

Features

- Ultra Wideband Solid State Power Amplifier
- Gain: 54dB Typical
- Psat: 34.5dBm Typical
- Supply Voltage: +12V



Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Fiber Optics

RF Microwave & VSAT
Test Instrument

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	25		34	34		40	GHz
Gain	48	54	63	48	54	60	dB
Gain Flatness		±5.0			±2.5		dB
Gain Variation Over Temperature (-40°C~+85°C)		±5.0			±5.0		dB
Input Return Loss		15			15		dB
Saturated Output Power (Psat)	32.5	34.5		30	31.5		dBm
Isolation S12		-60			-60		dB
Supply Current (Vcc=+12V)		2.1	3		2.1	3	A
Power-added Efficiency		12			8		%

Weight	16.5 ounces (Max.)	Impedance	50ohms
Input / Output Connectors	2.92mm-Female	Material	Aluminum
Finish	Nickel Plated	Package Sealing	Epoxy Sealed (Standard)
			Hermetically Sealed (Optional)

QOTANA TECHNOLOGIES

1W Ultra Wide Band Power Amplifier 25GHz~40GHz

Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power	-5dBm

Note: Maximum RF input power is set to assure safety of amplifier. Input power may be increased at own risk to achieve full power of amplifier. Please reference gain and power curves.

Biassing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output with 50 Ohm source/load. (in band VSWR10dB return loss)
Step 3	Connect +12V

Power OFF Procedure

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

Environmental Specifications

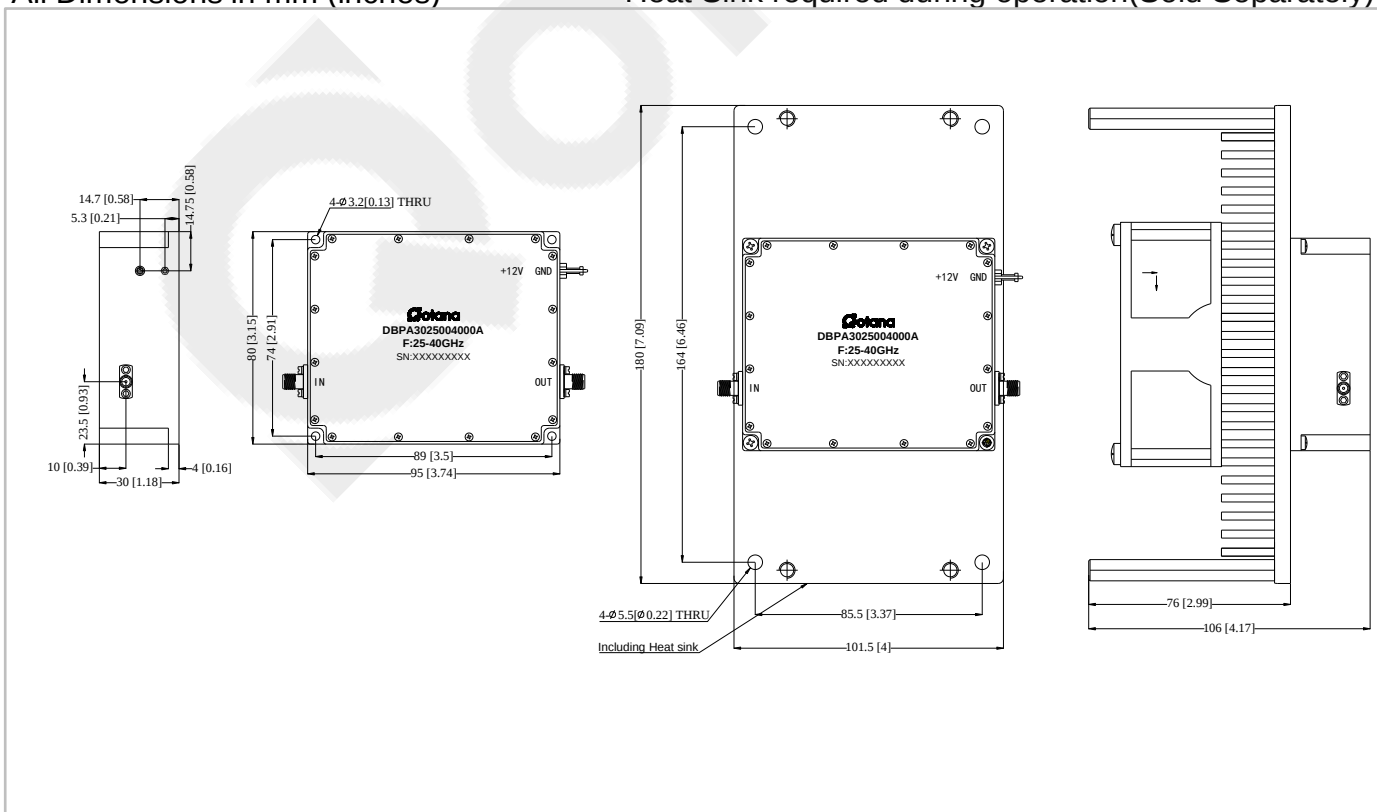
Operational Temperature	-40°C~+85°C
Storage Temperature	-50°C~+105°C
Altitude	30,000 ft. (Epoxy Sealed Controlled environment) 60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35°C, 95%RH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

