

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	Fo
CW Variable Output Power	W	200	-	2000	Po
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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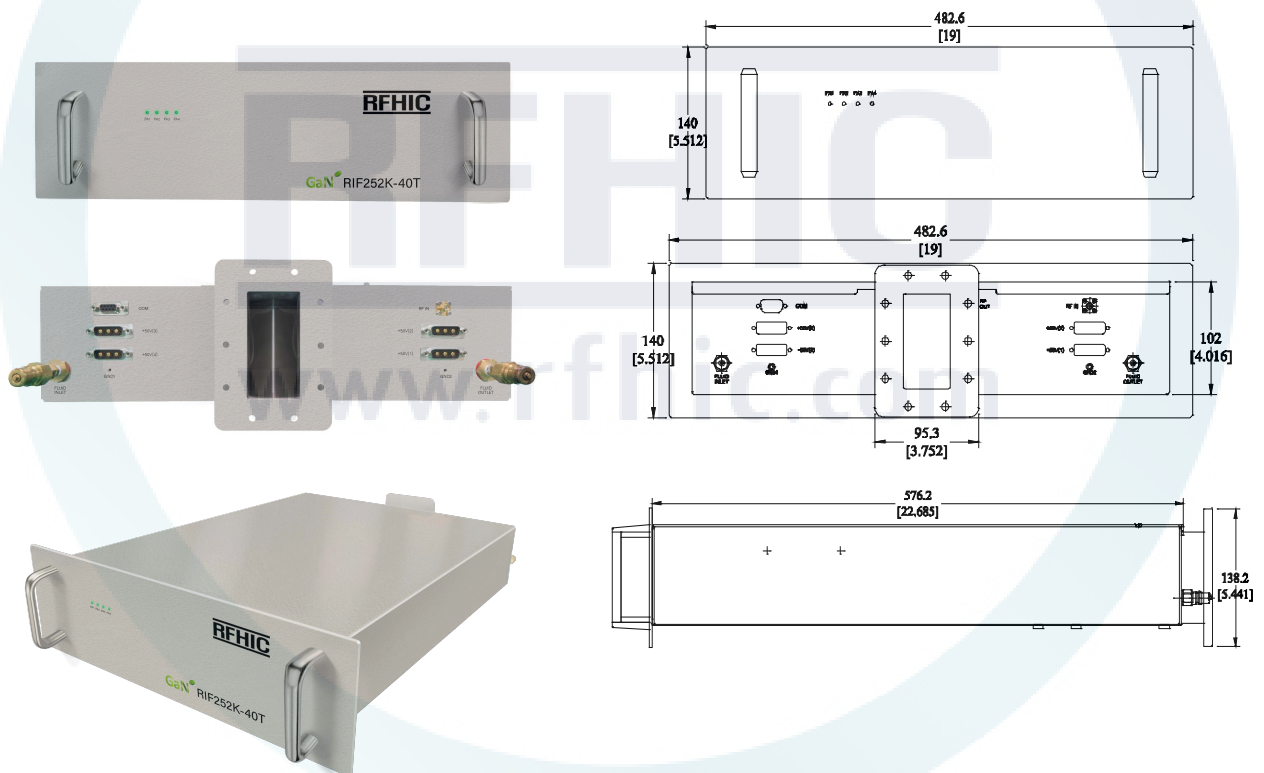
Mechanical Specifications

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

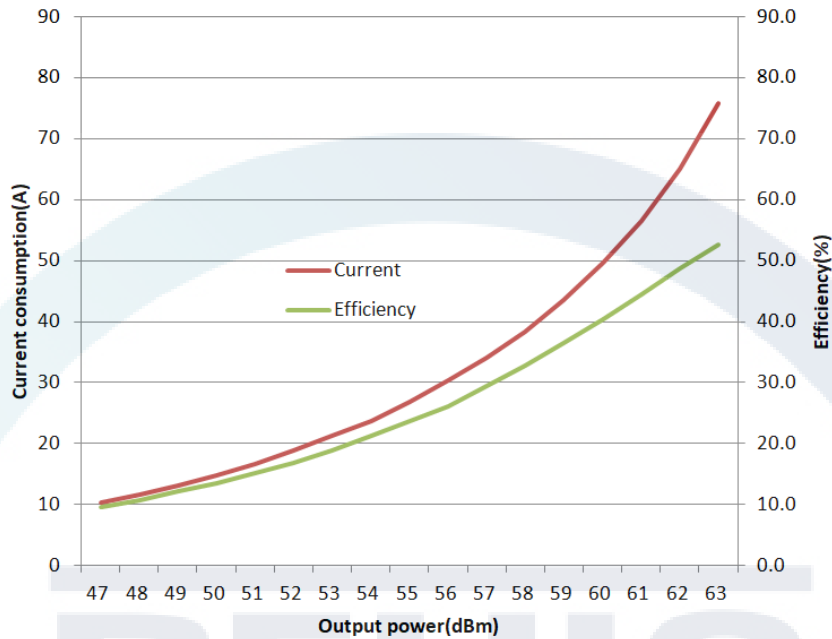


Fig.1 Output power vs Current, Efficiency of the RIF252K-40T

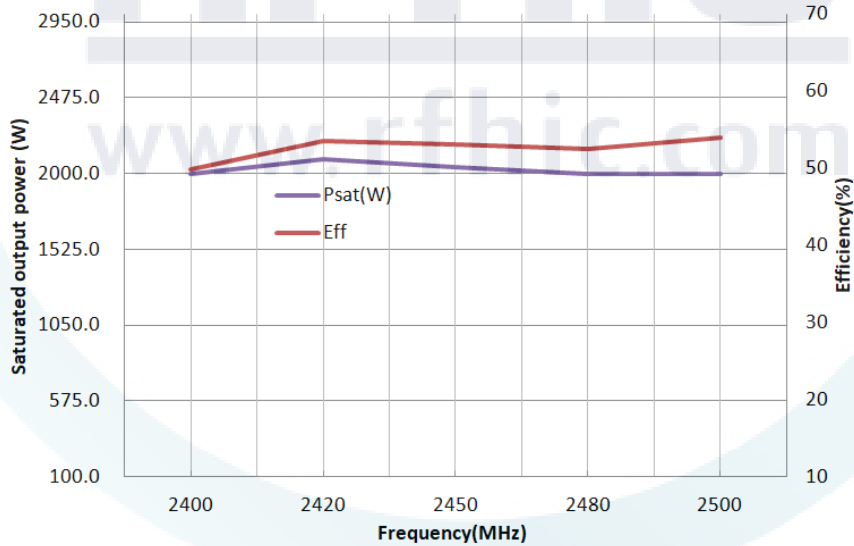


Fig.2 Saturated Output Power and Efficiency of the RIF252K-40T

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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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