

## Product Features

- High Output Power :  $P_{out} = 90W$  (Typ.)
- High Gain :  $GP = 37dB$  (Typ.)
- High Efficiency : 40% (Typ.)
- High thermal stability
- Internally matched for ease of use
- 20% Duty Cycle, 500us Pulse Width

## Applications

- Radar system



## Description

The RRP3135080-37 is designed for Radar system application frequencies from 3.1GHz to 3.5GHz and GaN HEMT technology has been used that performs high breakdown voltage, wide bandwidth and high efficiency. Since it is high efficiency amplifier, it can perform at max. 20% duty cycle and 500us of pulse width.

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

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	MHz	3100	-	3500	$f_o$
Operating Bandwidth	MHz	-	400	-	BW
Output Pulse Power	W	70	90	-	$P_o$
Input Pulse Power	dBm	-	12	-	$P_i$
Power Gain	dB	36	37	-	$G_P$
Gain Flatness	dB	-	-	1.0	$\Delta G_P$
Duty Cycle	%	-	-	20	DC
Pulse Width	us	-	-	500	PW
Efficiency	%	35	40	-	$E_{ff}$
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 <sub>TH(JC)</sub>
Operating Junction Temperature	°C	225	T <sub>J</sub>
Operating Flange Temperature	°C	-20 ~ 85	T <sub>C</sub>
Storage Temperature	°C	-50 ~ 125	T <sub>STG</sub>

### Operating Voltages

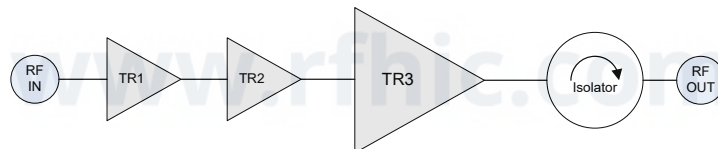
PARAMETER	UNIT	NOMINAL VOLTAGE	VOLTAGE ACCURACY	SYMBOL
Drain-Source Voltage	V	50	± 2%	V <sub>DS</sub>
Enable Voltage	V	TTL High(5V) : PA ON, TTL Low(0V) : PA OFF		V <sub>DC</sub>

### Power Supply

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Drain-Source Current(AVG)	A	-	0.9	1.2	I <sub>DS</sub>

\* Duty Cycle 10%, Pulse Width 100us

### Block diagram

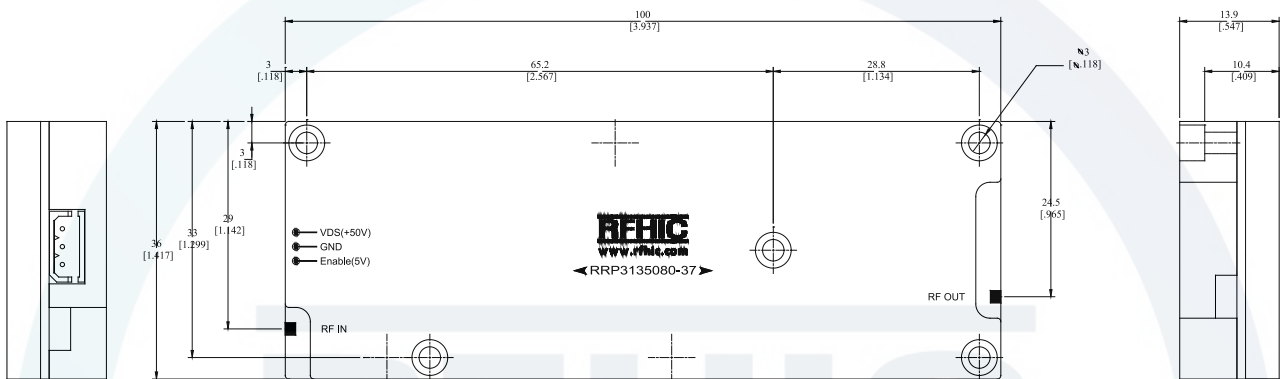


### -Mechanical Specifications

PARAMETER	UNIT	TYP
Mass	kg	0.1
Dimension	mm	100 x 36 x 14
RF Connector	-	50 ohm Pad (SMA available) : RF Input
		50 ohm Pad (SMA available) : RF Output
DC Connector	-	3Pin Molex Connector (Male) : Supply

## Outline Drawing

\* Unit: mm[inch] | Tolerance  $\pm 0.2$ [.008]



## Pin Description

Pin No	Description	Pin No	Description
1	V <sub>DS</sub> (+50V)	3	Enable(+5V)
2	GND		

**Revision History**

Part Number	Release Date	Version	Modification	Data Sheet Status
RRP3135080-37	2022.11.23	0.2	Modified Spec. & Outline Drawing	Preliminary
RRP3135080-37	2014.10.02	0.1	-	Preliminary
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