

Standard RF/Microwave Amplifier



Features

- Frequency Range: 10 MHz to 500 MHz
- Superior Phase Noise Performance
- Low Noise Figure
- High Reverse Isolation

Model QBH-1401PM is a standard high performance RF amplifier covering 10-500 MHz. This Silicon BiPolar design offers guaranteed superior phase noise performance. This standard design may also be ordered in a screened MIL-STD-883 version (Model # QBH-1401PMB) All specification ratings are based on measurements in a 50 Ω (ohm) system with a DC supply voltage tolerance of +/- 2%.

Technical Specifications

Parameter	Typical	Min/Max
Frequency Range	10 MHz - 500 MHz	10 MHz - 500 MHz
Gain	14.5 dB	12.5 dB (+/- 0.6 dB)
Noise Figure	3.6 dB	4.5 dB
Output Power @ 1 dB Compression	+12.3 dBm	+10 dBm
Output 3 rd Order Intercept	+ 22 dBm	-
Output 2 nd Order Intercept	+34 dBm	-
Reverse Isolation (10-200 MHz) (200-500 MHz)	60 dB 50 dB	52 dB 45 dB
Input VSWR	1.2:1	1.7:1
Output VSWR	1.3:1	1.7:1
Supply Voltage	15 volts	15 volts
Supply Current	42 mA	50 mA

Maximum Ratings

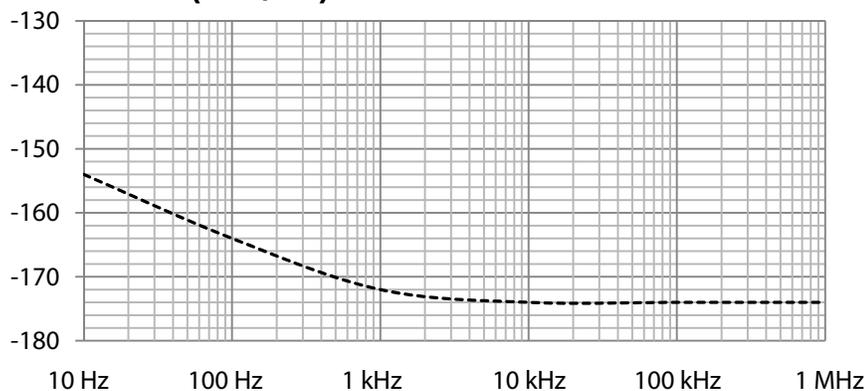
Maximum (No Damage) Ratings	
Storage Temperature	-62°C to +125°C
Operating Temperature	-55°C to +125°C
Case Temperature	+125°C
DC Voltage @ 25°C	+ 16 volts
Continuous RF Input Power	+ 7 dBm
Short Term RF Input Power	50 Milliwatts (1 Minute Max.)
Maximum Peak Power	0.1 Watt (3 μsec Max.)

* Typical values are measured at 25°C, but not guaranteed.

Guaranteed Phase Noise Performance (dBc/Hz)

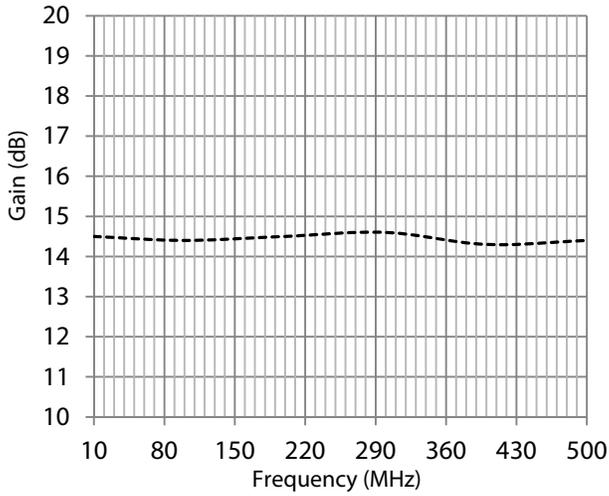
Frequency (Offset)	Typical	Guaranteed
10 Hz	-154	-150
100 Hz	-164	-160
1 kHz	-172	-168
10 kHz	-174	-170
100 kHz	-174	-170
1 MHz	-174	-170

