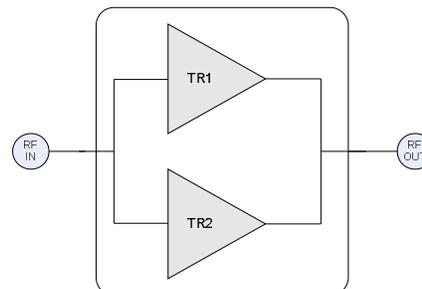


Product Features

- Frequency from 1.2 ~ 1.4GHz
- GaN HEMT
- 50 Ohm Input/Output impedance
- High efficiency

Applications

- Radar system



Description

The RRP13330-10 is designed for Radar system application frequencies from 1.2 ~ 1.4GHz.

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	MHz	1200	-	1400	f_0
Operating Bandwidth	MHz	-	200	-	BW
Output Pulse Power	W	300	330	-	P_O
Input Pulse Power	dBm	42	-	-	P_I
Power Gain	dB	-	14	-	G_P
Gain Flatness	dB	-	-	1.0	ΔG_P
Duty Cycle	%	-	-	20	DC
Pulse Width	us	-	-	500	PW
Efficiency	%	-	65	-	E_{ff}
Amplitude Pulse Droop	dB	-	0.5	1.0	Droop
Harmonics 1 to N	dBc	20	-	-	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

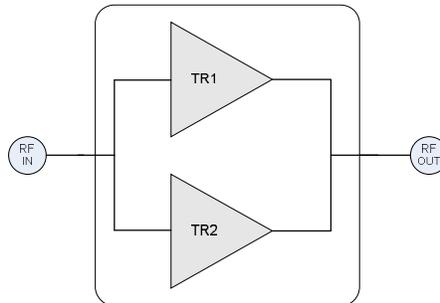
PARAMETER	UNIT	NOMINAL VOLTAGE	VOLTAGE ACCURACY	SYMBOL
Drain-Source Voltage	V	50	± 5%	V_{DS}
Switching Voltage	V	TTL Low(0V) : PA ON, TTL High(5V) : PA OFF		V_{DC}

Power Supply

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Drain-Source Current(AVG)	A	-	1	1.3	I_{DS}

* Duty Cycle 10%, Pulse Width 100us

Block diagram

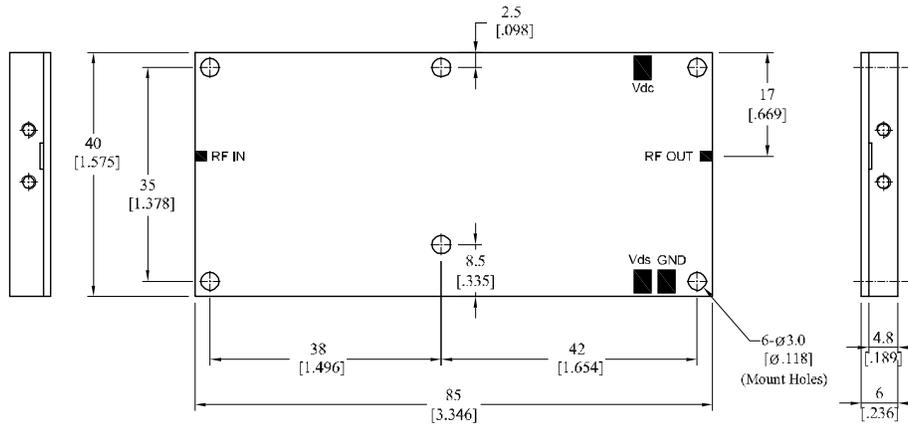


Mechanical Specifications

PARAMETER	UNIT	TYP
Mass	kg	0.07
Dimension	mm	85 x 40 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
RRP13330-10	2012.10.5	1.0	-	-

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