

# RF AMPLIFIER

Available as: QBH-105, 4 Pin TO-8 Tall (080-22502-0001)  
QBH-9-105, Connectorized Housing (ES E52-1501)

## MODEL QBH-105

### Features

- High Gain: 12.2 dB Typical
- High Power: +8 dBm Typical
- Operating Temp. -55 °C to +100 °C
- Environmental Screening Available

### Specifications

CHARACTERISTIC	TYPICAL Ta= 25 °C	MIN/MAX Ta = -55 °C to +100 °C
Frequency	5 - 300 MHz	5 - 300 MHz
Gain (dB)	12.2 ± 0.5	—
Gain vs. Temperature	—	+0.8/-0.6 Max.
Gain Flatness	0.4	0.9 Max.
Reverse Isolation (dB)	-27	-27 Min.
VSWR In	1.5:1	1.7:1 Max.
VSWR Out	1.5:1	1.7:1 Max.
1 dB Compression (dBm)	+8	+7 Min.
Output Intercept point		
3rd Order	+22	+21 Min.
2nd Order	+30	+28 Min.
Noise Figure (dB)	3.0	3.7 Max.
Power Vdc	+15	+15
mA	18	19 Max.

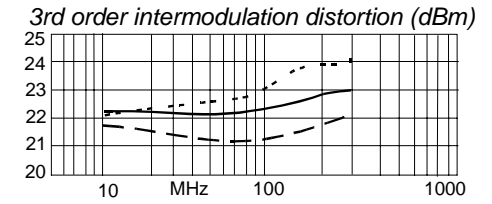
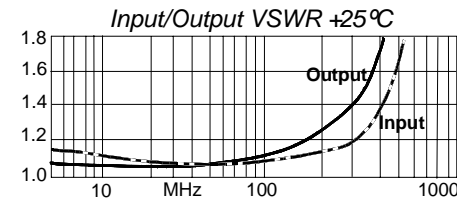
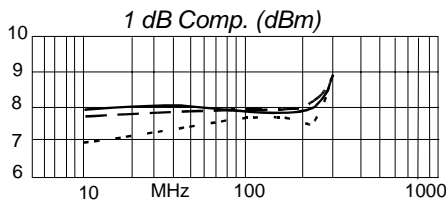
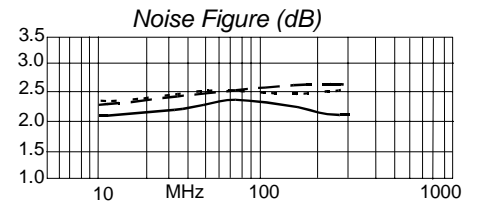
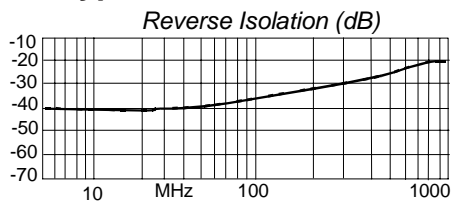
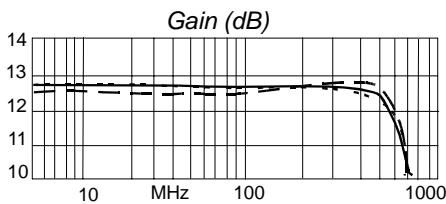
### Maximum Ratings

Ambient Operating Temperature ..... -55°C to +125 °C  
Storage Temperature ..... -65°C to +150 °C  
Case Temperature ..... +125 °C  
DC Voltage ..... +18.0 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.)

#### 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	-24.8	-171.3	12.6	-180.0	-41.6	10.7	-31.3	47.2
9	-26.0	176.2	12.6	177.9	-41.3	9.8	-32.5	18.4
20	-27.6	168.1	12.6	173.6	-41.0	11.9	-32.6	-18.5
40	-29.0	170.1	12.6	166.6	-40.0	18.9	-30.8	-51.8
60	-29.8	173.6	12.6	159.7	-38.8	21.8	-28.9	-71.6
80	-30.3	-179.5	12.6	152.8	-37.5	25.1	-27.2	-85.0
100	-30.3	-174.6	12.6	146.0	-36.4	24.8	-25.7	-95.9
200	-27.1	172.7	12.6	111.4	-31.8	9.4	-19.8	-142.3
300	-21.5	142.7	12.6	75.6	-28.6	-15.4	-15.2	179.1



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