

**Product Features**

- Frequency from 9.0 ~ 9.5 GHz
- GaN HEMT
- 50 Ohm Input/Output impedance
- High efficiency

**Applications**

- Radar System



**Description**

The RRP9095150-18 is designed for Radar system application frequencies from 9.0 ~ 9.5 GHz. This module uses GaN HEMT technology which performs high breakdown voltage, wide bandwidth and high efficiency.

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

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	GHz	9.0	-	9.5	$f_o$
Operating Bandwidth	GHz	-	0.5	-	BW
Output Pulse Power	dBm	51	52	-	$P_o$
Power Gain	dB	17	18	-	$G_p$
Gain Flatness	dB	-	$\pm 0.5$	-	$\Delta G_p$
Duty Cycle	%	-	10	-	DC
Pulse Width	us	-	100	-	PW
Drain Efficiency	%	-	35	-	$E_{ff}$
Amplitude Pulse Droop	dB	-	0.5	1.0	Droop
Harmonics 1 to N	dBc	-	40	-	$H_N$
Spurious Level	dBc	-	60	-	Spur
Rise Time	ns	-	-	50	$t_r$
Fall Time	ns	-	-	50	$t_f$
Input Return Loss	dB	-	-	-5	RL

\* Test Pulse conditions = 100us, 10%

\* Above electrical specifications 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

**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**

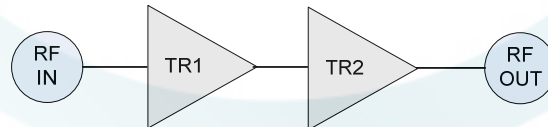
PARAMETER	UNIT	NOMINAL VOLTAGE	VOLTAGE ACCURACY	SYMBOL
Drain-Source Voltage	V	50	± 2%	V <sub>DS</sub>

**Power Supply**

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Drain-Source Current(AVG)	A	-	1.1	1.3	I <sub>DS</sub>

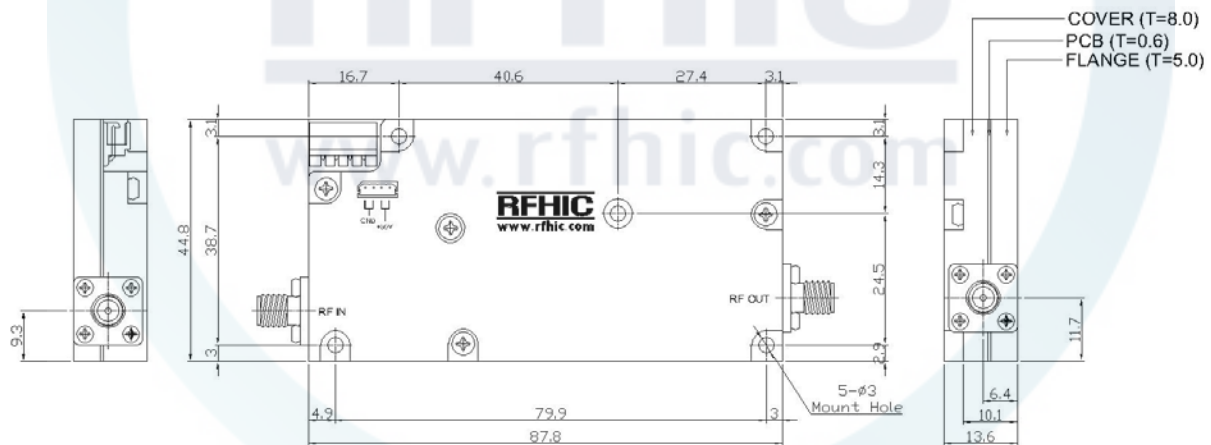
\* Duty Cycle 10%, Pulse Width 100us

**Block diagram**



**Mechanical Specifications**

PARAMETER	UNIT	TYP
Dimension	mm	44.8 x 87.8 x 13.6 (W x L x H)
RF Connector	-	SMA : RF Input
		SMA : RF Output



**Revision History**

Part Number	Release Date	Version	Modification	Data Sheet Status
RRP9095150-18	2014.08.18	0.1	-	Preliminary



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