Phase Noise (dBc/Hz)

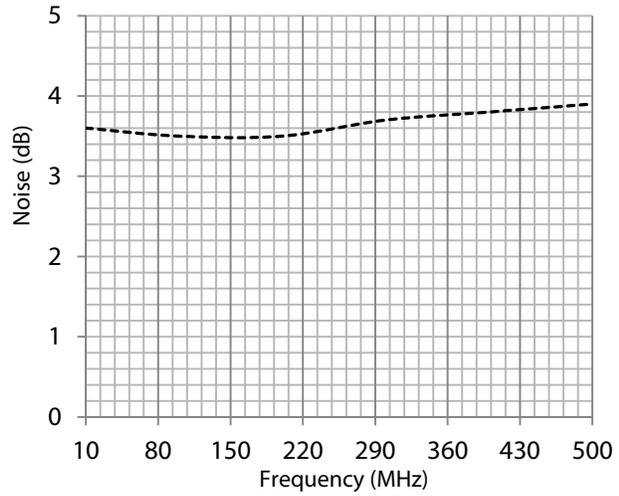


Typical Performance Graphs

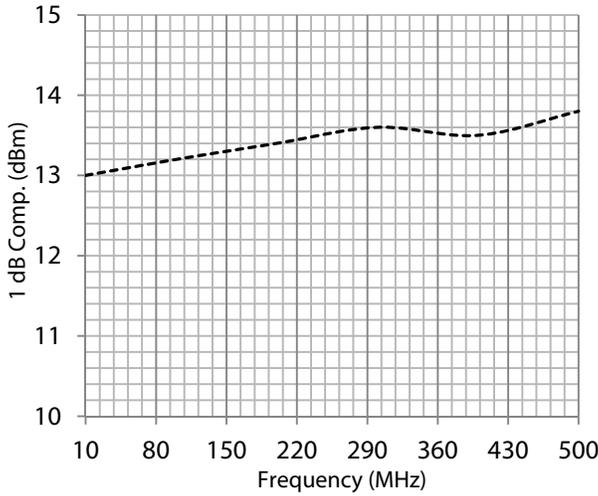
Gain (dB)



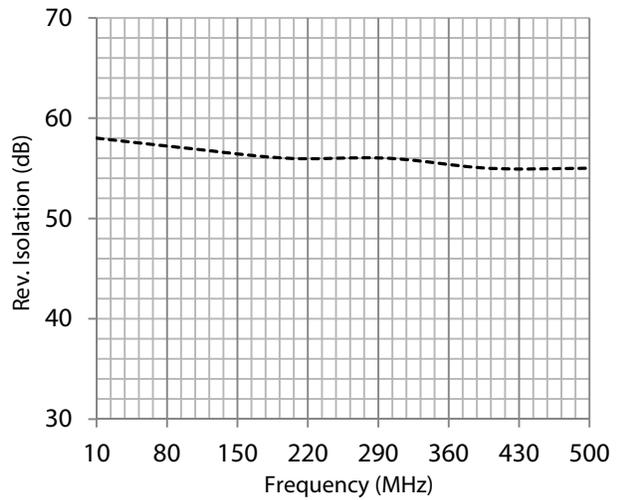
Noise Figure (dB)



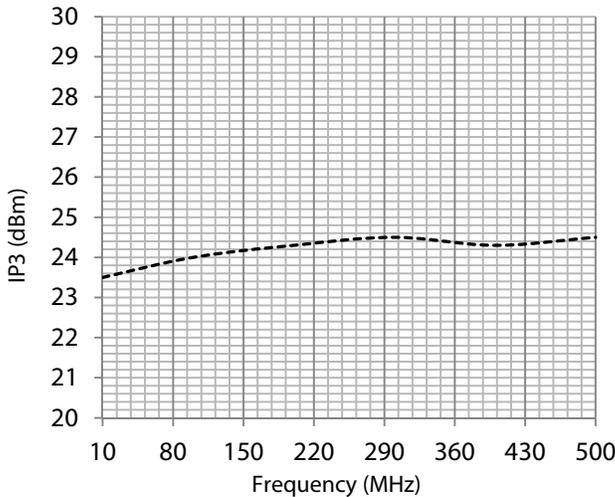
1 dB Compression (dBm)



