

**Product Features**

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

**Applications**

- Radar system

**Description**

The RRP31280-10 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	250	280	-	$P_o$
Input Pulse Power	dBm	46	-	-	$P_i$
Power Gain	dB	-	8.5	-	$G_p$
Gain Flatness	dB	-	-	1.0	$\Delta G_p$
Duty Cycle	%	-	-	20	DC
Pulse Width	us	-	-	500	PW
Efficiency	%	-	50	-	$E_{ff}$
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	°	-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	0.36	$R_{TH(JC)}$
Operating Junction Temperature	°C	225	$T_J$
Operating Flange Temperature	°C	-20 ~ 100	$T_C$
Storage Temperature	°C	-50 ~ 150	$T_{STG}$

## Operating Voltages

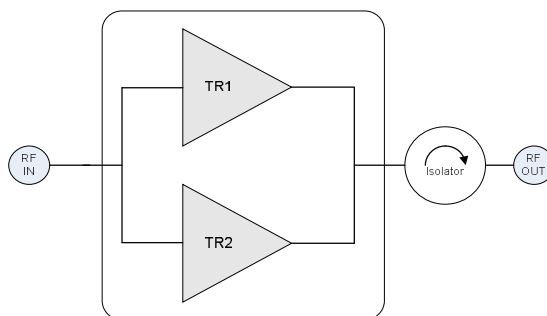
PARAMETER	UNIT	NOMINAL VOLTAGE	VOLTAGE ACCURACY	SYMBOL
Drain-Source Voltage	V	50	± 5%	$V_{DS}$
Switching Voltage	V	TTL Low(0V) : PA ON, TTL High(5V) : PA OFF		$V_{DC}$

## Power Supply

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

\* Duty Cycle 10%, Pulse Width 100us

## Block diagram

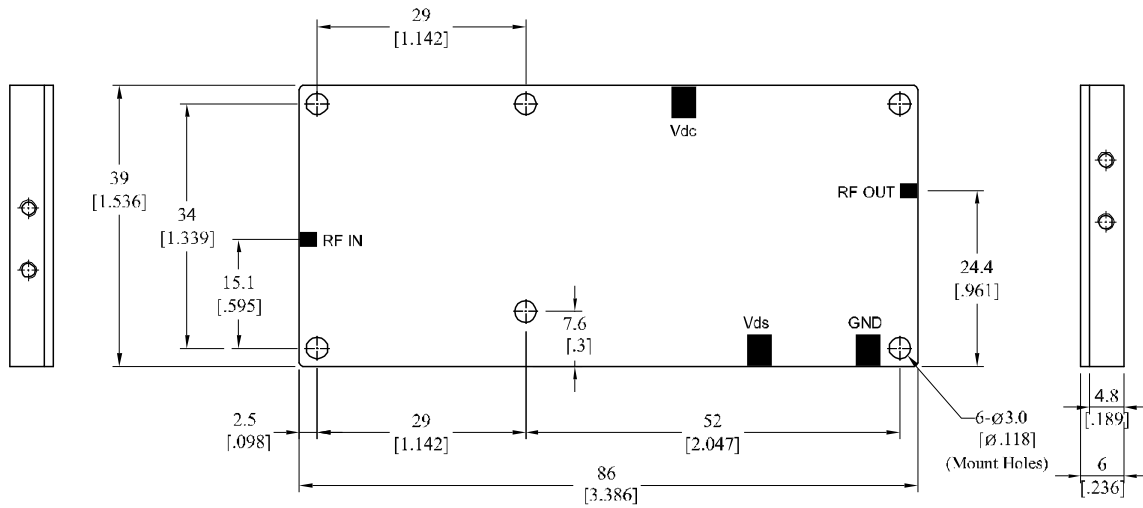


## Mechanical Specifications

PARAMETER	UNIT	TYP
Mass	kg	0.07
Dimension	mm	86 x 39 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

Outline Drawing

\* Unit: mm[inch] | Tolerance ±0.15[.006]



**Revision History**

Part Number	Release Date	Version	Modification	Data Sheet Status
RRP31280-10	2012.9.6	1.0	-	-

RFHIC Corporation reserves the right to make changes to any products herein or to discontinue any product at any time without notice. While product specifications have been thoroughly examined for reliability, RFHIC Corporation strongly recommends buyers to verify that the information they are using is accurate before ordering. RFHIC Corporation does not assume any liability for the suitability of its products for any particular purpose, and disclaims any and all liability, including without limitation consequential or incidental damages. RFHIC products are not intended for use in life support equipment or application where malfunction of the product can be expected to result in personal injury or death. Buyer uses or sells such products for any such unintended or unauthorized application, buyer shall indemnify, protect and hold RFHIC Corporation and its directors, officers, stockholders, employees, representatives and distributors harmless against any and all claims arising out of such unauthorized use.

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 82-31-250-5078.