Preliminary

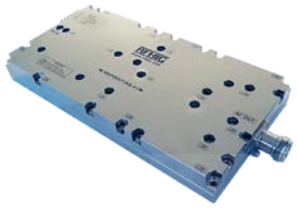
Pulse Amp Pallet RRP56571K0-41

Product Features

- Frequency from 5.6 ~ 5.7GHz
- GaN HEMT
- 50 Ohm Input/Output impedance
- High efficiency

Applications

- Radar system



Description

The RRP56571K0-41 is designed for Radar system application frequencies from 5.6 ~ 5.7GHz.
This module uses GaN HEMT technology which performs high breakdown voltage, wide bandwidth and high efficiency.

Electrical Specifications @ $V_{DS}1$=50V, $V_{DS}2$=12V T=25°C, 50Ω System

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	MHz	5600	-	5700	f_O
Operating Bandwidth	MHz	-	100	-	BW
Output Pulse Power	W	1000	1200	-	P_O
Input Pulse Power	dBm	-	20	25	P_I
Power Gain	dB	40	41	-	G_P
Gain Flatness	dB	-	-	±0.5	ΔG_P
Duty Cycle	%	-	-	10	DC
Pulse Width	us	-	-	200	PW
Efficiency	%	30	35	-	E_{ff}
Amplitude Pulse Droop	dB	-	0.5	1.0	Droop
Harmonics 1 to N	dBc	40	-	-	H_N
Spurious Level	dBc	60	-	-	Spur
Rise Time	ns	-	-	100	t_r
Fall Time	ns	-	-	100	t_f
Input VSWR	dB	-	-	2.0:1	VSWR
Output VSWR	dB	-	-	1.5:1	VSWR
Switching Time	us	-	0.1	-	t_{SW}
Phase Deviation	°	-20	-	20	Δφ

∗ Test Pulse conditions = 100us, 10%
∗ Above electrical specifications is measured by connecting electrolytic condenser 6,800uF 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
Operating Junction Temperature	°C	225	T_J
Operating Flange Temperature	°C	-20 ~ 85	T_C
Storage Temperature	°C	-40 ~ 125	T_{STG}

Operating Voltages

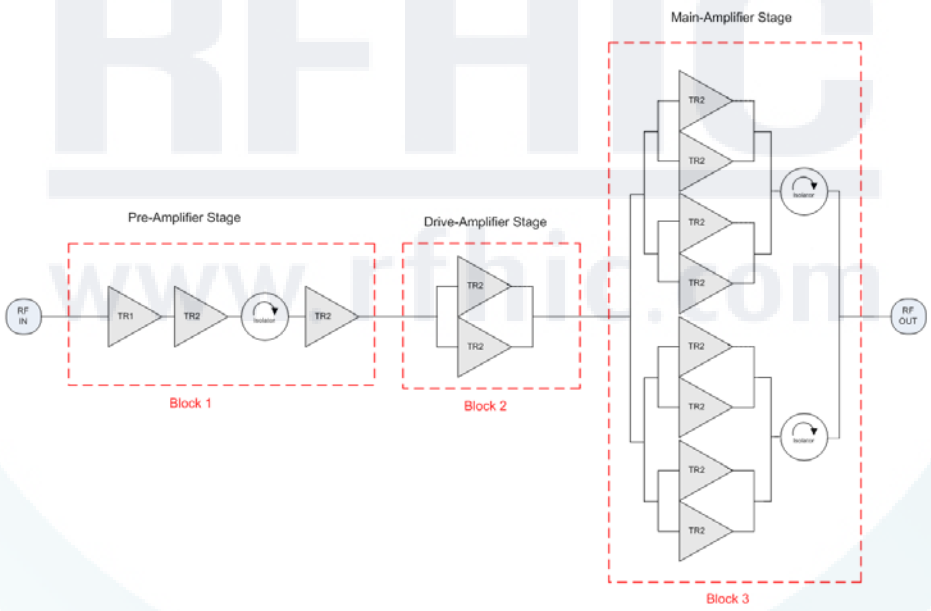
PARAMETER	UNIT	NOMINAL VOLTAGE	VOLTAGE ACCURACY	SYMBOL
Drain-Source Voltage	V	50	± 2%	$V_{DS}1$
Drain-Source Sub Voltage	V	10	± 2%	$V_{DS}2$
On/Off Control Voltage	V	TTL Low(0V) : PA OFF, TTL High(5V) : PA ON		
Peak Monitor Voltage	V	1.5V@60dBm (dB/30mV)		
Temp Monitor Voltage	V	0.75V@25℃ (1℃/0.01V)		