Note: The operating temperature for the unit is specified at the package base. It is the user's responsibility to ensure the part is in an environment capable of maintaining the temperature within the specified limits

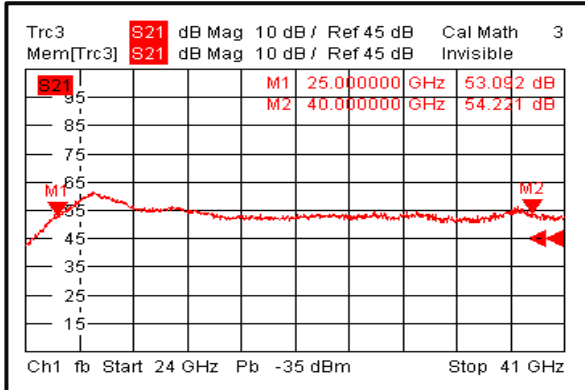
Outline Drawing:

All Dimensions in mm (inches)

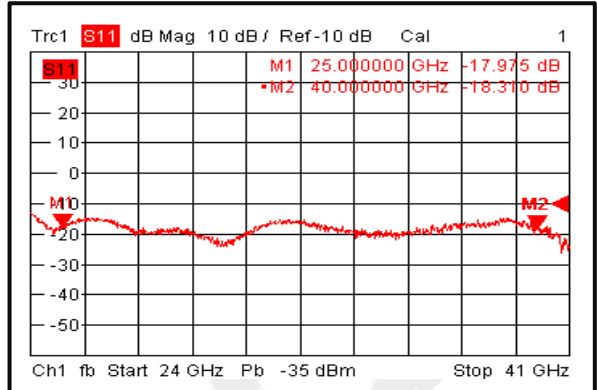
Heat Sink required during operation(Sold Separately)



