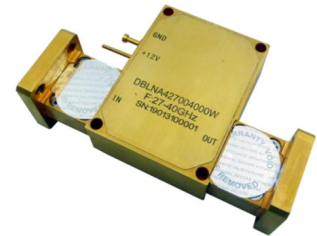




WR28 Waveguide Low Noise Amplifier 27~40GHz

Features

- Gain: 35dB Typical
- Noise Figure: 3.0dB Typical
- P1dB Output Power: +10dBm Typical
- Supply Voltage: +12V @ 110mA
- 50 Ohm Matched Input / Output



Typical Applications

- Wireless Infrastructure
- 5G communication
- Test and measurement Instrument

RF Microwave & VSAT
Fiber Optics

Parameter	Min.	Typ.	Max.	Units
Frequency Range	27		40	GHz
Gain	30	35		dB
Gain Flatness		±3.0		dB
Gain Variation Over Temperature (-40°C~+85°C)		±2.0		dB
Noise Figure		3.0	4.5	dB
Input VSWR		2.0		: 1
Output VSWR		2.0		: 1
Output Power for 1 dB Compression (P1dB)	6	10		dBm
Saturated Output Power (Psat)		12		dBm
Output Third Order Intercept (OIP3)		20		dBm
Supply Current (Idd) (Vcc=+12V)		110	150	mA
Isolation S12		-50		dB

Weight	1.76 ounces	Impedance	50ohms
Input / Output Connectors	WR28	Material	Aluminum
Finish	Gold Plated	Package Sealing	Epoxy Sealed (Standard)
			Hermetically Sealed (Option with extra charge)



Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power (RFIN)	-18dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing

Power OFF Procedure

Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground

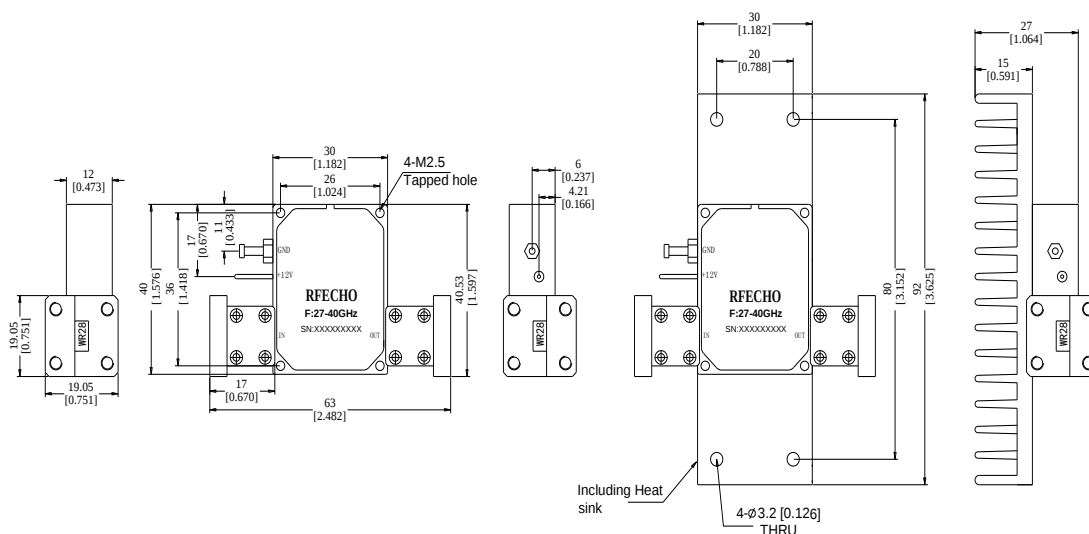
Environmental Specifications

Operational Temperature	-40°C~+85°C
Storage Temperature	-50°C~+105°C
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35°C, 95%RH at 40°C
Shock	20G for 11msec half sine wave, 3 axis both directions

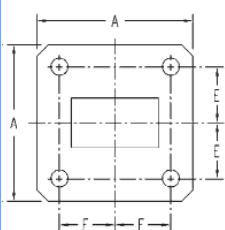
Outline Drawing:

All Dimensions in mm (inches)

Heat Sink required during operation(Sold Separately)

