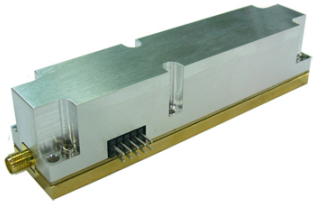
Pulse Amp Module RRP03250-10

Product Features

- Frequency from 135 ~ 460MHz
- GaN on SiC
- 50 Ohm Input/Output impedance
- High efficiency

Applications

- Radar system



Description

The RRP03250-10 is designed for Radar system application frequencies from 135 ~ 460MHz.
This module uses GaN on SiC technology which performs high breakdown voltage, wide bandwidth and high efficiency.

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

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	MHz	135	-	460	
Operating Bandwidth	MHz	-	325	-	BW
Peak power gain	dB	29	31	-	
Gain Flatness	dB	-	1.5	2.5	
Pulse input power	dBm	22	-	26	
Output Pulse Power	W	250	300	-	
Duty cycle	%	-	-	20	
Pulse Width	us	-	-	500	
Harmonics 1 to N	dBc	-	-	-10	
Spurious Level	dBc	-	-	-50	
Amplitude pulse droop	dB	-	0.5	1.0	
Efficiency	%	35	40	-	
Rise time	nsec	-	80	150	
Fall time	nsec	-	60	150	
Input Return Loss	dB	-	-	-8	
Operating Voltage VGS1	V	-	-3.2	-	
Operating Voltage VGS2	V	-	-3.3	-	
Operating Voltage VDS	V	49	50	51	
Dimension	mm	114.3 x 25.4 x 28			

∗ Test Pulse conditions = 100us, 10%
∗ Above data is measured by connecting electrolytic condenser 10,000uF to DC. Please make sure that electrolytic condenser is connected properly while testing the module.
∗ Custom design available
∗ Caution : The drain voltage must be supplied to the device after the gate voltage is supplied

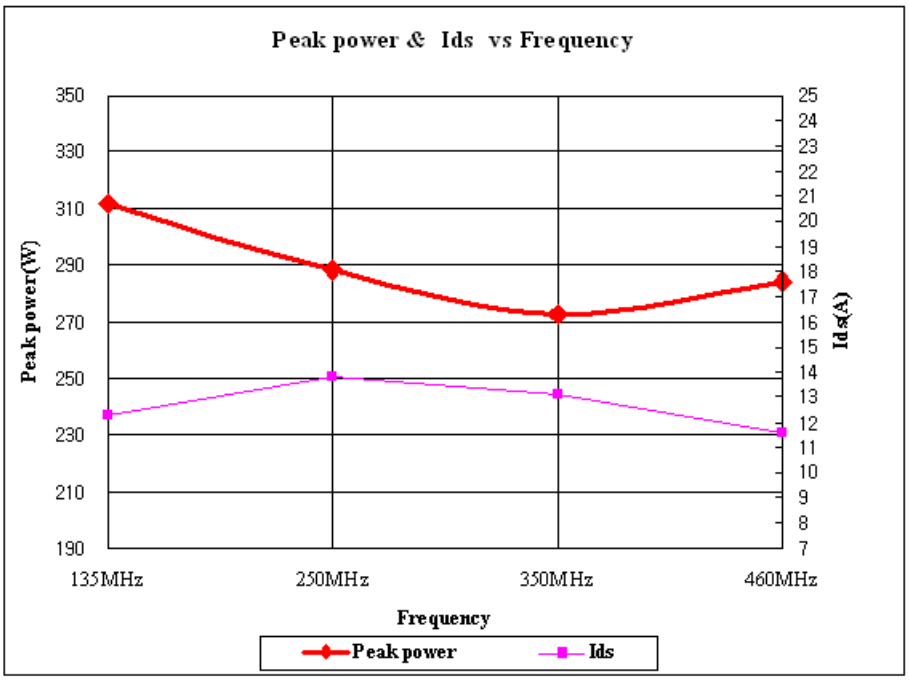
Absolute Maximum Ratings

PARAMETER	UNIT	RATING	SYMBOL
Gate Current	mA	70	Ig
Operating Junction Temperature	℃	225	Tj
Operating Flange Temperature	℃	-20 ~ 85	Tc
Storage Temperature	℃	-40 ~ 105	Tstg

