20MHz-3GHz 20W Power Amplifier

P/N: PA000030GA20W

■ Features:

- Ultra Wideband Solid State Power Amplifier
- Built-in Protection including Incident Power , Temperature, Current
- Single Positive Power Supply of +48V
- 50 Ohm Matched Input/output

■ Typical Application

- Wireless Infrastructure
- 5G Communication
- Test Instrumentation
- RF Microwave & VSAT
- Fiber Optics

■ Product Description

The PA000030GA20W is a multi-octave wideband solid state power amplifier for general purpose application with a frequency range of 0.02GHz to 3GHz and output power of 43dBm typical.

This power amplifier works with a +48V DC power supply. It can operates just need connecting DC power supply and RF cable. As much as more information is adopted to give user complete understanding the status and alarm of the product.

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■ Electrical Specifications (TA=+25°C)

Parameter	Min.	Typ.	Max.	Units
Frequency Range	0.02		3	GHz
Gain	40	47		dB
Gain Flatness		±3		dB
Gain Variation Over Temperature (-40°C~+70°C)		±3		dB
Input VSWR		1.6		-
Output Power at 1dB Compress Point		40		dBm
Output Power Psat	42.5	43.5		dBm
RF ON/OFF Speed(IDQ on)		2		mS
Isolation S12		-55		dB
Power Supply Current(+48V)		0.6	2.5	A
Power Added Efficiency		30		%
TDD-Time-Division-Duplexing PA Blanking		10/0.15		mS
Turn On/Off Speed(DRAIN_OFF)		3/0.9		mS
Turn On/Off Speed(GATE_OFF)		900/80		uS

Material	Aluminum
Finish	Nickel Plated
Weight	0.5Kg
Package Sealing	Epoxy Sealed(Standard)
	Hermetically Sealed(Optional)

■ Interface Definition

Name		Pin	Description	I/O	Connector
RFin			Low Power RF input	I	SMA(F)
RFout			High Power RF output	O	SMA(F)
Interface	RESET	1	Resets PA when logic LOW is applied and released.Initial State and FAULT is TTL High.	I	Male D-Sub 9Pin
	DRAIN_OFF	2	Appling logic LOW disables drain of amplifier.	I	
	GATE_OFF	3	Applying logic HIGH disables gates of amplifiers.	I	
	+48V	4	DC Power Supply.	I	
	+48V	5	DC Power Supply.	I	
	Current Over	6	Pin will be latched to logic HIGH and amplifier turned off when current limit is reached by any RF components.	O	
	RFIN_Over	7	Pin will be latched to logic HIGH and amplifier turned off when RFin is over limit.	O	
	Temperature Signal	8	Analog voltage between zero- and five-volts representing temperature of RF section.	O	
	GND	9	Power Supply and RF Ground	IO	

■ Absolute Maximum Ratings

Parameter	Rating
Supply Voltage Range	50V
*RF Input Power (RFIN)	Psat – Large Signal Gain

*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.

■ Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-40°C to +70°C (Case Temperature)
Storage Temperature	-50°C to +105°C
Vibration	25g RMS(15 DEGREES 2KHz) endurance,1 hour per axis
Humidity	100% RH at 35℃, 95% RH at 40℃
Shock	20G for 11ms Half sine wave,3 axis both directions.
Altitude	30,000 ft.(Epoxy Sealed Controlled Environment)
	60,000 ft. 1.0psi min(Hermetically Sealed Un-controlled environment)(Optional)

■ Usage Notes :

■ Bias Up Procedure

1. Connect input and output with 50 Ohm source/load (In band VSWR < 1.9:1 or >10dB return loss.)
2. Connect Interface Cable
3.Confirm that the GND is connected with Earth

■ Bias Down Procedure

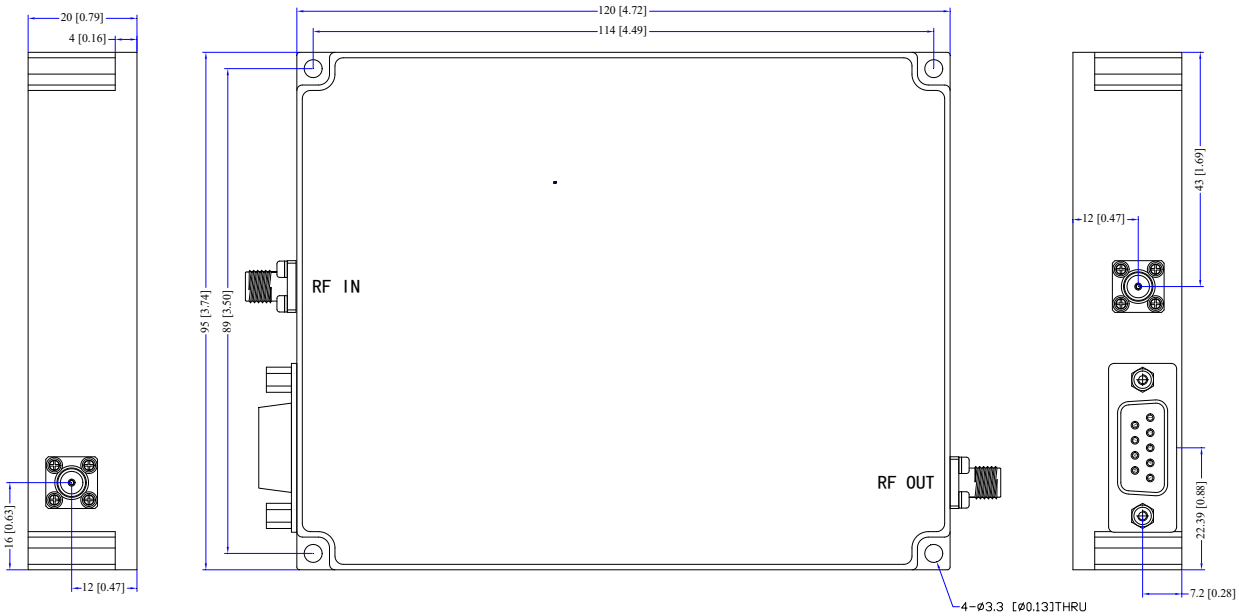
1. Remove Power Cabl
2. Disconnect input and output source/load

Heat Sink

Heat sink is required during operation(Heat sink is not provided with amplifier)

■ Outline Drawing

All Dimensions in mmTolerance ±0.25



■ Safety

The case should be connected with earth at any time for human safety.

NOTE:

1. The product is designed to meet environmental ratings but not tested. If you need to test environmental condition, please contact our sales department.
2. Miczen technologies co., Ltd. reserves the right to change the above information without notice.