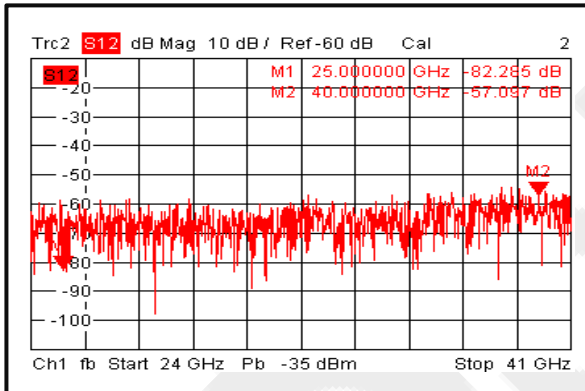
Gain@+25°C



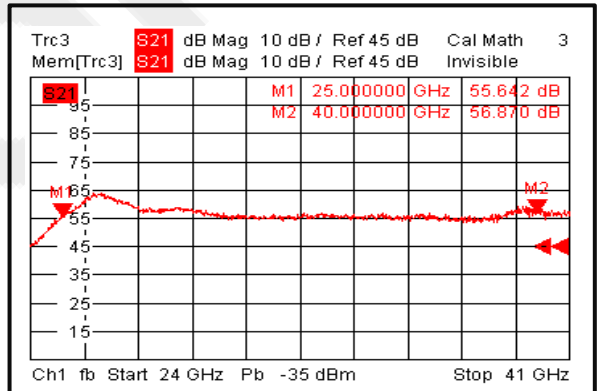
Input VSWR@+25°C



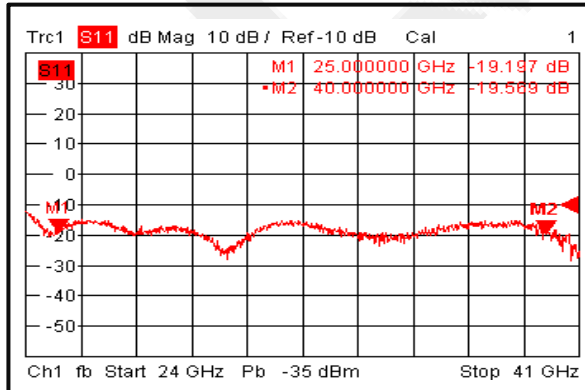
Isolation@+25°C



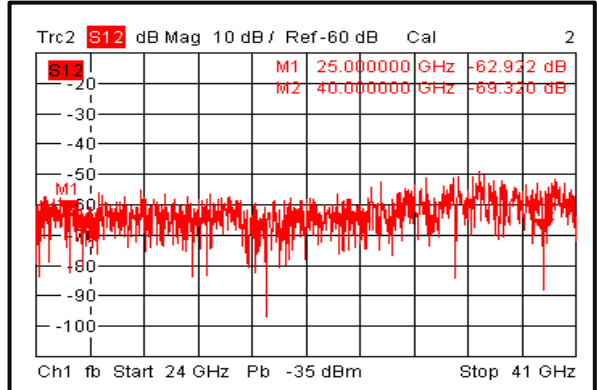
Gain@-40°C



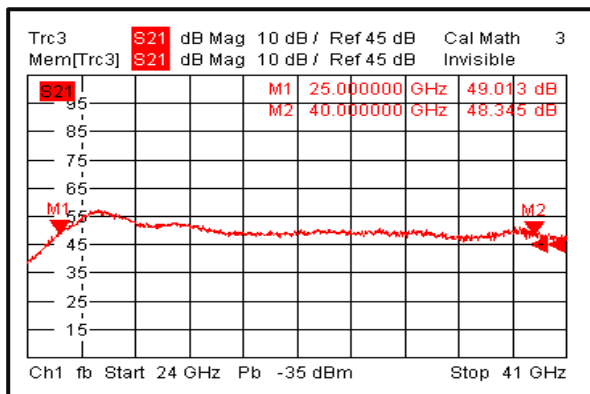
Input VSWR@-40°C



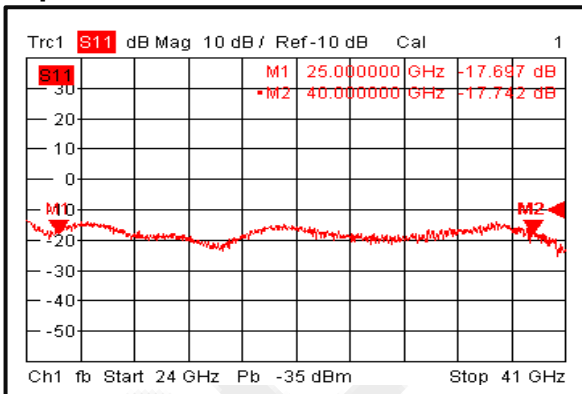
Isolation@-40°C



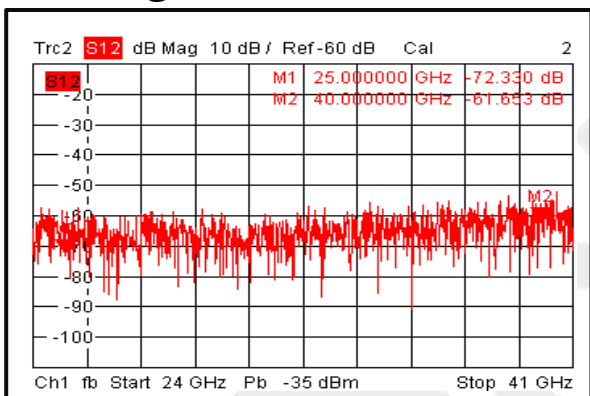
Gain@+85°C



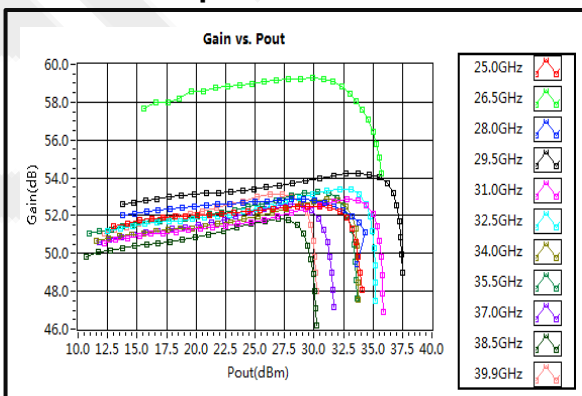
Input VSWR@+85°C



