

**Product Features**

- Frequency from 2.9 ~ 3.3GHz
- GaN HEMT
- 50 Ohm Input/Output impedance
- High efficiency

**Applications**

- Radar system

**Description**

The RRP31080-10 is designed for Radar system application frequencies from 2.9 ~ 3.3GHz.

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	2900	-	3300	$f_o$
Operating Bandwidth	MHz	-	400	-	BW
Output Pulse Power	W	70	80	-	$P_o$
Input Pulse Power	dBm	15	-	-	$P_i$
Power Gain	dB	-	35	-	$G_p$
Gain Flatness	dB	-	-	1.0	$\Delta G_p$
Duty Cycle	%	-	-	20	DC
Pulse Width	us	-	-	500	PW
Efficiency	%	-	38	-	$E_{ff}$
Amplitude Pulse Droop	dB	-	0.5	1.0	Droop
Harmonics 1 to N	dBc	30	-	-	$H_N$
Spurious Level	dBc	60	-	-	Spur
Rise Time	ns	-	-	200	$t_r$
Fall Time	ns	-	-	200	$t_f$
Phase Deviation	$^{\circ}$	-20	-	20	$\Delta\phi$

\* Test Pulse conditions = 100us, 10%

\* Above electrical specifications is measured by connecting electrolytic condenser 1,000uF 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
Thermal Resistance	°C/W	1.1	$R_{TH(JC)}$
Operating Junction Temperature	°C	225	$T_J$
Operating Flange Temperature	°C	-20 ~ 100	$T_C$
Storage Temperature	°C	-50 ~ 150	$T_{STG}$

## Operating Voltages

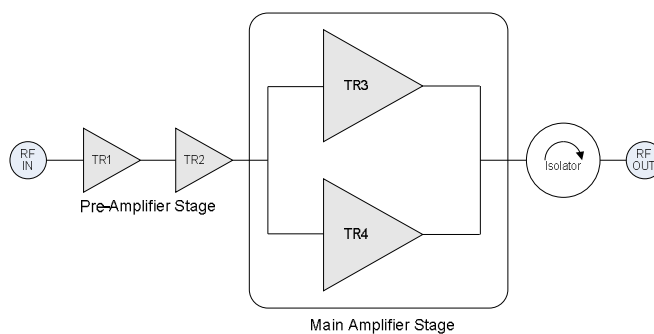
PARAMETER	UNIT	NOMINAL VOLTAGE	VOLTAGE ACCURACY	SYMBOL
Drain-Source Voltage	V	50	± 5%	$V_{DS}$
Switching Voltage	V	TTL Low(0V) : PA ON, TTL High(5V) : PA OFF		$V_{DC}$

## Power Supply

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Drain-Source Current(AVG)	A	-	-	-	$I_{DS}$

\* Duty Cycle 10%, Pulse Width 100us

## Block diagram



## Mechanical Specifications

PARAMETER	UNIT	TYP
Mass	kg	0.1
Dimension	mm	145 x 34 x 10
RF Connector	-	50 ohm Pad(SMA Connector available) : RF Input 50 ohm Pad(SMA Connector available): RF Output
DC Connector	-	DC Pad : $V_{DS}$ DC Pad : $V_{DC}$ DC Pad : GND



Revision History

Part Number	Release Date	Version	Modification	Data Sheet Status
RRP31080-10	2012.9.6	1.0	-	-

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