

RF AMPLIFIER

MODEL QBH-103

Available as: QBH-103, 4 Pin TO-8 (T4)

QBH-9-103, Connectorized Housing (ES E52-1501)

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.
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.

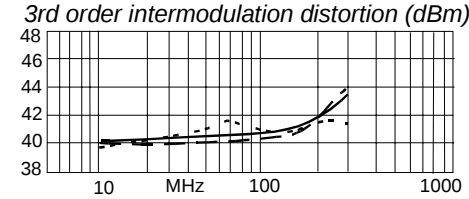
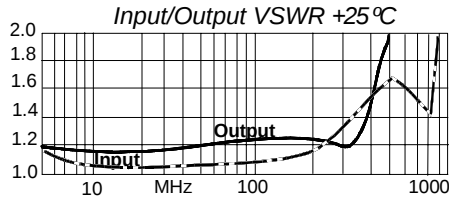
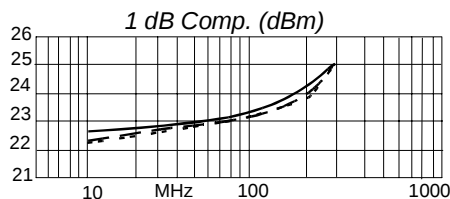
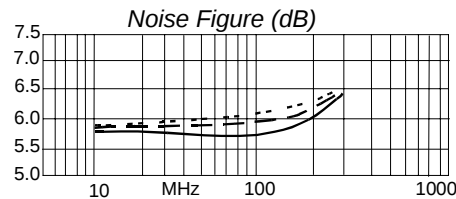
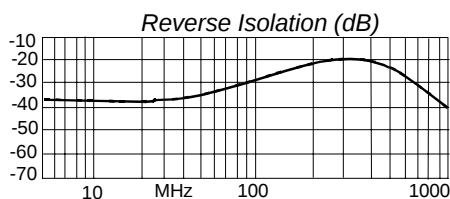
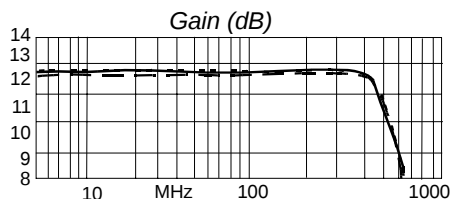
Maximum Ratings

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	dB S11	Ang	dB S21	Ang	dB S12	Ang	dB S22	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



Spectrum Microwave · 2144 Franklin Drive N.E. · Palm Bay, Florida 32905 · PH (888) 553-7531 · Fax (888) 553-7532 03/11/05

www.SpectrumMicrowave.com Spectrum Microwave (Europe) · 2707 Black Lake Place · Philadelphia, Pa. 19154 · PH (215) 464-4000 · Fax (215) 464-4001