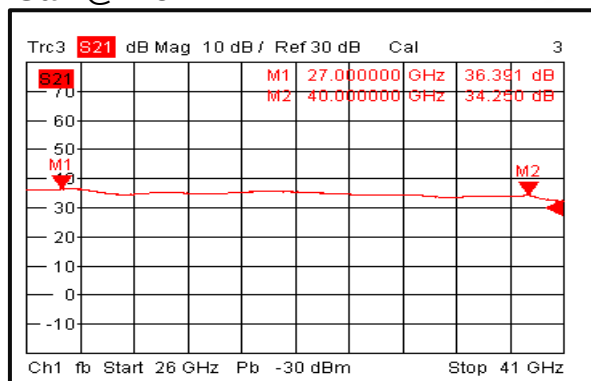


	WR28	WG22	R320
UG599/U			
Dimensions	inches	mm	
A	0.75	19.05	
E	0.265	6.73	
F	0.250	6.35	
Hole Dia.	0.116	2.98	

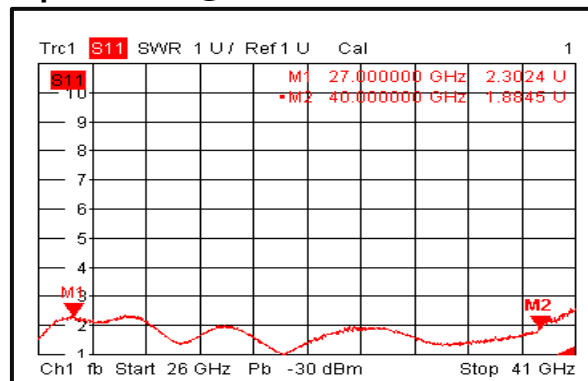




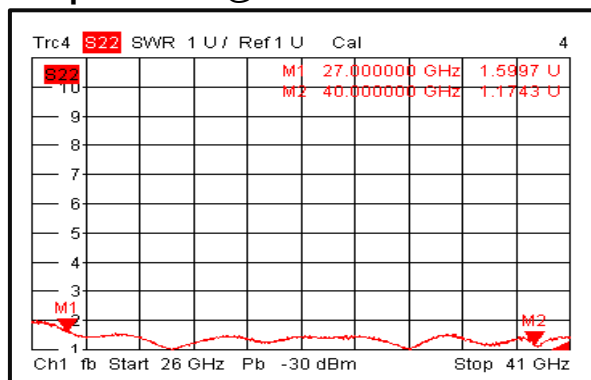
Gain@+25°C



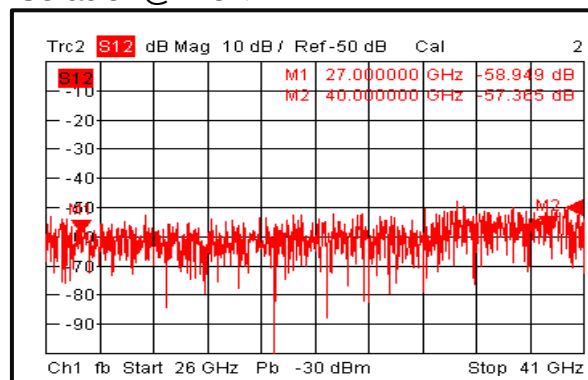
Input VSWR@+25°C



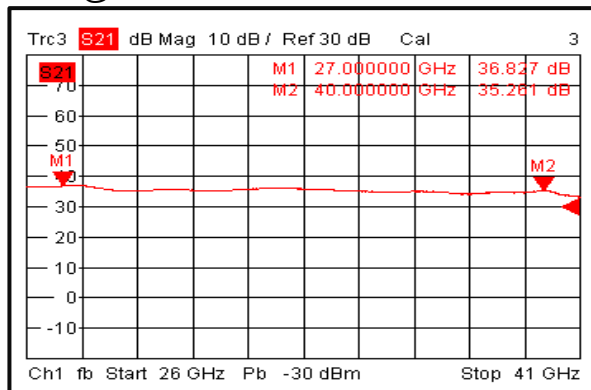
Output VSWR@+25°C



