

**Preliminary**

**GaN**

**Solid State Microwave Generator**

**RIF252K-40T**

**RFHIC**



## Product Features

- 2400 ~ 2500MHz (ISM band)
- 2kW CW Peak Power
- Using GaN on SiC HEMT Transistors
- 50% System Efficiency
- High reliability & stability, long-run operation
- High frequency-stability with PLL technology
- Accurate adjustment function on output power, phase, frequency
- Very good frequency spectrum even at low power

## Applications

- Building Block for High-power Systems
- Plasma Generator
- MW Heating and Drying
- Microwave CVD
- Microwave Sintering
- Microwave Chemistry
- Materials Processing
- Study of Biological Phenomena
- Semiconductor Equipment



## Description

The RIF252K-40T uses GaN on SiC HEMT technology which performs high breakdown voltage and high efficiency.

This product is packaged in a rack mountable shelf with the water cooling system.

And this product is designed for High Power ISM(Industrial, Scientific, Medical) applications with adjustable power up to 2kW.

This Microwave Generator 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

PARAMETER		UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency		MHz	2400	-	2500	F <sub>O</sub>
CW Variable Output Power		W	200	-	2000	P <sub>O</sub>
Operating Bandwidth		MHz	-	100	-	OBW
System Efficiency		%	50	-	-	Eff
Pulse Duty Cycles		%	1	-	99	-
Control range of Frequency		MHz	2400	-	2500	-
Frequency resolution		kHz	-	100	-	-
Absolute frequency accuracy		ppm	-2.5	-	2.5	-
Frequency stability		ppm	-2.5	-	2.5	-
Phase adjustment		Deg.	0	-	360	-
Operating Voltage		VAC	400 VAC 3 phase 50/60 Hz			-
Controls	Generator On / Off	-	Enabled / Disabled			-
	Output Power Control		10 to 100 % (input)			
	Generator Alarm		1 or more outputs to indicate alarm condition / code (output)			
	Control Interface		RS232			

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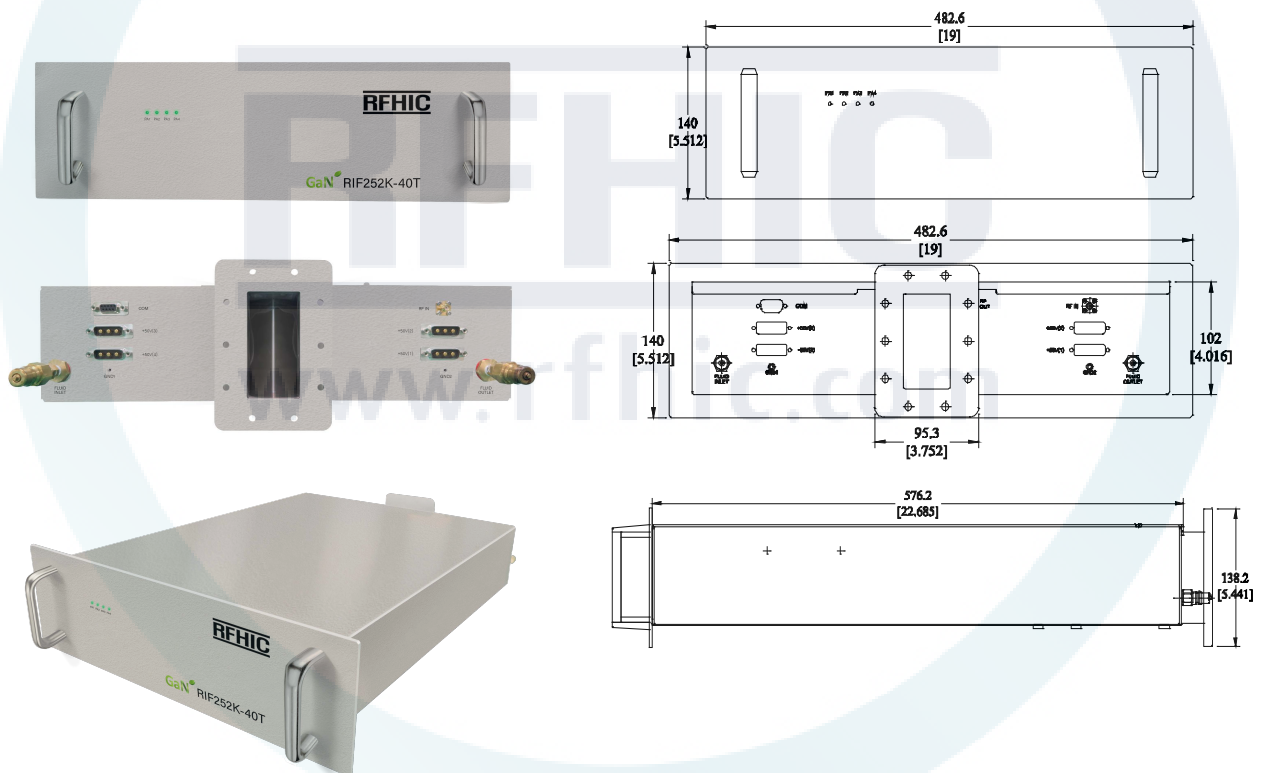
## Mechanical Specifications