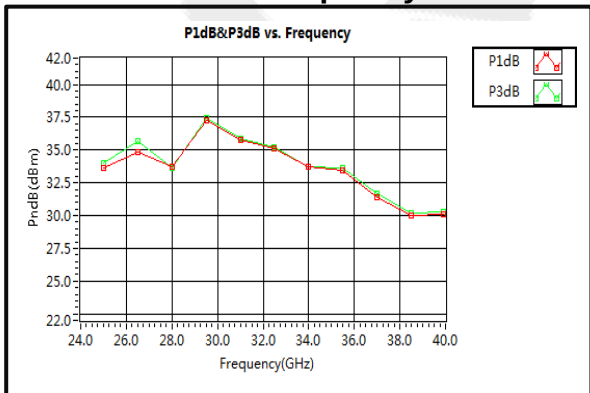
Isolation@+85°C



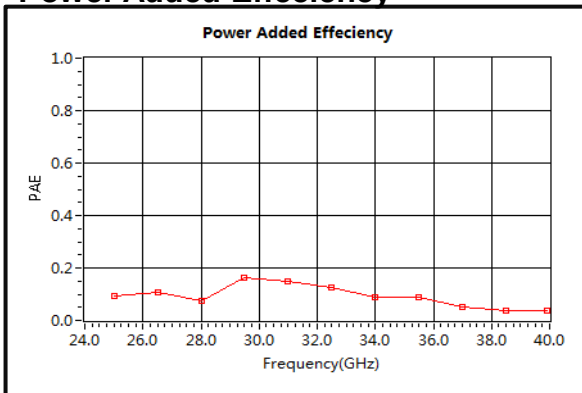
Gain vs. Output Power



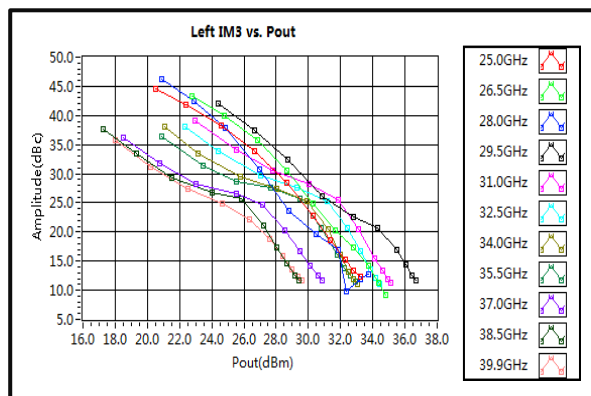
P1dB&P3dB vs. Frequency



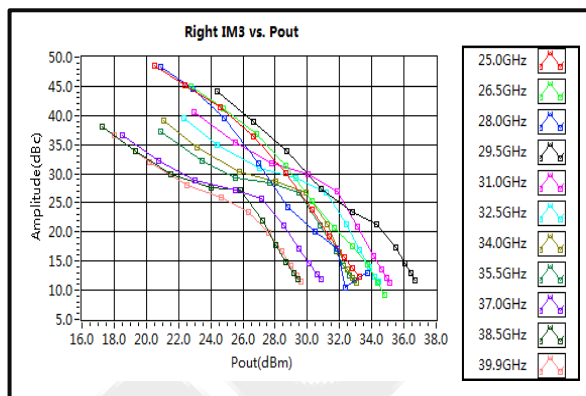
Power Added Efficiency



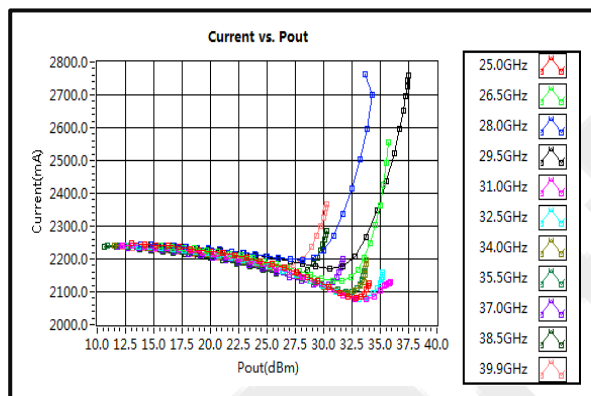
Left IM3 vs. Pout



Right IM3 vs. Pout



Current



QOTANA TECHNOLOGIES and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.qotana.com for additional data sheets and product information.