

**Product Features**

- Frequency from 9.3 ~9.7GHz
- GaN HEMT
- 50 Ohm Input/Output Impedance
- High Efficiency

**Applications**

- Radar System



**Description**

The RRM9397800-59A is designed for Radar system application frequencies from 9.3~9.7GHz. This module uses GaN HEMT technology which performs high breakdown voltage, wide bandwidth and high efficiency.

**Electrical Specifications @ T=25°C, 50Ω System**

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	MHz	9300	-	9700	fo
Operating Bandwidth	MHz	-	400	-	BW
Output Pulse Power	W	800	-	-	PO
Input Pulse Power	dBm	-2	0	+2	PI
Power Gain	dB	57	59	-	GP
Gain Flatness	dB	-	-	±1.0	ΔGP
Duty Cycle	%	-	-	10	DC
Pulse Width	us	-	-	100	PW
PAE	%	15	20	-	E <sub>ff</sub>
Amplitude Pulse Droop	dB	-	0.5	1.0	Droop
Harmonics 1 to N	dBc	40	-	-	H <sub>N</sub>
Spurious Level	dBc	60	-	-	Spur
Rise / Fall Time	ns	-	-	50	t <sub>r</sub> / t <sub>f</sub>
Input VSWR	dB	-	-	2 : 1	VSWR
Output VSWR	dB	-	-	2 : 1	VSWR
Switching Time	ns	-	-	200	t <sub>sw</sub>
Operating Voltage(Main)	V	-	50	-	OV <sub>1</sub>
Operating Voltage(Sub)	V	-	5.6	-	OV <sub>2</sub>
Power Consumption	W	-	500	550	PC

\* Test Pulse conditions = 100us, 10%

\* Custom design available

**Absolute Maximum Ratings**

PARAMETER	UNIT	RATING	SYMBOL
Operating Flange Temperature	°C	-30 ~ 75	T <sub>c</sub>
Storage Temperature	°C	-40 ~ 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	Low(0V) : SSPA OFF, 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	-	10.0	11.0	I <sub>DS1</sub>
Drain-Source Sub Current (AVG)	A	-	0.5	1.0	I <sub>DS2</sub>

\* Duty Cycle 10%, Pulse Width 100us

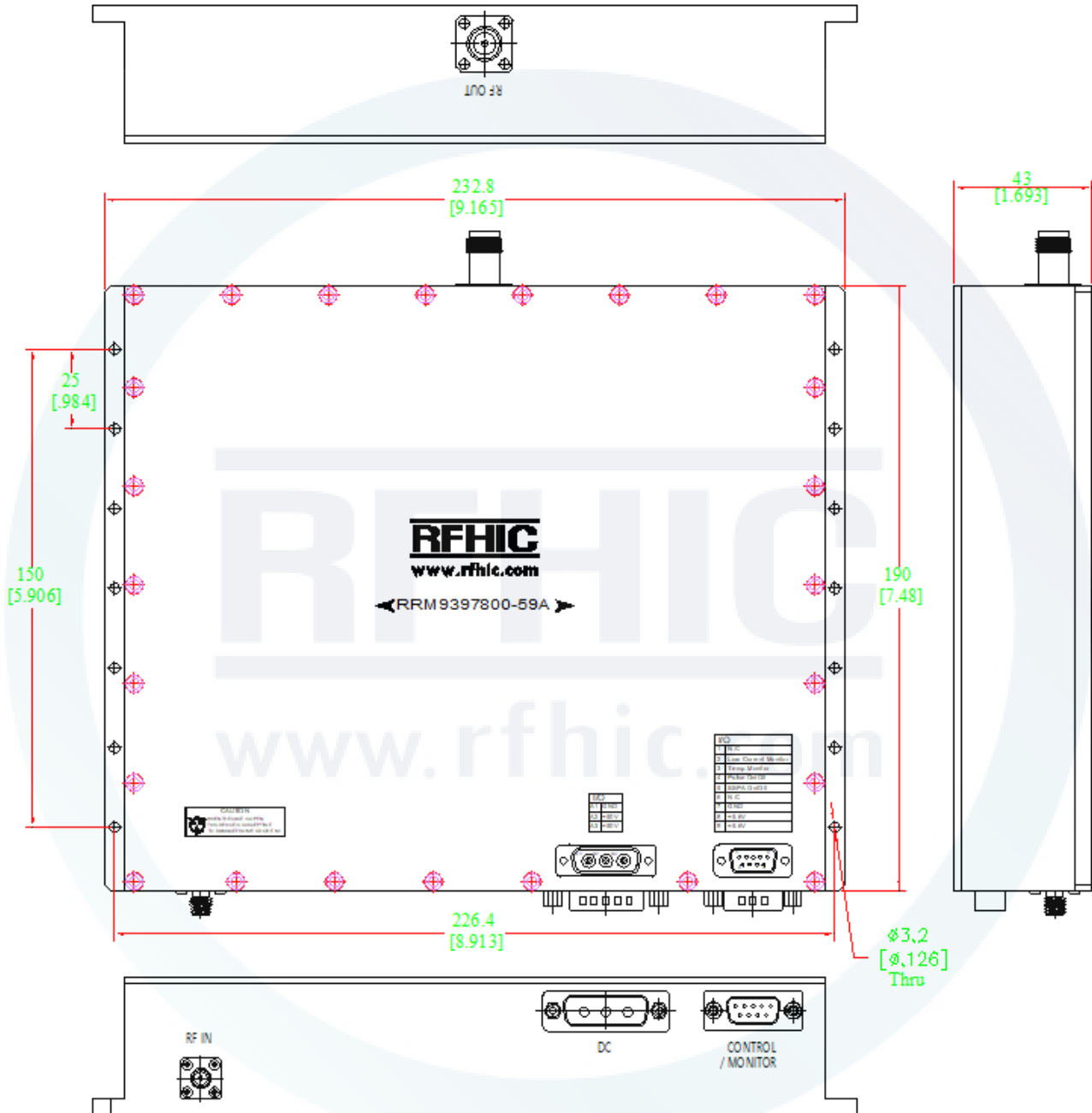
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**Mechanical Specifications**

PARAMETER	UNIT	TYP
Mass	kg	3.16(TBD)
Dimension (W x L x H)	mm	232.8 x 190 x 43
RF Connector	-	RF Input : SMA Female
		RF Output : TNC Female
DC Connector	-	3W3 Combo Male(50V)
Control Connector	-	9-Pin D-sub Male(5.6V / Control / Monitor)

**Outline Drawing**

\* Unit: mm[inch] | Tolerance  $\pm 0.2$ [.008]



**Pin Description**

Supply : 3W3 Combo Male Type Connector			
Pin No	Description	Pin No	Description
A1	Ground	A3	V <sub>DS1</sub> (+50V)
A2	V <sub>DS1</sub> (+50V)	-	-

Supply : 9-Pin D-Sub Male Type Connector			
Pin No	Description	Pin No	Description
1	N.C	6	N.C
2	Low Current Monitor	7	Ground
3	Temp Monitor	8	V <sub>DS2</sub> (+5.6V)
4	TTL Control (Pulse On/Off)	9	V <sub>DS2</sub> (+5.6V)
5	Enable (SSPA On/Off)		-

\* Temp Monitor [0.75V/25°C(10mV/°C)]

**Revision History**

Part Number	Release Date	Version	Modification	Data Sheet Status
RRM9397800-59A	March, 2021	0.1	Initial Release of Datasheet	Preliminary

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