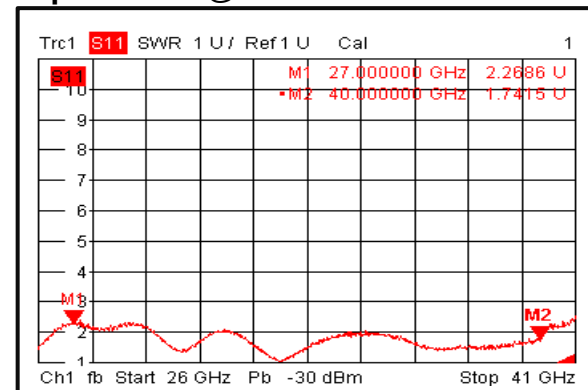
Isolation@+25°C



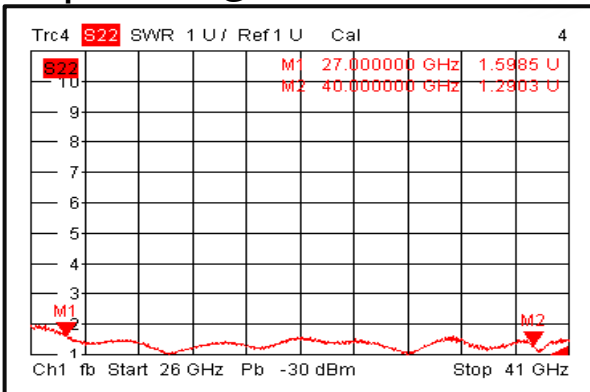
Gain@-40°C



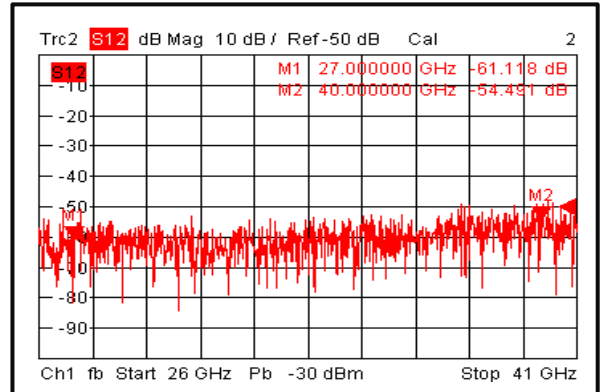
Input VSWR@-40°C



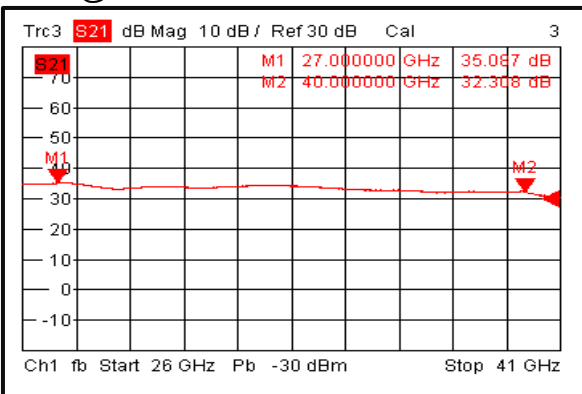
Output VSWR@-40°C



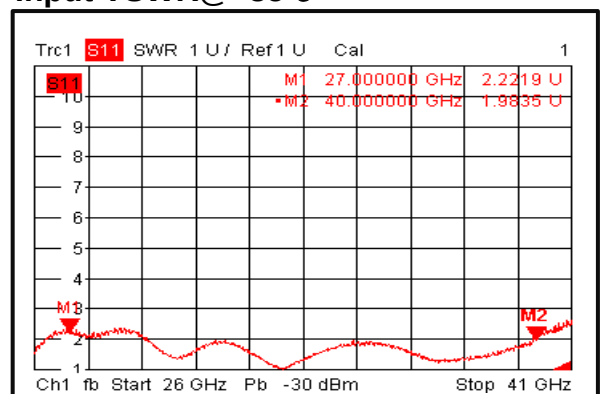
Isolation@-40°C



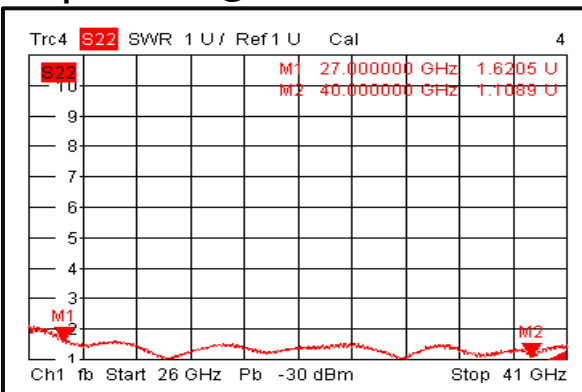
Gain@+85°C



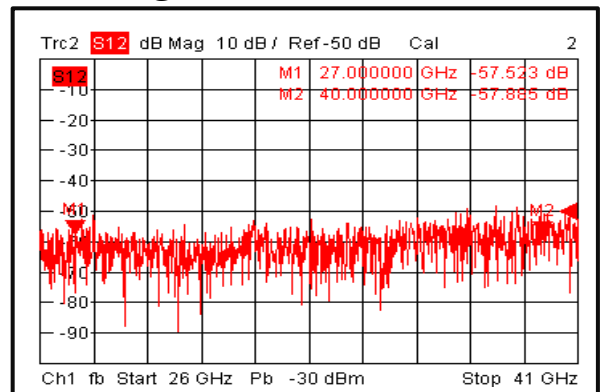
