

Pulse Amp Pallet RRP27312K5-30

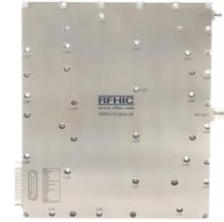


Product Features

- Frequency from 2.7 ~ 3.1GHz
- GaN HEMT
- 50 Ohm Input/Output impedance
- High efficiency

Applications

- Radar system



Description

The is designed for Radar system application frequencies from 2.7 ~ 3.1GHz.

This pulse amplifier uses GaN HEMT technology which performs high breakdown voltage, wide bandwidth, and high efficiency.

Electrical Specifications @ $V_{DS1}=50V$, $V_{DS2}=6V$, $T=25^{\circ}C$, 50 Ω System

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	MHz	2700	-	3100	f_o
Operating Bandwidth	MHz	-	400	-	BW
Output Pulse Power	W	2500	2800	-	P_o
Input Pulse Power	dBm	-	34.5	-	P_i
Power Gain	dB	-	30	-	G_p
Gain Flatness	dB	-	-	± 0.5	ΔG_p
Duty Cycle	%	-	5	10	DC
Pulse Width	us	1	50	100	PW
Efficiency	%	35	40	-	E_{if}
Amplitude Pulse Droop	dB	-	0.5	1.0	Droop
Harmonics 1 to N	dBc	40	-	-	H_N
Spurious Level	dBc	70	-	-	Spur
Rise Time	ns	-	-	100	t_r
Fall Time	ns	-	-	100	t_f
Input VSWR	dB	-	-	1.5:1	VSWR
Output VSWR	dB	-	-	1.5:1	VSWR
Switching Time	us	-	-	0.5	t_{sw}
Phase Deviation	$^{\circ}$	-20	-	20	$\Delta\phi$

* Test Pulse conditions = 100us, 10%

* Custom design available

Absolute Maximum Ratings

PARAMETER	UNIT	RATING	SYMBOL
Operating Flange Temperature	$^{\circ}C$	-20 ~ 85	T_c
Storage Temperature	$^{\circ}C$	-40 ~ 125	T_{STG}

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Operating Voltages

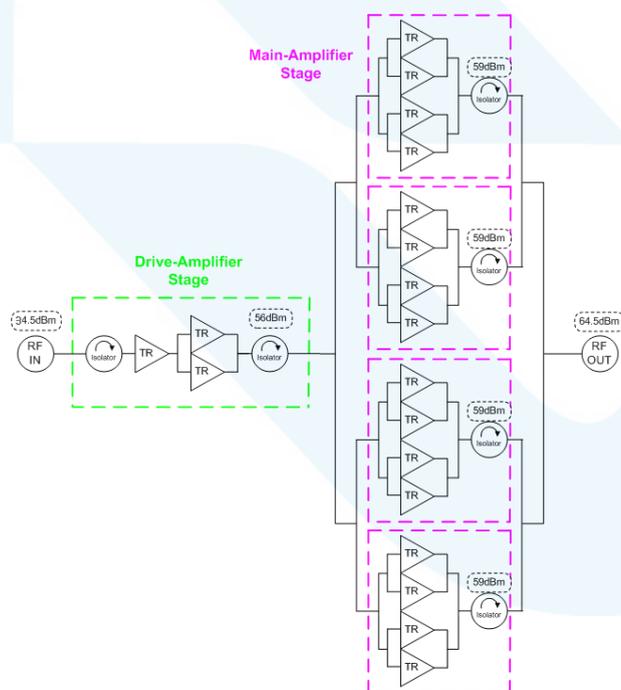
PARAMETER	UNIT	NOMINAL VOLTAGE	VOLTAGE ACCURACY	SYMBOL
Drain-Source Voltage	V	50	± 2%	V _{DS1}
Drain-Source Sub Voltage	V	6	± 2%	V _{DS2}
Shutdown Voltage	V	TTL Low(0V) : PA OFF, TTL High(5V) : PA ON		V _{DC1}
On/Off Control Voltage	V	TTL Low(0V) : PA OFF, TTL High(5V) : PA ON		V _{DC2}
Peak Monitor Voltage	V	1.7V@2.9GHz, 64dBm (dB/20mV)		
Temp Monitor Voltage	V	0.75V@25°C (1°C/0.01V)		

Power Supply

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Drain-Source Current(AVG)	A	-	14	16	I _{DS1}
Drain-Source Sub Current(AVG)	mA	-	50	100	I _{DS2}