Power Supply

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Drain-Source Current(AVG)	A	-	8.0	10	$I_{DS}1$
Drain-Source Sub Current(AVG)	A	-	0.15	0.3	$I_{DS}2$

* Duty Cycle 10%, Pulse Width 100us

Block diagram

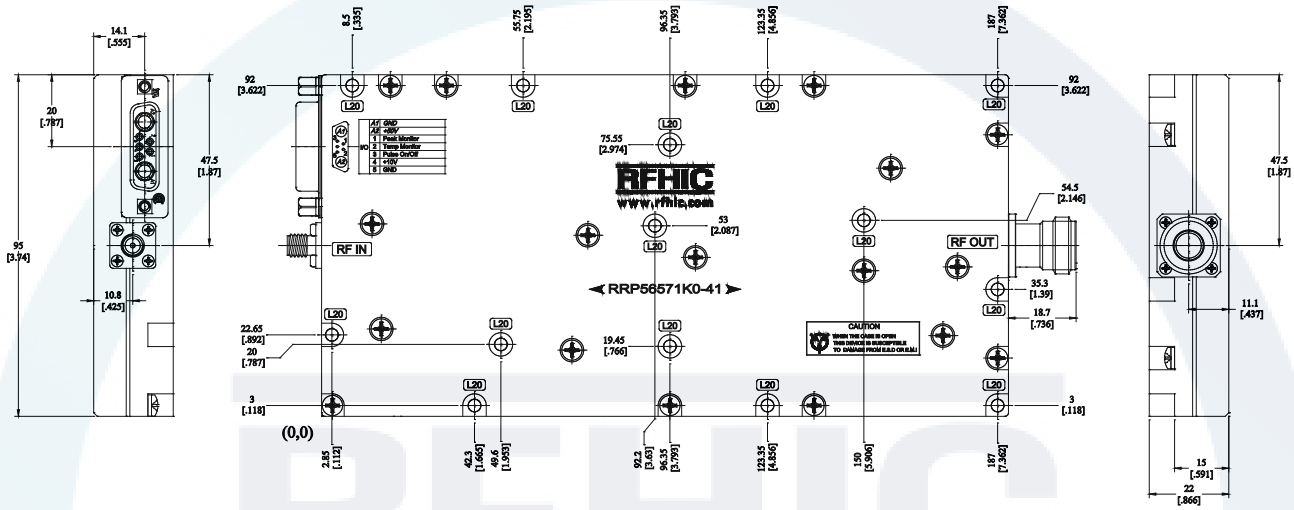


Mechanical Specifications

PARAMETER	UNIT	TYP
Mass	kg	-
Dimension	mm	190 x 95 x 22
RF Connector	-	SMA Female : RF Input
		N Female : RF Output
DC Connector	-	7W2 Combo Connector : Supply

Outline Drawing

* Unit: mm[inch] | Tolerance ±0.2[.008]



Pin Description

Supply : 7W2 Combo Connector			
Pin No	**Description**	**Pin No**	**Description**
A1	GND	1	Peak Monitor
A2	V_{DS}1(+50V)	2	Temp Monitor
-	-	3	Pulse On/Off
-	-	4	+10V
-	-	5	GND

Revision History

Part Number	Release Date	Version	Modification	Data Sheet Status
RRP56571K0-41	2015.9.22	0.2	-	Preliminary
RRP56571K0-41	2015.3.10	0.1	-	Preliminary