

# RF AMPLIFIER

Available as: QBH-101, 4 Pin TO-8 Tall (080-22502-0001)  
QBH-9-101, Connectorized Housing (ES E52-1501)

## MODEL QBH-101

### Features

- High Gain: 13 dB Typical
- High Power: +7 dBm Typical
- Operating Temp. -55 °C to +100 °C
- Environmental Screening Available

### Maximum Ratings

Ambient Operating Temperature ..... -55°C to +125 °C  
Storage Temperature ..... -65°C to +150 °C  
Case Temperature ..... +125 °C  
DC Voltage ..... +20 Volts  
Continuous RF Input Power ..... +13 dBm  
Short Term RF Input Power ..... 50 Milliwatts (1 Minute Max.)  
Maximum Peak Power ..... 0.5 Watt (3 µsec Max.)

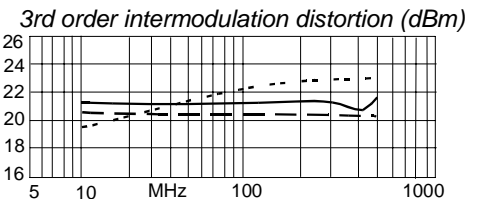
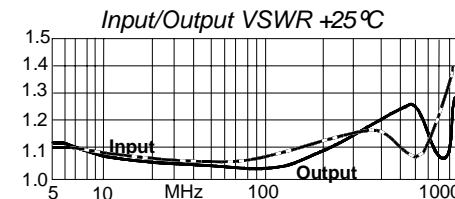
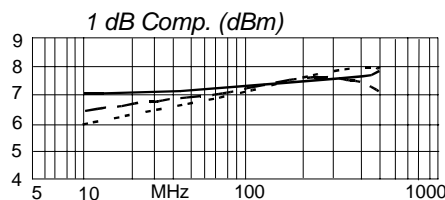
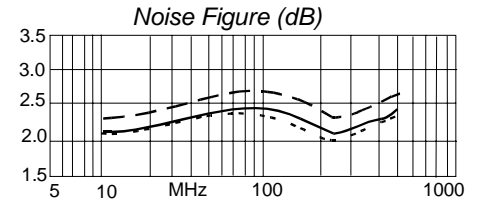
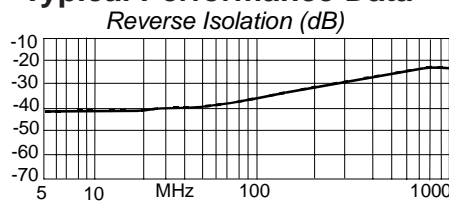
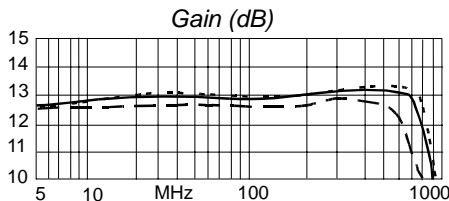
### Specifications

CHARACTERISTIC	TYPICAL Ta= 25 °C	MIN/MAX Ta = -55 °C to +100 °C
Frequency	5 - 500 MHz	5 - 500 MHz
Gain (dB)	13.0 ± 0.5	—
Gain vs. Temperature	—	+0.6/-1.1 Max.
Gain Flatness	0.6	1.0 Max.
Reverse Isolation (dB)	-23	-22 Min.
VSWR In	1.5:1	1.5:1 Max.
VSWR Out	1.5:1	1.5:1 Max.
1 dB Compression (dBm)	+7	+6 Min.
Output Intercept point 3rd Order	+20	+18 Min.
2nd Order	+28	+25 Min.
Noise Figure (dB)	2.4	3.0 Max.
Power Vdc	+15	+15
mA	18	19 Max.

#### Note:

1. Specifications are guaranteed when tested in a 50 Ohm system. Specifications indicated as typical are not guaranteed.

### Typical Performance Data



Legend ——— +25 °C    - - - - +100 °C    - - - - - -55 °C

### Linear S-Parameters Data

FREQ. MHz	-- S11--		-- S21--		-- S12--		-- S22--	
	dB	Ang	dB	Ang	dB	Ang	dB	Ang
5	-27.1	119.6	13.0	-174.6	-42.0	11.7	-24.4	96.6
9	-29.3	114.6	13.0	-178.4	-41.5	11.1	-28.7	83.5
20	-31.9	100.2	13.1	-176.4	-40.7	14.3	-33.5	57.7
40	-32.3	82.0	13.1	169.7	-39.8	21.1	-36.0	40.6
60	-31.1	70.5	13.1	163.9	-38.8	27.1	-36.0	36.2
80	-29.8	60.8	13.0	158.3	-37.6	31.7	-34.7	38.2
100	-28.6	53.2	13.0	152.9	-36.6	32.8	-33.1	34.7
300	-22.7	-8.1	13.0	97.7	-29.4	17.5	-23.4	20.0
500	-24.2	-65.9	13.0	38.0	-25.9	-12.8	-19.5	85.2



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