

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	2 – 70 MHz	2 - 70 MHz
Gain (dB)	21.9 (± 0.7)	---
Gain vs. Temperature (dB)	---	+0.2 / -0.5
Gain Flatness (dB)	0.5	0.8 Max.
P _{OUT} @ 1dB Compression (dBm)	+33	+32 Min.
3 rd Order Output * Intercept Point (dBm)	+48	---
2 nd Order Output * Intercept Point (dBm)	+95	---
Reverse Isolation (dB)	32	31
VSWR	In	1.5:1
	Out	1.5:1
Noise Figure (dB)	4.5	5.5 Max.
Power	Vdc	+24
	mA	600
		625 Max.

Absolute Maximum Ratings

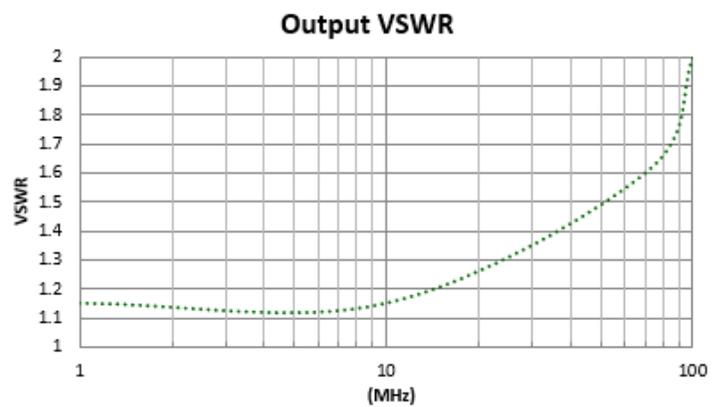
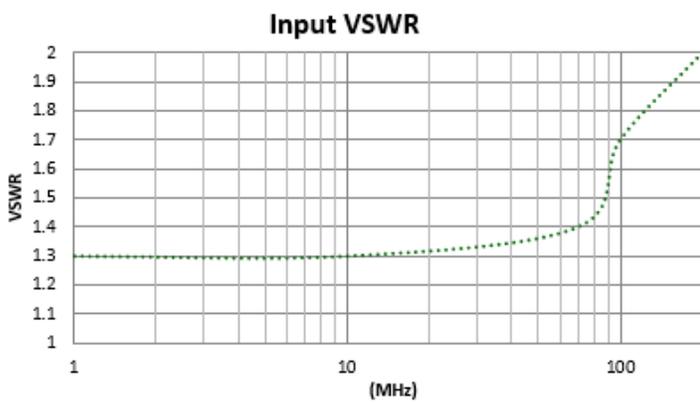
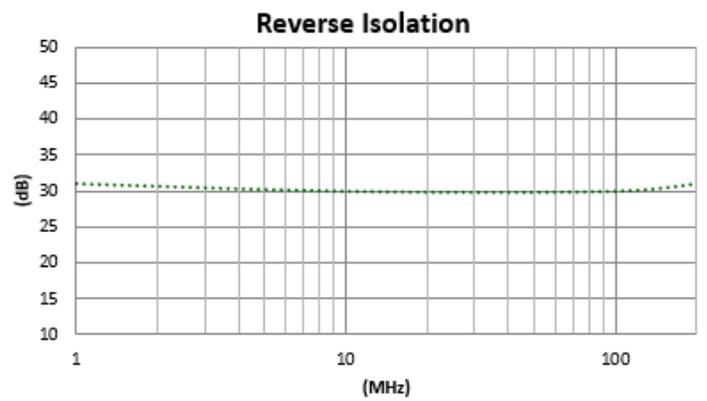
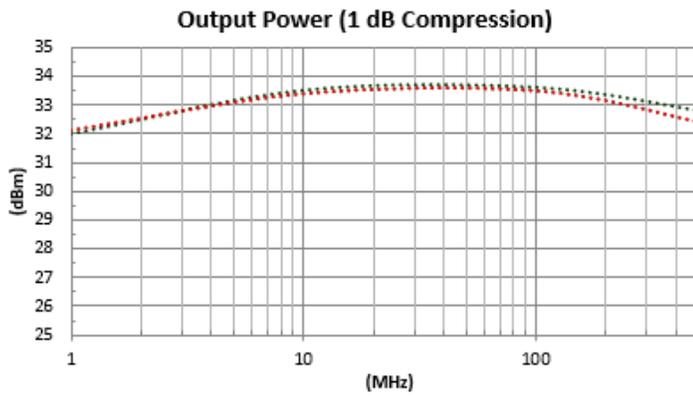
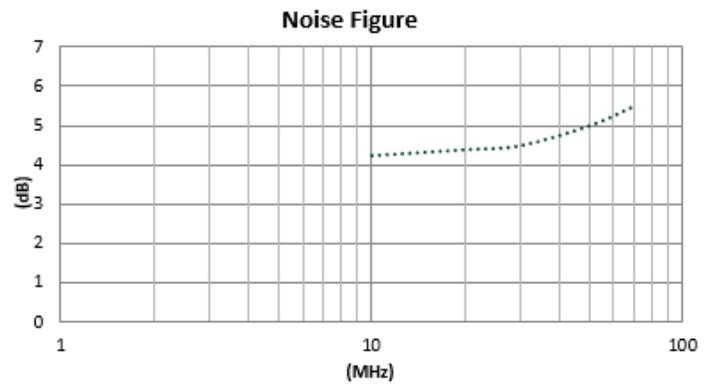
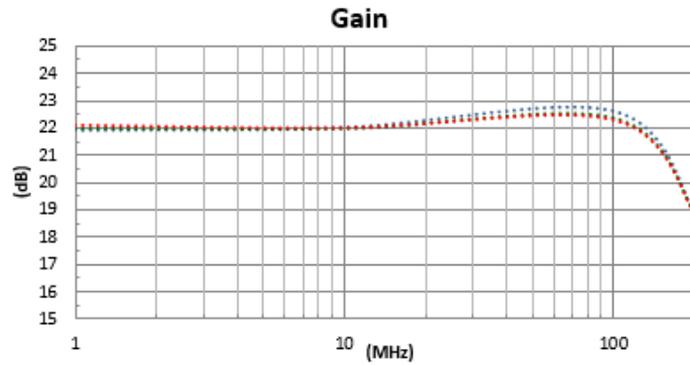
Parameter	Specification
Operating Case Temperature (T _c)	-20°C to +71°C
Storage Case Temperature (T _c)	-55°C to +125°C
DC Voltage @ 25°C	+26 Volts
Continuous RF Input Power	+20 dBm
Short Term RF Input Power	200 Milliwatts (1 Minute Max.)
Max. Peak Input Power	0.5 Watt (3 μsec Max.)

Rev Date: October 4, 2023
 ECN: Increased DC current from 420 to 625 mA to remain compliant with current P1dB performance requirements.
 NF increased from 3.5 dB to 5.5 dB.
 * All Linearity measurements are conducted at 15 MHz

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	Spectrum reserves the right to make revisions to both the product and/or the information contained within their datasheets without advanced notice.

Typical Performance Graphs



..... 0°C
 +25°C
 +50°C

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)

