



Product Features

- 900 ~ 930MHz
- 1500W CW Peak Power @ 50V
- 63% 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

RIM091K5-20 using GaN-on-SiC transistors is designed for industrial, scientific, medical (ISM) and plasma applications at 915MHz. RIM091K5-20 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 @ $V_{DS}=50V$, $T=25^{\circ}C$, 50Ω System

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL	
Operating Frequency	MHz	900	-	930	F _O	
Operating Bandwidth	MHz	-	30	-	OBW	
CW Output Power	W	-	1500	-	P _O	
Efficiency	%	-	63	-	Eff	
Input Power	dBm	-	10	-	P _I	
Power Gain @ Peak Power	dB	-	51.8	-	G _P	
Gain Flatness	dB	-	0.5	1.0	ΔG _P	
In/Out Return Loss	dB	-	-	-15	S ₁₁	
Operating Voltage	V	-	50	-	V _{dc}	
Operating Case Temperature		-	-	60	T _c	
DC & Controls Connector	DCM21HA4PNK87	A1~A4	A1~A2(50V ±1%), A3~A4(GND)			
		1~2	+12V±5%			
		3	Input Power Monitor			
		4	RF En/Dis : Enable(Low), Disable(High or Open)			
		5	+50V DC Voltage Monitor			
		8	Gain Control			
		9	GND			
		10~11	10(Current Monitor_A), 11(Current Monitor_B)			
		14~15	14(Temp Monitor_A), 15(Temp Monitor_B)			
		16	Reflect Power Monitor			
		17	Forward Power Monitor			
		Others	Reserved			

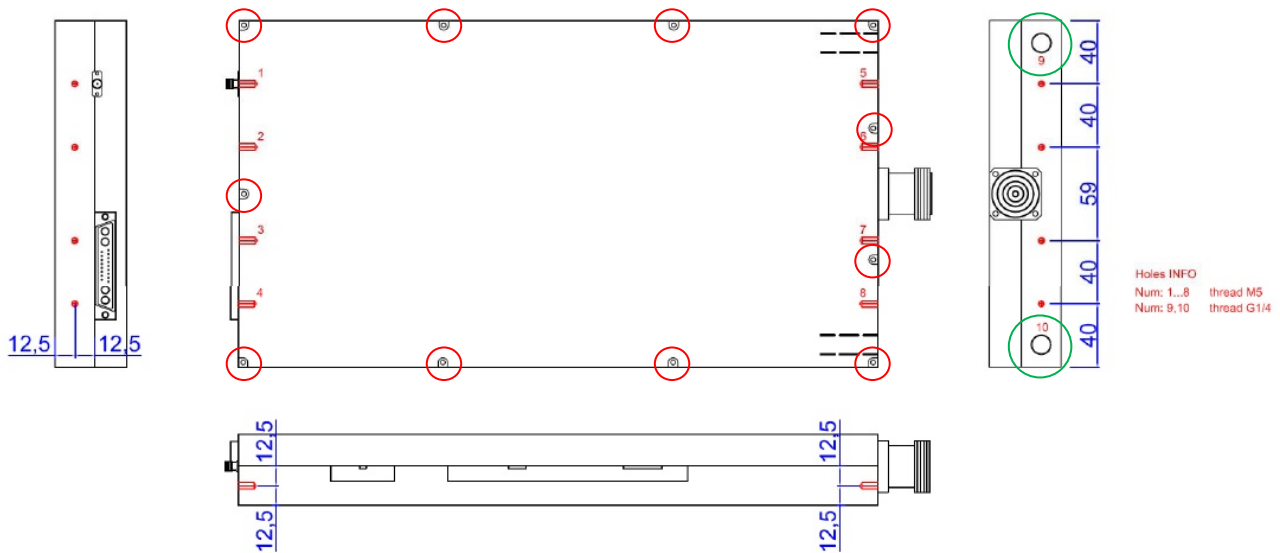
Mechanical Specifications

PARAMETER	UNIT	VALUE
Dimensions (L x W x H)	mm	400 x 219 x 45
Weight	Kg	7.0 typ
RF Input Connectors	-	SMA, Female
RF Output Connectors	-	7/16 DIN, Female
DC & I/O Connector	-	DCM21HA4PNK87
Cooling	-	Water cooling (20°C typ, 2 liter per minute, 0.2 bar)

Note

Water cooling condition may be subject to change.

Mechanical drawing



- : Mount Hole
- : Water Inlet/Outlet

Revision History

Part Number	Release Date	Version	Description	Data Sheet Status
RIM091K5-20	2020.09.11	1.0	Release of Datasheet	Production

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