

Preliminary
Wideband Amp Pallet
RRP27311K0-22



Product Features

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

Applications

- Radar system

Description

The RRP27311K0-22 is designed for Radar system application frequencies from 2.7 ~ 3.1GHz. This module uses GaN HEMT technology which performs high breakdown voltage, wide bandwidth and high efficiency.

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

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	MHz	2700	-	3100	f_o
Operating Bandwidth	MHz	-	400	-	BW
Output Pulse Power	W	-	1000	-	P_o
Input Pulse Power	dBm	-	38	-	P_i
Power Gain	dB	-	22	-	G_P
Gain Flatness	dB	-	-	± 0.5	ΔG_P
Duty Cycle	%	-	5	10	DC
Pulse Width	us	1	50	100	PW
Efficiency	%	-	45	-	E_{ff}
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
Phase Deviation	$^{\circ}$	-20	-	20	$\Delta\phi$

* Test Pulse conditions = 100us, 10%
 * Custom design available

Absolute Maximum Ratings

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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}
Sub Voltage	V	6	± 2%	V _{SUB}
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}
Temp Monitor Voltage*	V	0.75V@25°C (1°C/0.01V)		

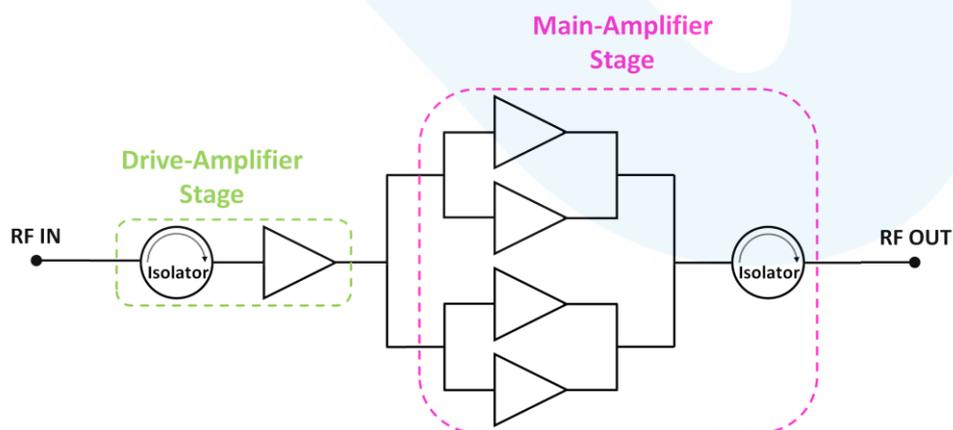
* Temp Monitor Range : -40°C~120°C

Power Supply

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Drain-Source Current(AVG)	A	-	5	6	I _{DS}
Sub Current(AVG)	mA	-	40	-	I _{SUB}

* Duty Cycle 10%, Pulse Width 100us

Block diagram



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Mechanical Specifications

PARAMETER	UNIT	TYP
Mass	kg	0.6
Dimension	mm	130x100x25.5(TBD)
RF Connector	-	SMA Female : RF Input
		N Female : RF Output
DC Connector	-	15 Pin D-SUB Connector : Supply and Control

Revision History

Part Number	Release Date	Version	Modification	Data Sheet Status
RRP27311K0-22	2020.12.15	0.1	-	Preliminary
RRP27311K0-22	2026.03.11	0.2	Add temperature operation information	Preliminary
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