RF AMPLIFIER MODEL QBH-5817PM

Available as: QBH-5817PM, F-Pack (E52-18563)

Features

- Superior Low Phase Noise Performance
- High Power: +20 dBm Typical
- Operating Temp. -55 ºC to +85 ºC
- Environmental Screening Available

Typical Intermodulation Performance at 25 ºC

Second Order Harmonic Intercept Point ..... +49 dBm (Typ.)
Second Order Two Tone Intercept Point ..... +44 dBm (Typ.)
Third Order Two Tone Intercept Point ..... +32 dBm (Typ.)

Maximum Ratings

Ambient Operating Temperature ..... -55ºC to +105 ºC
Storage Temperature ..... -65ºC to +150 ºC
Case Temperature ..... +125 ºC
DC Voltage ..... +16 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.)

Specifications

CHARACTERISTIC	TYPICAL Ta= 25 ºC	MIN/MAX Ta = -55 ºC to +85 ºC
Frequency	10 -1500 MHz	10 - 1500 MHz
Gain (dB)	13.5 ± 0.5	—
Gain vs. Temperature	—	+0.6/-0.7 Max.
Gain Flatness	1.0	1.0 Max.
Reverse Isolation (dB)	-13.5	-13.5 Min.
VSWR In	1.5:1	1.5:1 Max.
Out	1.5:1	1.5:1 Max.
1 dB Compression (dBm)	+20	+19 Min.
Output Intercept point		
3rd Order	+32	+30 Min.
2nd Order	+42	+39 Min.
Noise Figure (dB)	6.0	6.5 Max.
Power Vdc	+15	+15
mA	100	102 Max.

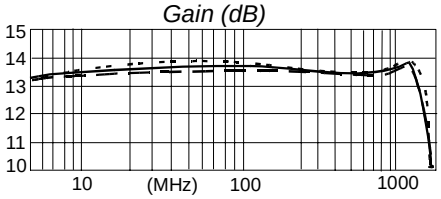
Guaranteed Phase Noise Performance (dBc/Hz)

Frequency	Typical	Guarantee
100 Hz	-163	-159
1 kHz	-175	-171
10 kHz	-181	-177
100 kHz	-181	-177
1 MHz	-181	-177

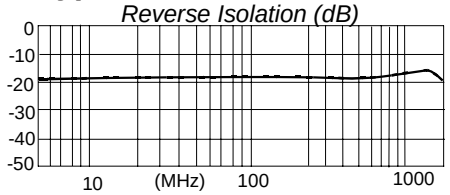
Legend ——— *+25 ºC* – – – *+85 ºC* - - - - - - *-55 ºC*

Typical Performance Data

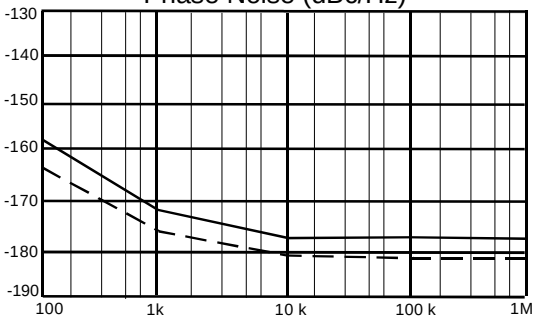
Gain (dB)



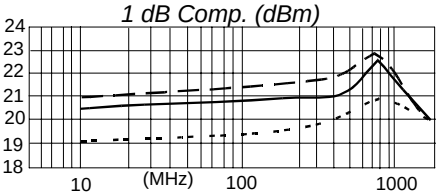
Reverse Isolation (dB)



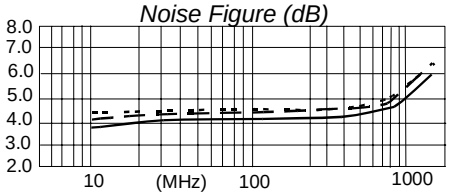
Phase Noise (dBc/Hz)



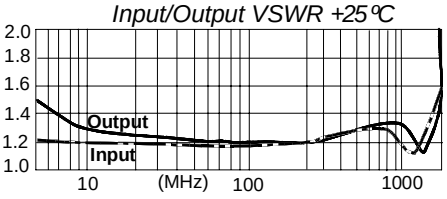
1 dB Comp. (dBm)



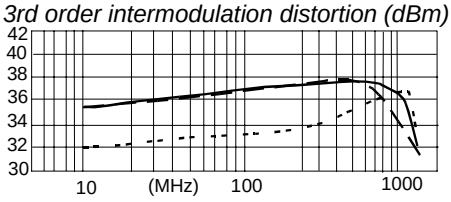
Noise Figure (dB)



Input/Output VSWR +25ºC



3rd order intermodulation distortion (dBm)



Phase Noise Test Conditions:
Carrier Frequency: 600 MHz
Power Output: +23 dBm
Temperature: 25 ºC
Agilent ES5500 System

Note:
1. Specifications are guaranteed when tested in a 50 Ohm system. Specifications indicated as typical are not guaranteed.

Linear S-Parameters Data

FREQ. MHz	S11 dB	S11 Ang	S21 dB	S21 Ang	S12 dB	S12 Ang	S22 dB	S22 Ang
10	-21.3	-142.5	13.7	-175.7	-17.9	4.6	-17.7	152.4
50	-21.1	178.1	13.8	168.8	-17.7	-6.2	-19.7	157.2
80	-20.8	167.4	13.8	160.7	-17.7	-11.4	-19.9	150.9
200	-20.1	131.2	13.6	130.5	-17.7	-30.0	-20.2	124.4
500	-18.6	65.3	13.6	57.4	-17.2	-75.9	-18.5	71.6
700	-18.0	28.3	13.7	8.0	-16.8	-108.3	-17.1	42.3
1000	-20.5	-17.7	13.9	-68.9	-16.1	-160.1	-16.6	0.6
1300	-22.5	25.9	13.9	-151.2	-15.6	144.2	-19.3	-34.2
1500	-17.2	-13.5	13.4	149.8	-15.5	103.9	-24.3	-9.7

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