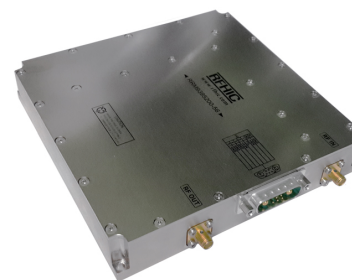


**Product Features**

- Frequency from 9.3 ~ 9.5GHz
- GaN HEMT
- 50 Ohm Input/Output Impedance
- High Efficiency

**Applications**

- Marine Radar System
- Weather Radar System

**Description**

The RRM9395200-56A is designed for Radar system application frequencies from 9.3 ~ 9.5GHz.

This module uses GaN HEMT technology which performs high breakdown voltage, wide bandwidth and high efficiency.

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

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	MHz	9300	-	9500	$f_0$
Operating Bandwidth	MHz	-	200	-	BW
Output Pulse Power	W	150	200	-	$P_o$
Input Pulse Power	dBm	-3	-	0	$P_i$
Power Gain	dB	55	56	-	$G_P$
Gain Flatness	dB	-	-	$\pm 0.5$	$\Delta G_P$
Duty Cycle	%	-	-	10	DC
Pulse Width	us	-	-	100	PW
PAE	%	18	20	-	$E_{ff}$
Amplitude Pulse Droop	dB	-	0.5	1.0	Droop
Harmonics 1 to N	dBc	40	-	-	$H_N$
Spurious Level	dBc	60	-	-	Spur
Rise/Fall Time	ns	-	-	50	$t_r / t_f$
Off State Isolation	dBc	100	-	-	Off Iso
Input VSWR	dB	-	-	2:1	VSWR
Output VSWR	dB	-	-	2:1	VSWR
Switching Time	ns	-	250	300	$t_{sw}$
Phase Deviation	$^{\circ}$	-20	-	20	$\Delta\phi$

\* Test Pulse conditions = 100us, 10%

\* Custom design available

**Absolute Maximum Ratings**

PARAMETER	UNIT	RATING	SYMBOL
Operating Junction Temperature	°C	225	T <sub>J</sub>
Operating Flange Temperature	°C	-30 ~ 75	T <sub>C</sub>
Storage Temperature	°C	-30 ~ 125	T <sub>STG</sub>

**Operating Voltages**

PARAMETER	UNIT	NOMINAL VOLTAGE	VOLTAGE ACCURACY	SYMBOL
Drain-Source Voltage	V	50	± 5%	V <sub>DS1</sub>
Drain-Source Sub Voltage	V	5.6	± 5%	V <sub>DS2</sub>
SSPA On/Off Control Voltage	V	TTL Low(0V) : SSPA OFF, TTL High(5V) : SSPA ON		V <sub>DC1</sub>
Pulse On/Off Control Voltage	V	TTL Low(0V) : Pulse OFF, TTL High(5V) : Pulse ON		V <sub>DC2</sub>

**Power Supply**

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Drain-Source Current (AVG)	A	-	2.0	2.5	I <sub>DS1</sub>
Drain-Source Sub Current (AVG)	A	-	0.5	1.0	I <sub>DS2</sub>

