

# RF AMPLIFIER

Available as: QBH-110, 4 Pin TO-8 Tall (080-22502-0001)  
QBH-9-110, Connectorized Housing (ES E52-1501)

## MODEL QBH-110

### Features

- High Gain: 15.0 dB Typical
- High Power: +9 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 - 500 MHz	5 - 500 MHz
Gain (dB)	15.0 ± 0.5	—
Gain vs. Temperature	—	+1.0/-1.0 Max.
Gain Flatness	0.6	1.0 Max.
Reverse Isolation (dB)	-25	-25 Min.
VSWR In	1.5:1	1.5:1 Max.
VSWR Out	1.5:1	1.5:1 Max.
1 dB Compression (dBm)	+9	+9 Min.
Output Intercept point		
3rd Order	+23	+22 Min.
2nd Order	+33	+32 Min.
Noise Figure (dB)	3.0	3.5 Max.
Power Vdc	+15	+15
mA	29	31 Max.

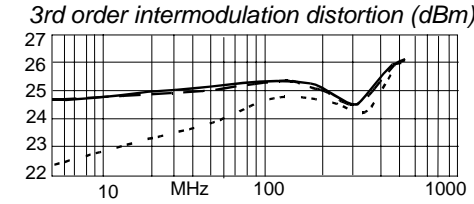
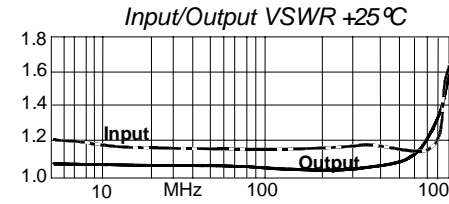
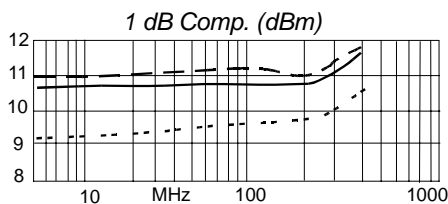
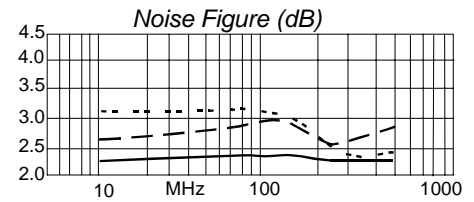
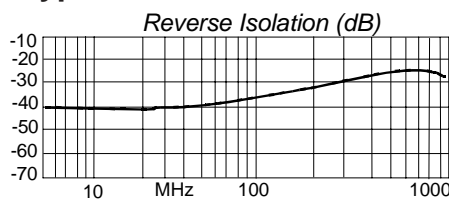
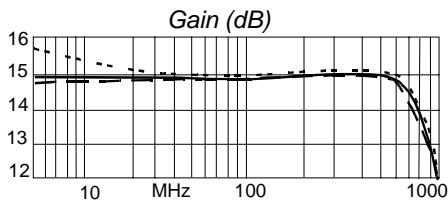
### Maximum Ratings

Ambient Operating Temperature ..... -55°C to +125 °C  
Storage Temperature ..... -65°C to +150 °C  
Case Temperature ..... +125 °C  
DC Voltage ..... +17.0 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-- dB	Ang	-- S21-- dB	Ang	-- S12-- dB	Ang	-- S22-- dB	Ang
5	-20.2	-174.7	15.2	-179.9	-39.0	10.7	-28.2	161.8
9	-20.7	177.5	15.1	178.2	-38.7	6.6	-29.4	167.2
20	-21.6	171.6	15.1	174.8	-38.4	7.7	-30.0	170.9
40	-22.3	168.7	15.1	169.1	-38.2	13.1	-30.2	172.1
60	-22.7	166.4	15.1	163.5	-37.9	14.1	-30.4	169.3
80	-22.8	163.6	15.1	157.9	-37.3	16.7	-30.7	165.8
100	-22.9	160.9	15.1	152.4	-36.9	17.4	-31.1	164.5
200	-22.2	112.0	15.0	97.5	-31.3	5.4	-32.8	157.6
300	-25.1	14.8	15.1	41.3	-28.3	-28.6	-23.9	168.2



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