Input VSWR@+85°C



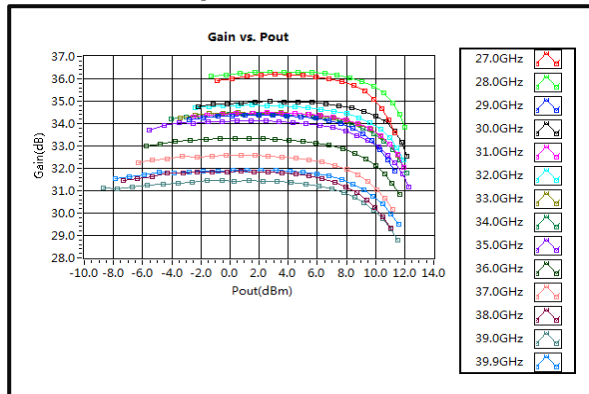
Output VSWR@+85°C



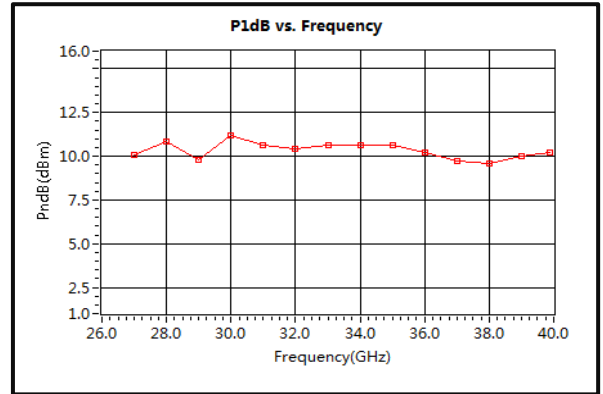
Isolation@+85°C



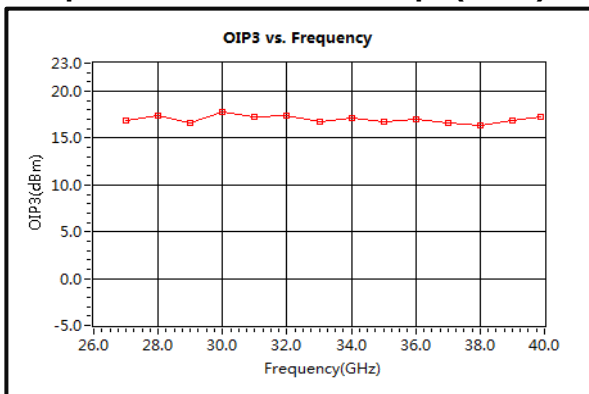
Gain vs. Output Power



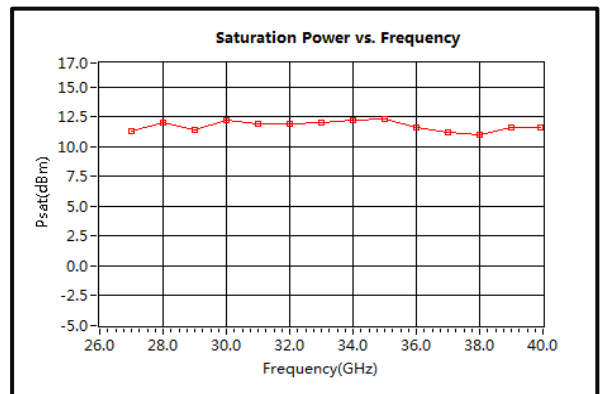
P1dB vs. Frequency



Output Third Order Intercept (OIP3)



Saturation Power vs. Frequency



Noise Figure

