



Product Features

- 2400 ~ 2500MHz (ISM band)
- 1600W CW Peak Power @ 50V
- 53% Drain Efficiency @ 50V
- Low Cost, Light Weight, Compact
- Using GaN-on-SiC HEMT Transistor
- Excellent Thermal Stability and Ruggedness
- Externally 50Ω Matched

Applications

- High Power Industry
- Microwave CVD Reactor
- Plasma Generator
- Food Science
- MW Heating and Drying



Description

RIM251K6-20 using GaN-on-SiC transistors is designed for industrial, scientific, medical (ISM) and plasma applications at 2450MHz. RIM251K6-20 is the world's highest power and efficiency SSPA with affordable price. This amplifier is suitable for use in CW, ISM applications. This high efficiency rugged device is targeted to replace industrial magnetrons and other vacuum tubes which are currently applying into high power industrial applications, artificial diamond manufacturing, semiconductor equipments, and plasma systems.

Electrical Specifications @ $V_{DS}=50V, T=25^{\circ}C, 50\Omega$ System

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	MHz	2400	-	2500	Fo
Operating Bandwidth	MHz	-	100	-	OBW
CW Output Power	W	-	1600	-	Po
Efficiency	%	-	53	-	Eff
Input Power	dBm	-	-6	-	PI
Power Gain @ Peak Power	dB	-	68	-	Gp
Gain Flatness	dB	-	1.5	2.0	ΔGp
Input Return Loss	dB	-	-	-15	S11
Operating Voltage	V	-	50	-	Vdc
Operating Case Temperature	-	5	-	60	Tc
DC & Controls Connector Pinmap (7W2)	VDC(+50V)	A1, A2	50V \pm 1%		-
	Reverse Detection	1	<4.5V		-
	Forward Detection	2	<4.5V		-
	N.C	3	-		-
	Temp. Monitor (LM50)	4	Temp °C= (Vout - 500 mV) x °C/10 mV		-
	Enable(H)/ Disable(L)	5	A voltage on this pin above 1.21V enables normal operation. Forcing this pin below 0.7V shuts down		-

Mechanical Specifications

PARAMETER	UNIT	VALUE
Dimensions (L x W x H)	mm	332 x 188 x 44
Weight	Kg	4.6
RF Input Connectors	-	SMA, Female
RF Output Connectors	-	7/16 DIN, Femail
DC & I/O Connector	-	D-sub 7W2
Cooling	-	Water cooling (Water pressure: 8Bar)

Note

Dimensions and Connectors may be subject to change.

Mechanical drawing



Note

Connector positions and module mount holes may be subject to change.