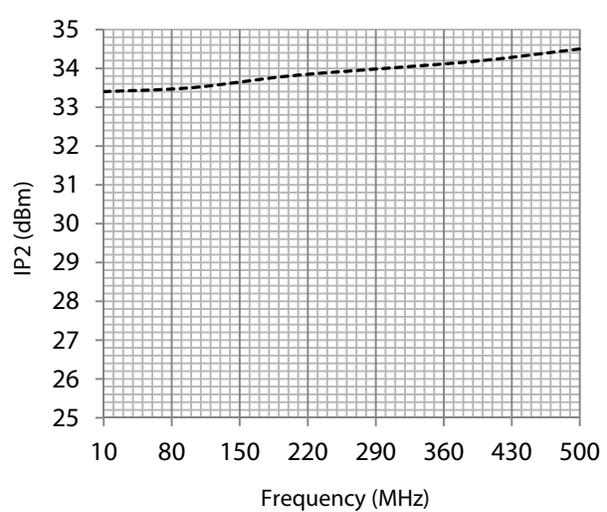
Reverse Isolation (dB)



3rd Order Intercept (dBm)

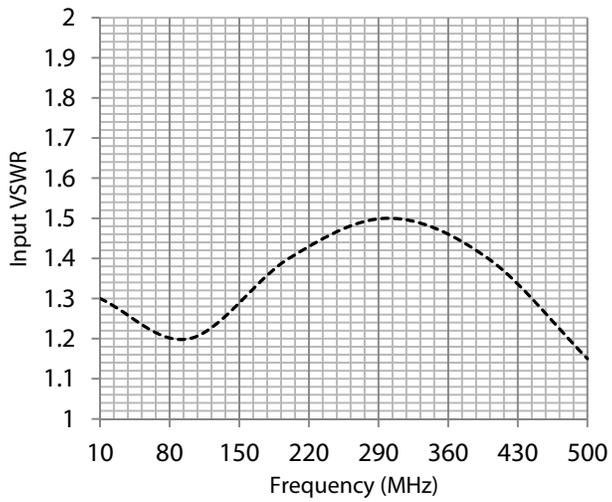


2nd Order Intercept (dBm)

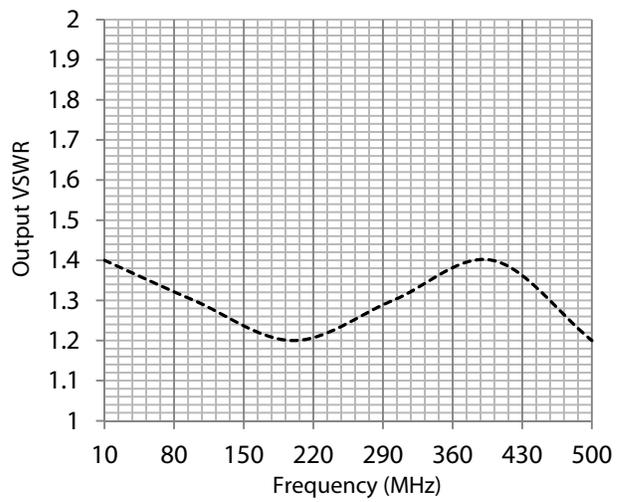


Typical Performance Graphs

Input VSWR



Output VSWR



Instructions

Grounding Instructions	Care should be taken to effectively ground each unit.
Revisions	API reserves the right to make revisions to both product and/or the information contained within their datasheets without advanced notice.
Min./Max. Values	Specifications are guaranteed when tested in a 50 Ω (ohm) system.
Typical performance graphs and values are measured at 25°C, but not guaranteed.	