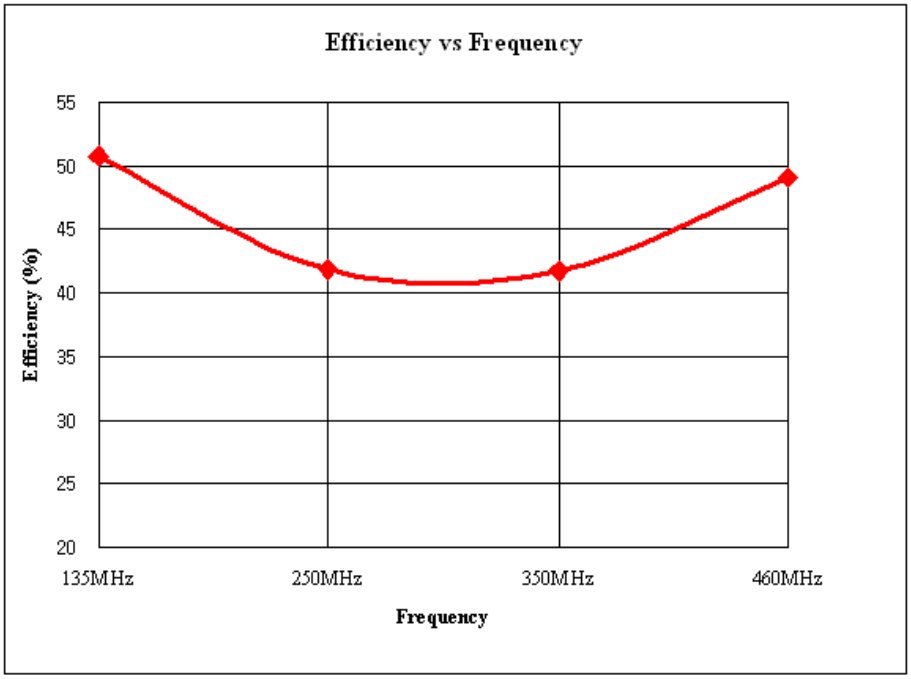
Operating voltages

PARAMETER	UNIT	NOMINAL VOLTAGE	VOLTAGE ACCURACY	SYMBOL
Gate-Source Voltage V1	V	-3.2(ON) , -8(OFF)	± 5%	VGS1
Gate-Source Voltage V2	V	-3.3 (ON) , -8(OFF)	± 5%	VGS2
Drain-Source Voltage V3	V	50	± 2%	VDS

Output Pulse Power

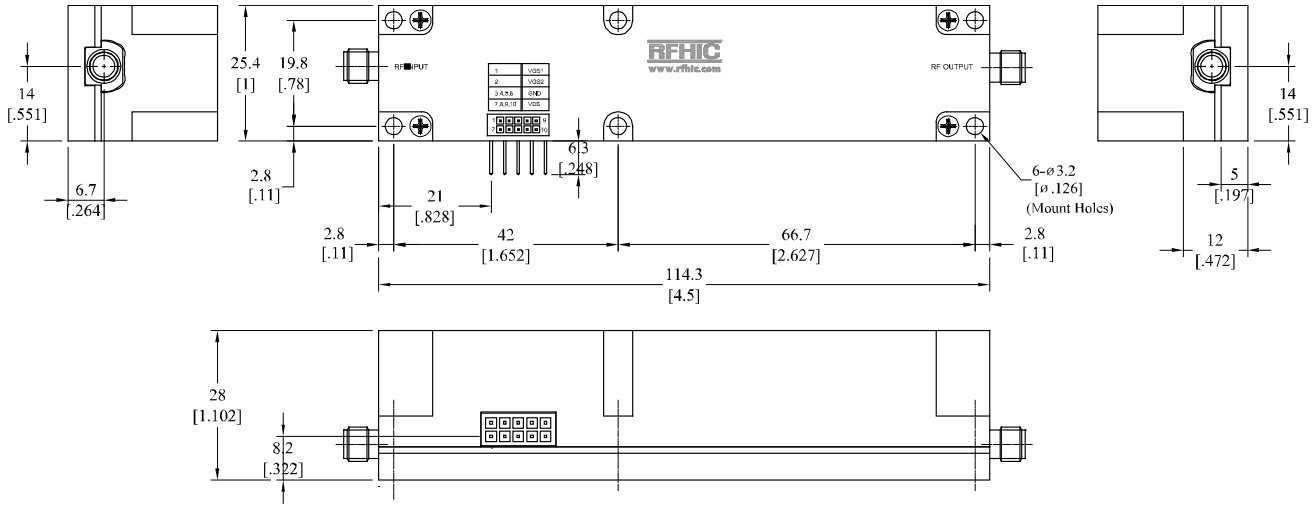


Efficiency vs Frequency



Outline Drawing

* Unit: mm[inch] | Tolerance ±0.2[.008]



Note
Cover screw holes and Module Mount Holes would be changed.

Interface Connector (SAMTEC, TSM-105-01-T-DH)

Pin No	Description	I/O	Specifications
1	VGS1	I	-3.2V
2	VGS2	I	-3.3V
3,4,5,6	GND	I	Ground
7,8,9,10	VDD	I	50 VDC

Revision History

Part Number	Release Date	Version	Modification	Data Sheet Status
RRP03250-10	2012.9.6	1.0	-	-