

# RF AMPLIFIER

Available as: QBH-103, 4 Pin TO-8 (T4)  
QBH-9-103, Connectorized Housing (ES E52-1501)

## MODEL QBH-103

### Features

- High Gain: 11.3 dB Typical
- High Power: +22 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 - 300 MHz	5 - 300 MHz
Gain (dB)	11.3 ± 0.5	—
Gain vs. Temperature	—	+0.3/-0.6 Max.
Gain Flatness	0.4	0.6 Max.
Reverse Isolation (dB)	-22	-22 Min.
VSWR In	1.5:1	1.5:1 Max.
VSWR Out	1.5:1	1.5:1 Max.
1 dB Compression (dBm)	+22	+21 Min.
Output Intercept point 3rd Order	+37	+36 Min.
2nd Order	+51	+49 Min.
Noise Figure (dB)	6.8	7.5 Max.
Power Vdc	+15	+15
mA	91	95 Max.

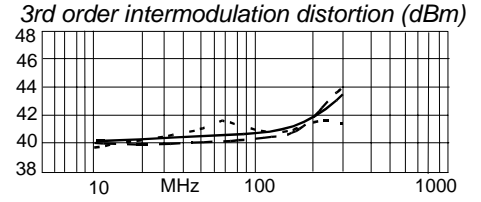
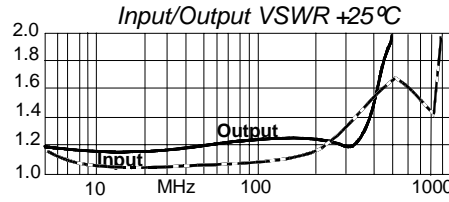
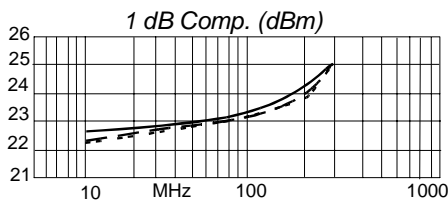
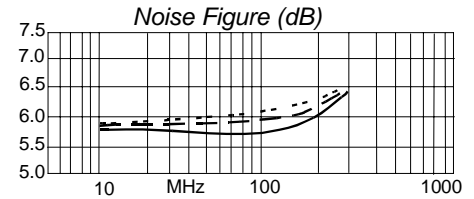
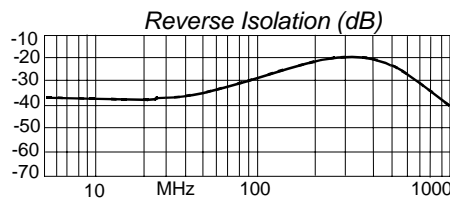
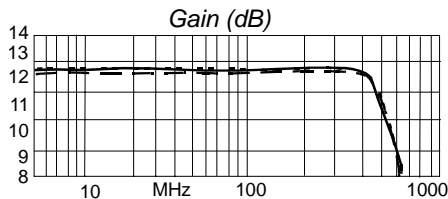
### Maximum Ratings

Ambient Operating Temperature ..... -55°C to +125 °C  
Storage Temperature ..... -65°C to + 150 °C  
Case Temperature ..... + 125 °C  
DC Voltage ..... + 18.5 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	-23.7    -89.8	11.6    -170.6	-36.4    14.9	-24.7    43.7
8	-28.6    -69.6	11.6    -176.1	-36.4    13.1	-24.3    33.4
10	-30.2    -53.4	11.6    -178.4	-36.4    12.8	-24.0    30.1
30	-29.9    -31.4	11.7    168.9	-35.4    23.1	-22.5    21.9
50	-28.9    -47.2	11.7    159.5	-34.0    30.2	-21.4    19.8
70	-28.1    -65.4	11.7    150.5	-32.5    34.5	-20.5    17.3
90	-27.3    -81.6	11.7    141.6	-31.0    34.7	-19.6    13.0
200	-21.9    -161.5	11.6    93.8	-25.2    19.6	-18.7    -26.1
300	-16.5    143.5	11.6    49.2	-22.2    -7.1	-23.1    -94.7



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