

High Dynamic Range IF Amplifier



Features

- Ultra High Linearity
- 1.5W Typical @ P1dB
- Flat Gain Response
- Exceptional Unit-to-Unit Amplitude & Phase Repeatability
- Unconditionally Stable

Technical Specifications

Parameter	Typical T _c = +25 °C	Min / Max T _c = 0°C to +50°C
Frequency	1 – 32 MHz	1 - 32 MHz
Gain (dB)	12.7 (± 0.5)	---
Gain vs. Temperature (dB)	---	+0.3 / -0.3
Gain Flatness (dB)	0.2	0.5 Max.
P _{OUT} @ 1dB Compression (dBm)	+33	+31 Min.
3 rd Order Output Intercept Point (dBm)	+56	+53
2 nd Order Output Intercept Point (dBm)	+115	+110
Reverse Isolation (dB)	44	40
VSWR In	1.3:1	1.5:1 Max.
Out	1.2:1	1.5:1 Max.
Noise Figure (dB)	6.8	8.0 Max.
Power Vdc	+24	+24
mA	430	450 Max.

Absolute Maximum Ratings

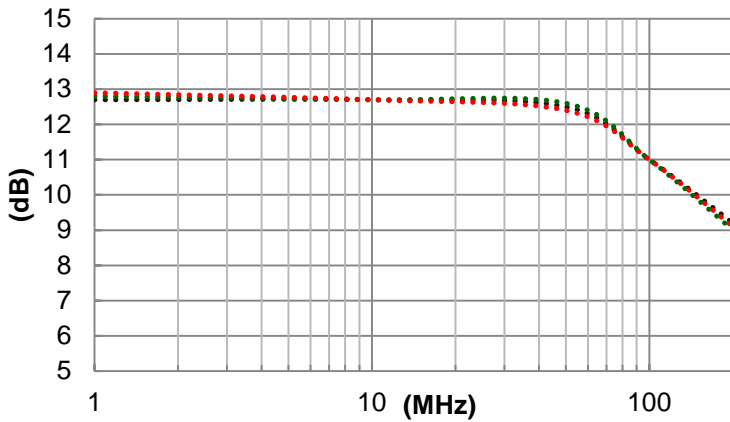
Parameter	Specification
Operating Case Temperature (T _c)	-20°C to +71°C
Storage Case Temperature (T _c)	-55°C to +125°C
DC Voltage @ 25°C	+26 Volts
Continuous RF Input Power	+20 dBm
Short Term RF Input Power	200 Milliwatts (1 Minute Max.)
Maximum Peak Power	0.5 Watt (3 μsec Max.)

General Notes

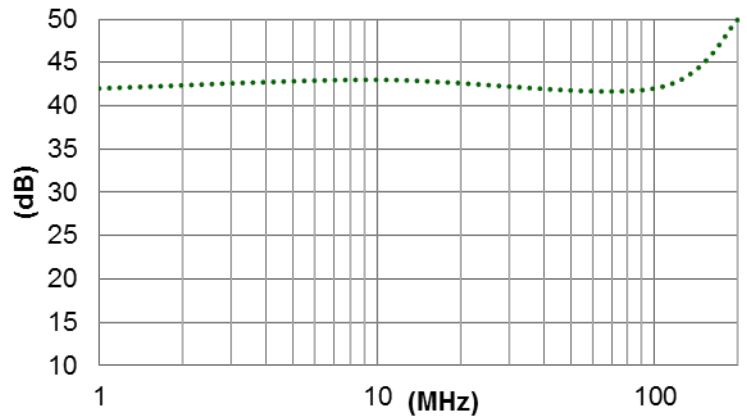
Cooling	Adequate heat sink required to ensure the mounting surface does not exceed the maximum operating temperature. Standard and custom options available upon request.
Typical Values	Data and graphs provided are an illustration of performance and not guaranteed.
Min./Max. Values	Specifications are guaranteed when tested in a 50 Ω (ohm) system with a DC supply voltage tolerance of ± 2%.
Revisions	API reserves the right to make revisions to both the product and/or the information contained within their datasheets without advanced notice.