\* Duty Cycle 10%, Pulse Width 100us

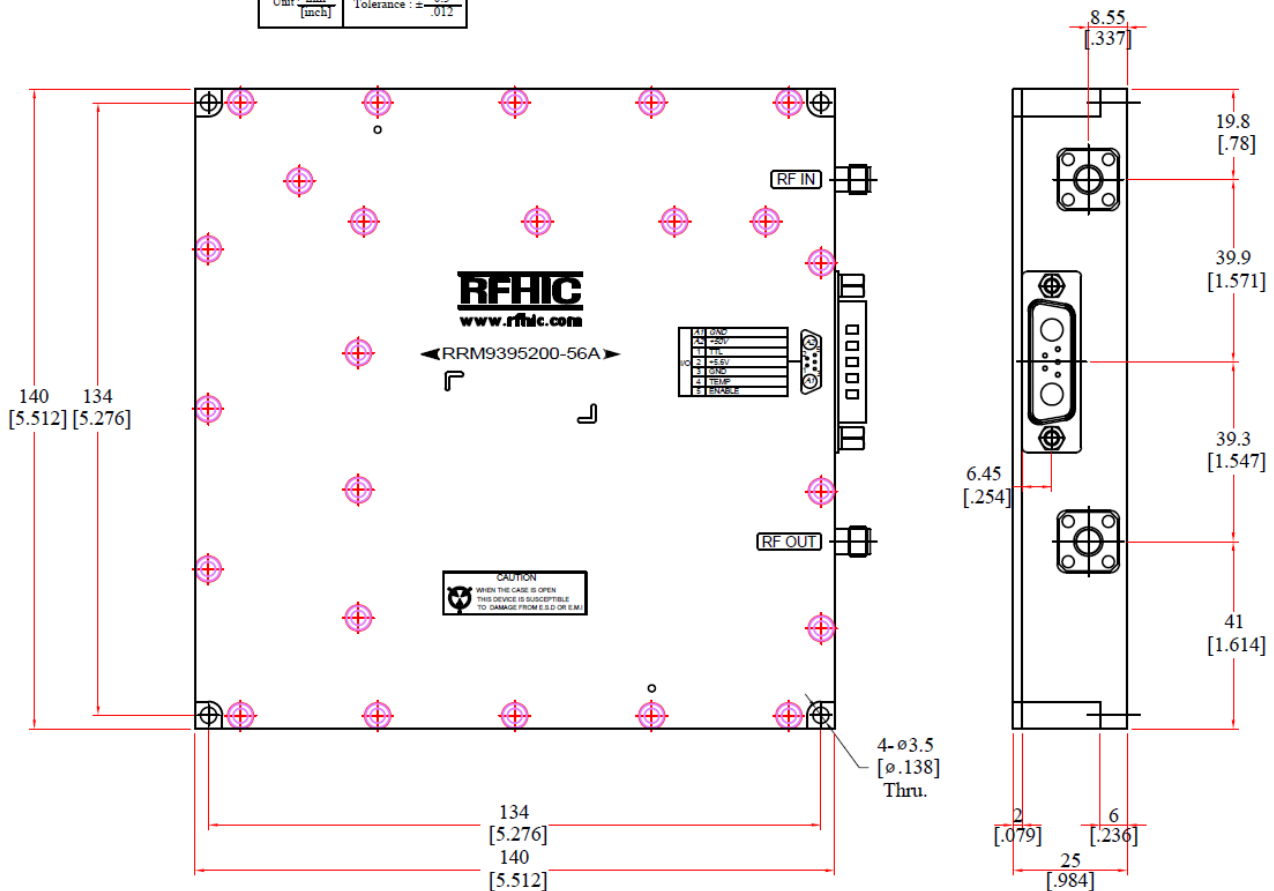
**Mechanical Specifications**

PARAMETER	UNIT	TYP
Mass	kg	0.85
Dimension	mm	140 x 140 x 25
RF Connector	-	SMA Female : RF Input
		SMA Female : RF Output
DC Connector	-	7W2 Combo Connector

**Pin Description**

Supply : 7W2 Combo Connector			
Pin No	Description	Pin No	Description
A1	GND	3	GND
A2	Vds1(+50V)	4	TEMP monitor
1	TTL Control(Pulse On/Off)	5	ENABLE(SSPA On/Off)
2	Vds2(+5.6V)		

Unit:  $\frac{\text{mm}}{[inch]}$  Tolerance:  $\pm \frac{0.3}{.012}$



**Revision History**

Part Number	Release Date	Version	Technical Modifications	Data Sheet Status
RRM9395200-56A	2019.07.01	0.1	-	Preliminary
RRM9395200-56A	2019.10.01	0.2	Pulse On/Off Control Voltage Before: TTL Low(0V) : SSPA ON, TTL High(5V) : SSPA OFF After: TTL Low(0V) : Pulse OFF, TTL High(5V) : Pulse ON	Preliminary
RRM9395200-56A	2020.09.11	1.0	-	Production

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# GaN Pulse Amp Module

# RRM9395200-56A



Sales, inquiries and support should be directed to the local authorized geographic distributor for RFHIC Corporation. For customers in the US, please contact the US Sales Team at 919-677-8780. For all other inquiries, please contact the International Sales Team at 82-31-8069-3000.