Performance Charts

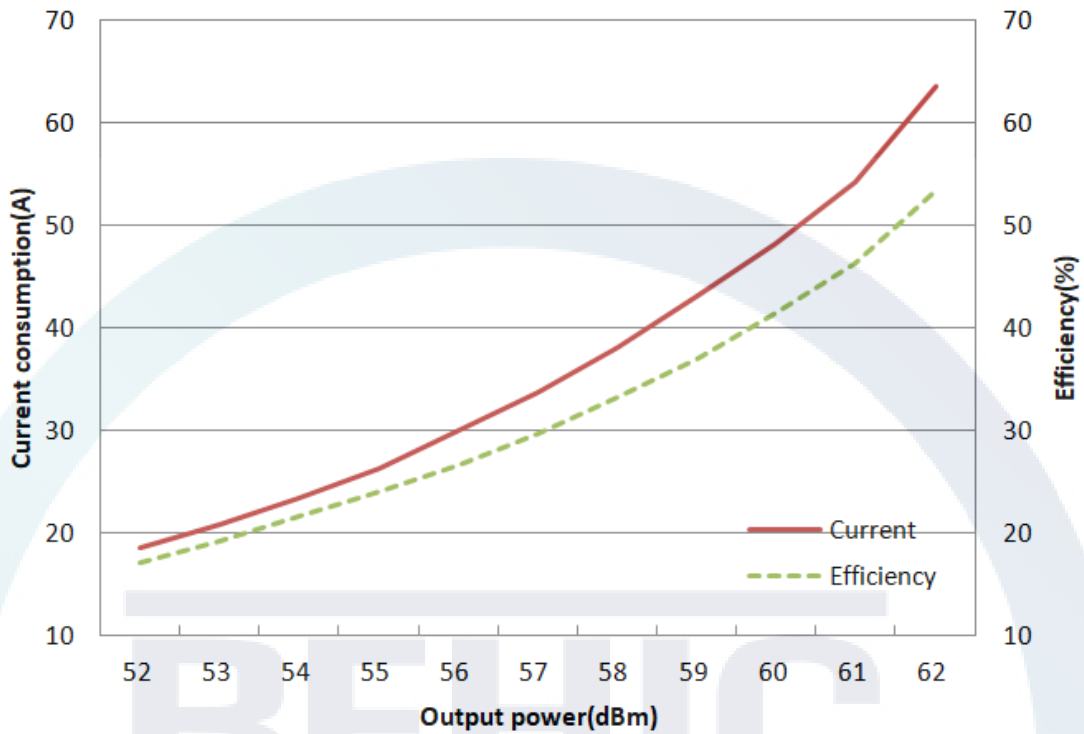


Fig.1 Output power vs Current, Efficiency

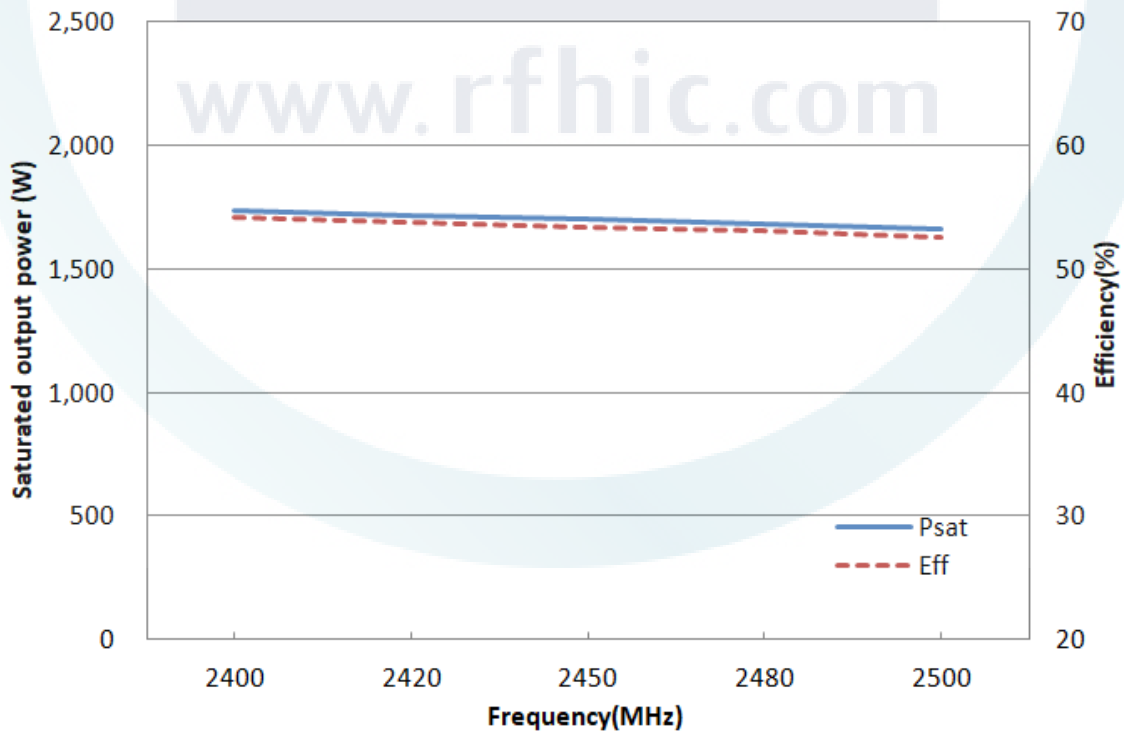


Fig.2 Frequency vs Saturated Output Power, Efficiency

Revision History

Part Number	Release Date	Version	Description	Data Sheet Status
RIM251K6-20	May, 2018	0.1	Initial release of datasheet	Preliminary



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