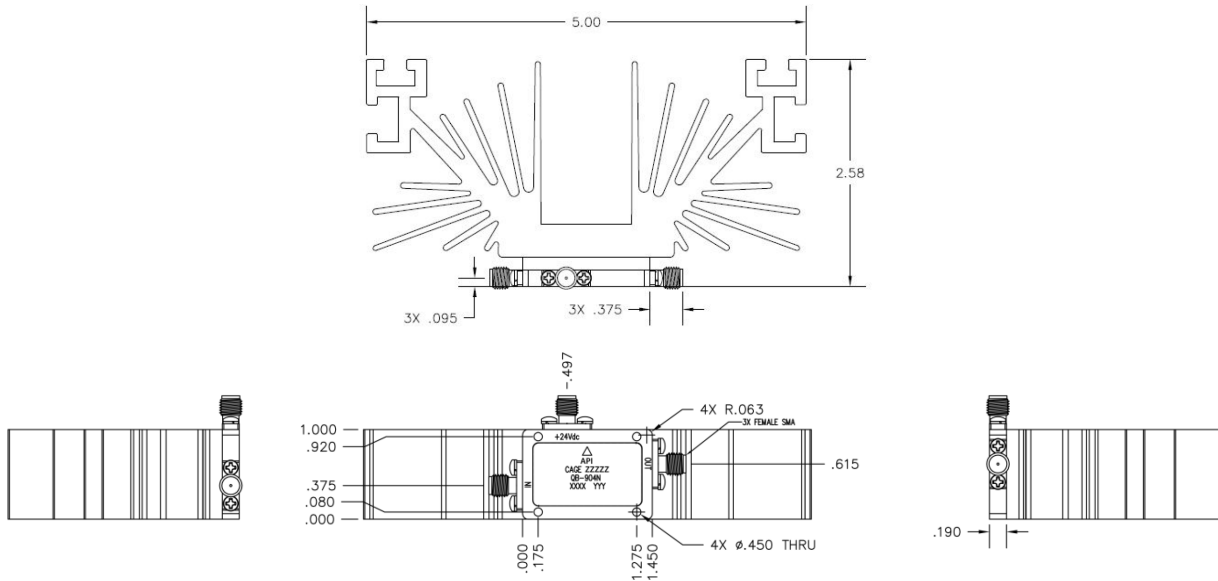
## Outline Drawing: Model QB-904N



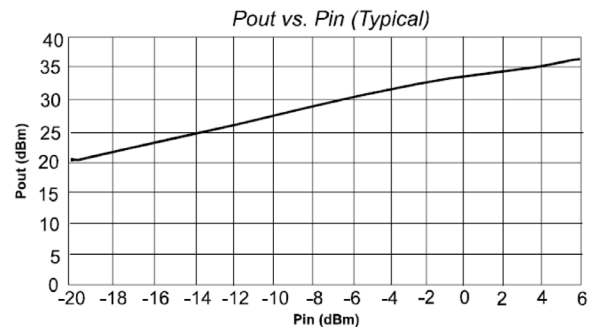
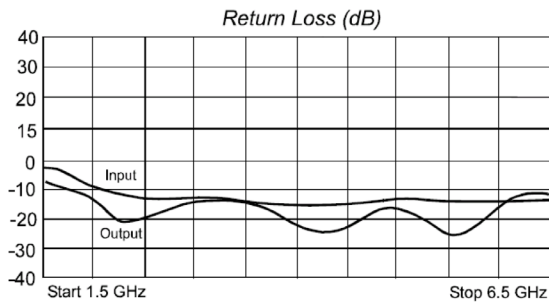
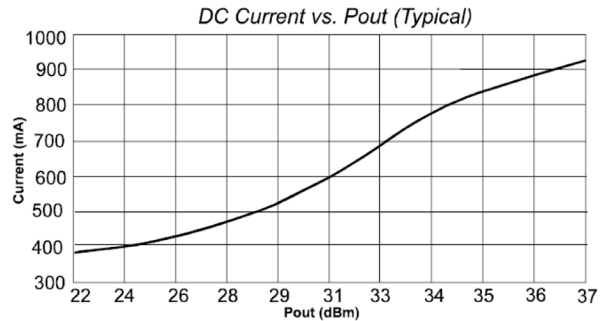
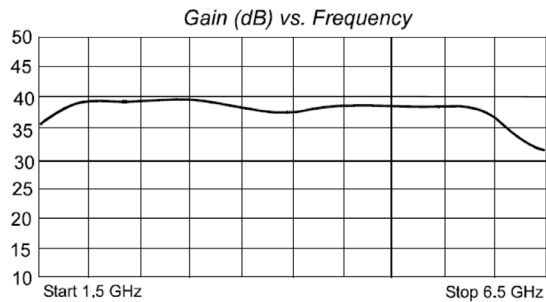
# 2.0 – 6.0 GHz, 4 Watt Hybrid Driver Amplifier

Model # QB-904

## Outline Drawing: Model QB-904N-01



## Typical Performance Data



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