* Duty Cycle 10%, Pulse Width 100us

Block diagram



Mechanical Specifications

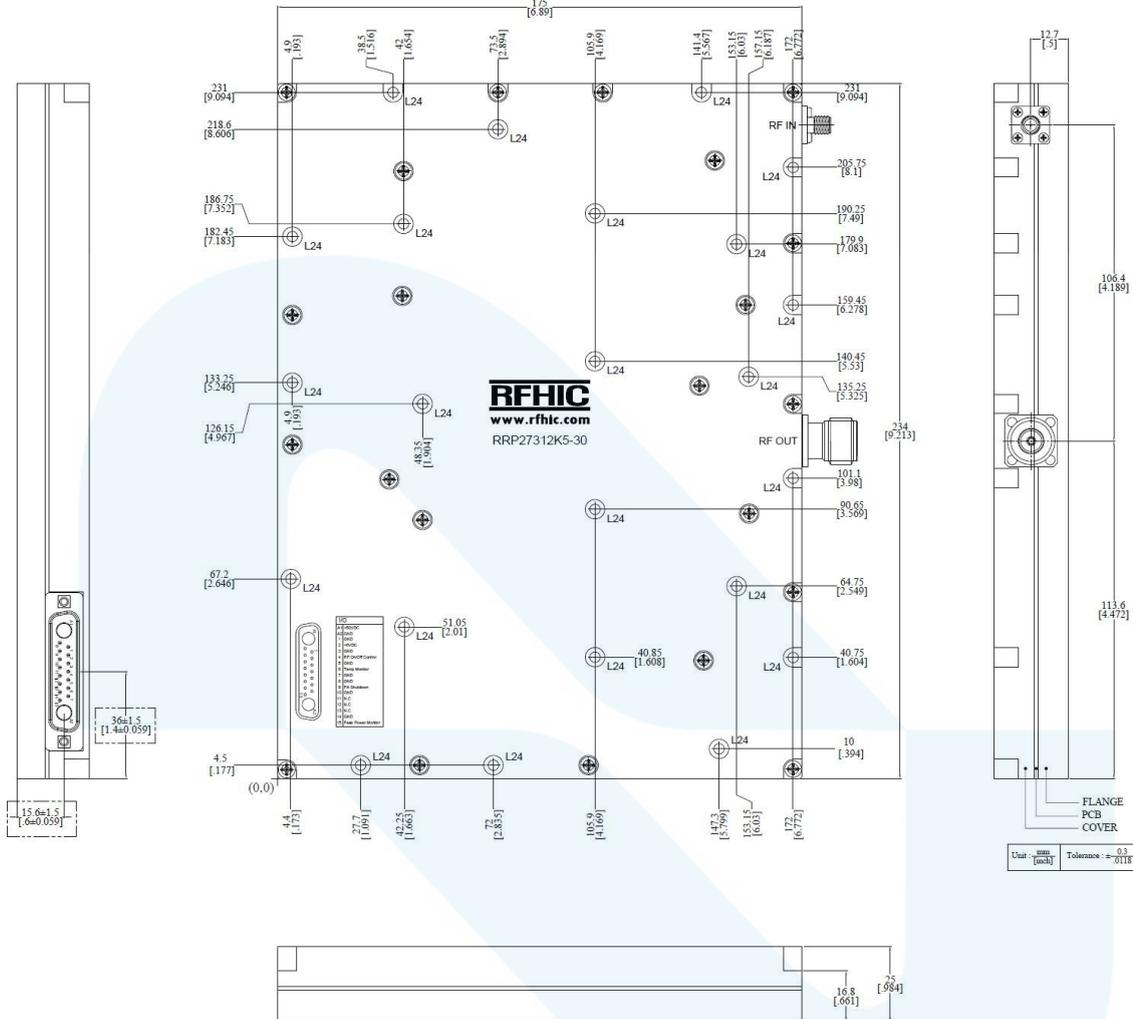
PARAMETER	UNIT	TYP
Mass	kg	2.5(TBD)
Dimension	mm	175x234x25
RF Connector	-	SMA Female: RF Input N Female: RF Output
DC Connector	-	17W2 Combo Connector: Supply and Control

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Outline Drawing

* Unit: mm[inch] | Tolerance ± 0.3 [.0118]



Pin Description

Supply: 17W2 Combo Connector			
Pin No	Description	Pin No	Description
A1	+50VDC (V _{DS1})	8	GND
A2	GND	9	PA Shutdown
1	GND	10	GND
2	+6VDC (V _{DS2})	11	N.C
3	GND	12	N.C
4	Pulse On/Off Control	13	N.C
5	GND	14	GND
6	Temp Monitor	15	Peak Power Monitor
7	GND		

* Temp Monitor (25°C=0.75V, 0.01V/1°C)

* Peak Power Monitor (1dB/20mV)

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Revision History

Part Number	Release Date	Version	Modification	Data Sheet Status
RRP27312K5-30	2016.07.15	0.1	-	Preliminary
RRP27312K5-30	2017.11.20	0.2	-	Preliminary
RRP27312K5-30	2019.01.21	0.3	-	Preliminary
RRP27312K5-30	2019.02.19	0.4	-	Preliminary
RRP27312K5-30	2019.05.15	0.5	-	Preliminary
RRP27312K5-30	2020.09.11	1.0	Footer Email Change, Korean to HQ	Production
RRP27312K5-30	2026.02.09	1.1	Modified due to form change	Production



Certification

This product is manufactured by a company that is certified for the AS9100D quality management system.

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All specifications may change without notice.

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