Typical Performance Graphs

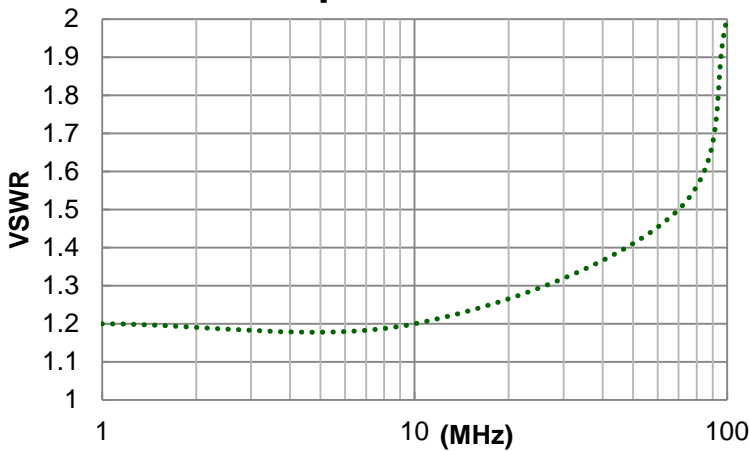
Gain



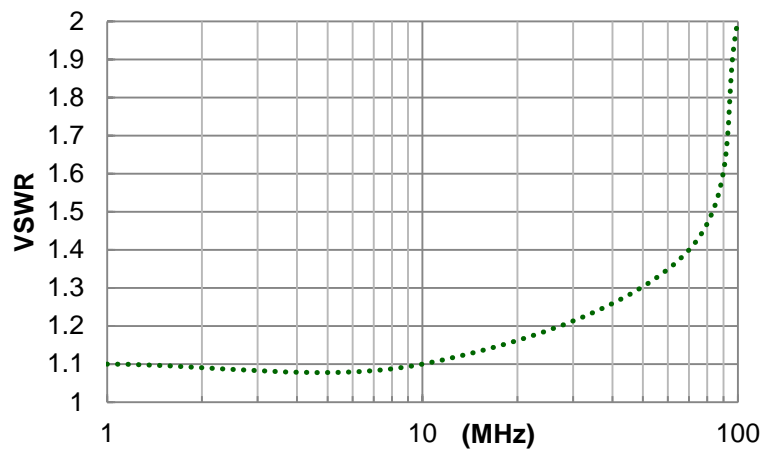
Reverse Isolation



Input VSWR



Output VSWR



..... 0°C +25°C +50°C

Typical S-Parameter Data

FREQ. MHz	-- S11 --		-- S21 --		-- S12 --		-- S22 --	
	dB	Ang	dB	Ang	dB	Ang	dB	Ang
1	-21.0	6.7	12.8	179.5	-43.9	-176.8	-24.1	-177.0
4	-20.6	-7.4	12.8	172.0	-43.9	177.4	-24.6	161.2
6	-20.5	-13.9	12.7	167.6	-44.0	174.1	-24.9	151.6
7	-20.5	-17.4	12.7	165.5	-44.1	171.3	-25.1	146.5
9	-20.3	-23.0	12.7	161.3	-44.0	169.8	-25.5	137.2
12	-20.2	-32.1	12.7	155.1	-44.1	166.0	-26.3	141.9
20	-19.6	-55.5	12.7	138.7	-44.1	152.8	-28.6	70.4
30	-18.4	-85.2	12.7	117.9	-44.1	138.8	-30.9	4.0
32	-18.2	-89.9	12.7	113.8	-43.3	132.6	-29.1	-6.7

Mechanical Specifications

Parameter	Specification	Comments
Package (non-hermetic)	API Dwg: 080-23142	3.900 (L) x 2.975 (W) x 0.746 (H) inches nominal
Material	6061-T6 Al Alloy	Housing / Cover
Finish	Clear Iridite	MIL-DTL-5541F, Class 3
RF Input (J1) / Output (J2) Connectors	Captivated SMA Female	2-Hole Flange Mount
DC Power (+VDC)	Filtered Feed Thru	Solderable
Ground Terminal	Threaded Turret	Solderable

Outline Drawing
(For Reference Only)

