



Product Features

- 2400 ~ 2500MHz
- Output power: 1.6kW(CW) Peak Power
- Built with GaN on SiC HEMT
- 55% System Efficiency
- High Reliability
- Excellent Frequency Stability
- Power & Frequency Monitoring Available

Applications

- Building Block for High-Power Systems
- Plasma Generation
- Industrial Heating and Drying
- Microwave CVD
- Microwave Sintering
- Microwave Chemistry
- Materials Processing
- Study of Biological Phenomena
- Semiconductor Equipment



Description

The RIM251K6-20 is a 1.6 kW, GaN solid-state power amplifier designed for high power industrial, scientific, and medical (ISM) applications. The solid-state power amplifier is operable from 2400 to 2500 MHz and is built using RFHIC’s cutting edge gallium-nitride (GaN) on SiC HEMT providing excellent efficiency and breakdown voltage.

The GaN Solid state Power Amplifier (SSPA) is suitable for use in CW, pulse, and linear applications. This high efficiency rugged device is targeted to replace industrial magnetrons and other vacuum tubes currently powering industrial heating, drying, microwave CVD and sintering.

Electrical Specifications @ V_{DS} =50V, T=25°C, 50Ω System

PARAMETER		UNIT	MIN	TYP	MAX
Operating Frequency		MHz	2400	-	2500
Operating Bandwidth		MHz	-	100	-
CW Variable Output Power		W	100	-	1600
Power Gain @ Peak Power		dB		60	
RF Input power		dBm			2
Frequency Accuracy & Stability		ppm	-2.5	-	2.5
Operating Voltage		VDC	50		
System Efficiency		%	-	55	-
FWD Power Monitor		dBm		TBD	
RVS Power Monitor		dBm		TBD	
Control	Generator On / Off	Enable / Disable			
	Power control	100~1600W			
Monitoring (GUI)	FWD & RVS Power	System Output and Reflect Power from 10 to 100%			
	Temperature	Individual Power Amplifier			
Max. Mismatch @ Max Output Power*		6: 1 VSWR			
Control Interface		RS-232			

* Amplifier can withstand a maximum load mismatch up to 6:1 at max. output power.
 In case a higher reflected power is measured, the system will automatically shut down to prevent system failure.

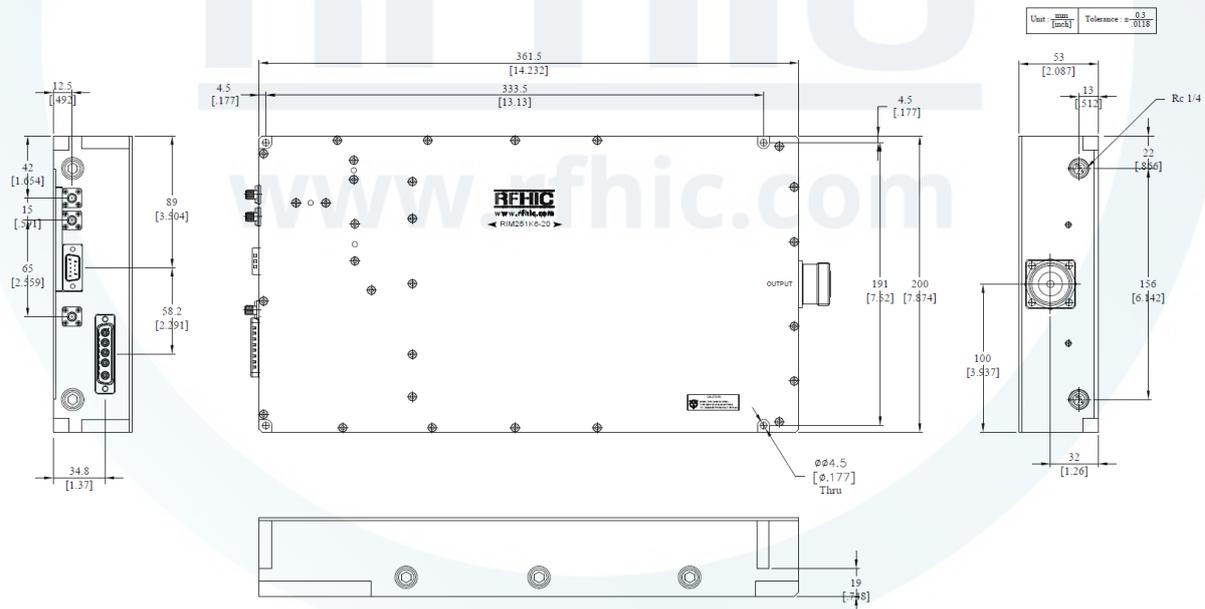
Mechanical Specifications

PARAMETER	UNIT	VALUE
Dimensions (L x W x H)	mm	200 x 361.5 x 53
Weight	Kg	TBD
RF Input/FWD/RVS monitor Connector	-	SMA Female
RF Output Connector	-	7/16 DIN Female
I/O Connector	-	D sub 9pin
Cooling Type	-	Water
Water Cooling Condition	-	TBD

Note

Dimension and weight may be subject to change.

Mechanical drawing



Revision History

Part Number	Release Date	Version	Description	Data Sheet Status
RIM251K6-20	Feb, 2021	0.1	Initial release of datasheet	Preliminary
RIM251K6-20	Nov, 2022	0.2	Control interface revised	Preliminary



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