

# RF AMPLIFIER

Available as: QBH-117, 4 Pin TO-8 Tall (080-22502-0001)  
 QBH-9-117, Connectorized Housing (ES E52-1501)

## MODEL QBH-117

### Features

- High Gain: 16.5 dB Typical
- High Power: +4.5 dBm Typical
- Operating Temp. -55 °C to +85 °C
- Environmental Screening Available

### Specifications

CHARACTERISTIC	TYPICAL Ta = 25 °C	MIN/MAX Ta = -55 °C to +85 °C
Frequency	5 - 100 MHz	5 - 100 MHz
Gain (dB)	16.5 ± 0.5	—
Gain vs. Temperature	—	+0.7/-0.7 Max.
Gain Flatness	0.4	0.8 Max.
Reverse Isolation (dB)	-35	-34 Min.
VSWR In	1.5:1	1.5:1 Max.
VSWR Out	1.5:1	1.5:1 Max.
1 dB Compression (dBm)	+4.5	+3 Min.
Output Intercept point 3rd Order	+17	+16 Min.
2nd Order	+24	+22 Min.
Noise Figure (dB)	1.5	1.8 Max.
Power Vdc	+15	+15
mA	11	11 Max.

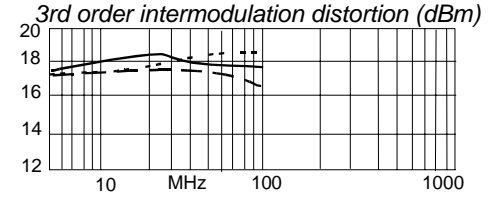
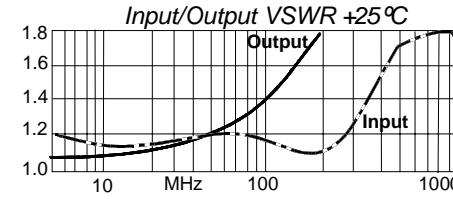
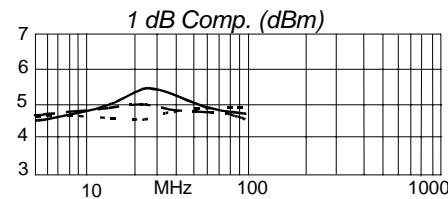
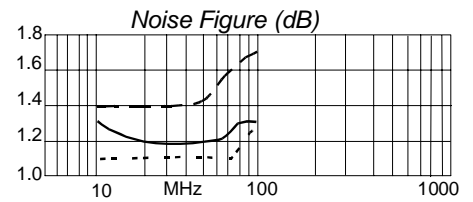
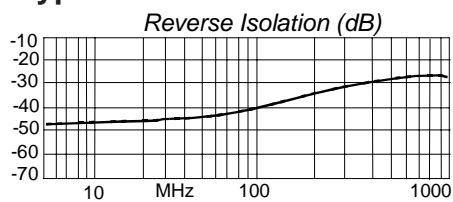
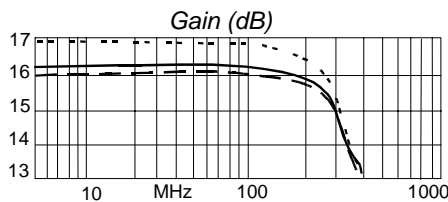
### Maximum Ratings

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.)

#### 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 - - - - +85 °C - - - - - -55 °C

### Linear S-Parameters Data

FREQ. MHz	-- S11-- dB Ang	-- S21-- dB Ang	-- S12-- dB Ang	-- S22-- dB Ang
5	-20.6 -33.9	16.4 -179.0	-46.6 45.7	-28.5 28.2
8	-22.3 -28.7	16.4 -178.4	-45.7 33.1	-28.0 8.0
10	-22.8 -24.5	16.4 177.1	-46.0 26.1	-27.7 -0.9
20	-23.0 -15.1	16.4 171.7	-45.3 25.1	-26.5 -30.7
40	-22.2 -17.1	16.4 162.1	-44.1 28.5	-23.8 -64.1
60	-21.8 -26.1	16.5 152.5	-42.6 28.6	-21.3 -85.9
70	-21.8 -30.9	16.5 147.7	-41.6 28.5	-20.2 -94.3
90	-21.8 -42.7	16.4 138.1	-39.9 28.7	-18.3 -109.5
100	-22.0 -49.3	16.4 133.3	-39.1 24.7	-17.4 -116.0



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