

# RF AMPLIFIER

## MODEL QBH-138

Available as: QBH-138, 4 Pin TO-8 Tall (080-22502-0001)  
 QBH-9-138, Connectorized Housing (ES E52-1501)

### Features

- High Gain: 15.5 dB Typical
- High Power: +20 dBm Typical
- Operating Temp. -55 °C to +85 °C
- Environmental Screening Available

### Specifications

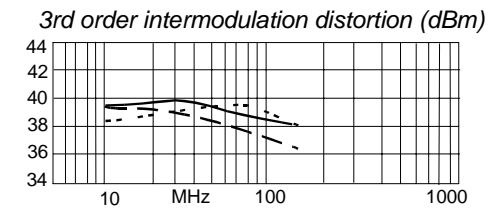
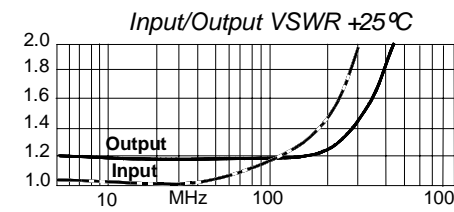
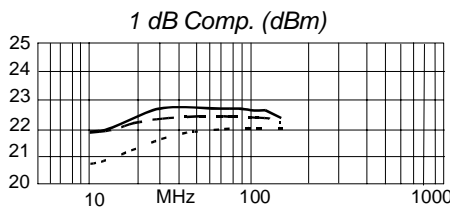
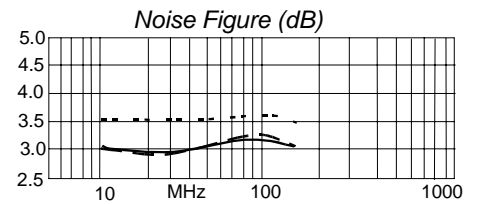
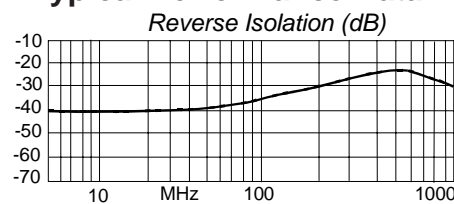
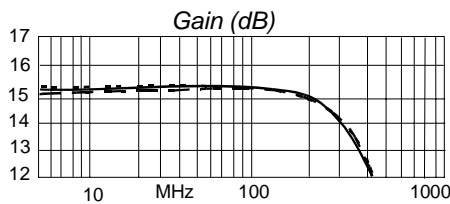
CHARACTERISTIC	TYPICAL	MIN/MAX
	Ta = 25 °C	Ta = -55 °C to +85 °C
Frequency	5 - 150 MHz	5 - 150 MHz
Gain (dB)	15.5 ± 0.5	—
Gain vs. Temperature	—	+1.0/-0.6 Max.
Gain Flatness	0.6	1.4 Max.
Reverse Isolation (dB)	-27	-27 Min.
VSWR In	1.6:1	1.6:1 Max.
VSWR Out	1.6:1	1.6:1 Max.
1 dB Compression (dBm)	+20	+19 Min.
Output Intercept point		
3rd Order	+37	+35 Min.
2nd Order	+49	+46 Min.
Noise Figure (dB)	3.2	4.0 Max.
Power Vdc	+15	+15
Power mA	99	103 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 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: 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 --		-- S21 --		-- S12 --		-- S22 --	
	dB	Ang	dB	Ang	dB	Ang	dB	Ang
5	-32.4	125.3	15.3	-173.4	-41.4	45.7	-21.7	29.5
8	-33.1	132.5	15.3	-177.8	-41.1	34.9	-21.9	16.2
10	-34.1	130.7	15.4	-179.6	-41.2	30.4	-21.9	10.9
30	-49.9	37.3	15.4	169.0	-39.4	29.8	-21.9	-12.9
50	-33.8	-74.7	15.4	159.7	-37.7	35.8	-22.0	-28.3
60	-30.6	-81.4	15.4	155.1	-36.7	39.0	-22.0	-36.2
80	-26.2	-91.8	15.4	146.1	-35.1	37.9	-22.2	-51.7
100	-23.3	-101.6	15.4	137.1	-33.5	37.1	-22.3	-68.2
150	-18.2	-124.1	15.2	114.6	-30.4	28.5	-22.1	-113.2



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