Pulse Amp Module RRP33080-10

Product Features

- Frequency from 3.1 ~ 3.5GHz
- GaN HEMT
- 50 Ohm Input/Output impedance
- High efficiency

Applications

- Radar system

Description

The RRP33080-10 is designed for Radar system application frequencies from 3.1 ~ 3.5GHz.
This module uses GaN HEMT technology which performs high breakdown voltage, wide bandwidth and high efficiency.

Electrical Specifications @ V_{DS} =50V, T=25°C, 50Ω System

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	MHz	3100	-	3500	f_O
Operating Bandwidth	MHz	-	400	-	BW
Output Pulse Power	W	70	80	-	P_O
Input Pulse Power	dBm	16	-	-	P_I
Power Gain	dB	-	34	-	G_P
Gain Flatness	dB	-	-	1.0	ΔG_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	°	-20	-	20	$\Delta\varphi$

* 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	℃/W	0.1	$R_{TH(JC)}$
Operating Junction Temperature	℃	225	T_J
Operating Flange Temperature	℃	-20 ~ 100	T_C
Storage Temperature	℃	-50 ~ 150	T_{STG}

Operating Voltages

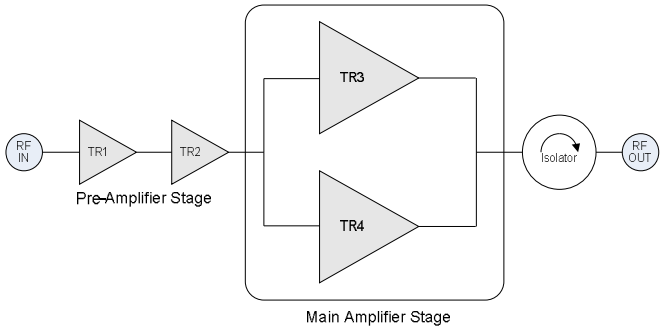
PARAMETER	UNIT	NOMINAL VOLTAGE	VOLTAGE ACCURACY	SYMBOL
Drain-Source Voltage	V	50	± 5%	V_{DS}
Switching Voltage	V	TTL Low(0V) : PA ON, TTL High(5V) : PA OFF		V_{DC}

Power Supply

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

* Duty Cycle 10%, Pulse Width 100us

Block diagram

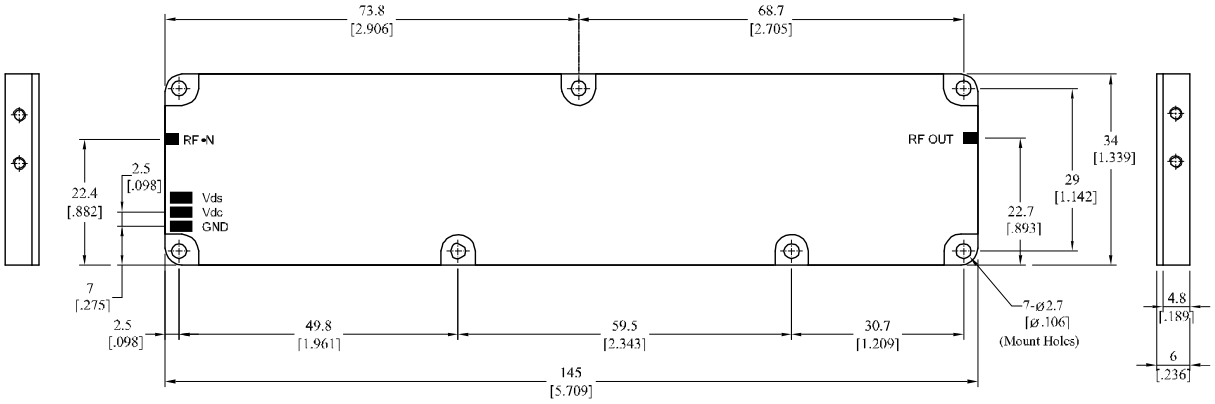


Mechanical Specifications

PARAMETER	UNIT	TYP
Mass	kg	0.1
Dimension	㎜	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

Outline Drawing

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



Revision History

Part Number	Release Date	Version	Modification	Data Sheet Status
RRP33080-10	2012.9.6	1.0	-	-