PARAMETER	UNIT	VALUE
Dimensions (L x W x H)	mm	576.2 x 482.6 x 140
Weight	Kg	TBD
RF Input Connectors	-	SMA, Female
RF Output Connectors	-	WR340 waveguide
I/O Connector	-	D-sub 9pin
DC Connector	-	D-sub 3W3
Cooling	-	Water cooling (Water pressure: 8Bar)

### Note

Dimensions and Connectors may be subjected change.

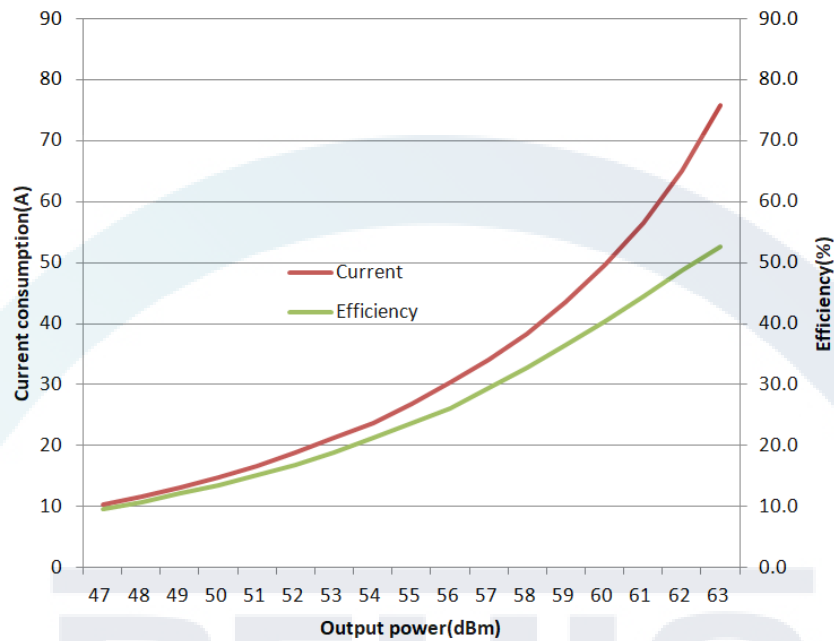
## Power Shelf Exterior & Mechanical drawing



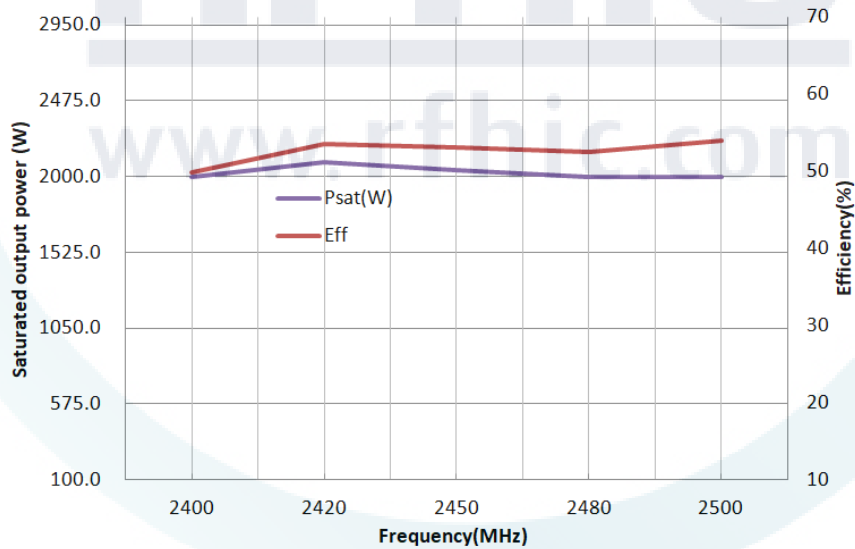
### Note

Connector positions and module mount holes may be subjected change.

## Performance Chart



**Fig.1 Output power vs Current, Efficiency of the RIF252K-40T**



**Fig.2 Saturated Output Power and Efficiency of the RIF252K-40T**

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## Revision History

Part Number	Release Date	Version	Description	Data Sheet Status
RIF252K-40T	April, 2018	0.1	Initial release of datasheet	Preliminary

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