

Solid State Power Amplifier

RRP9495500-55WG



Product Features

- Frequency from 9400 ~ 9500MHz
- GaN HEMT
- 50 Ohm Input/Output Impedance
- High Efficiency

Applications

- Radar System



Description

The RRP9495500-55WG is designed for Radar system application frequencies from 9400~9500MHz. This Pallet uses GaN HEMT technology which performs high breakdown voltage, wide bandwidth and high efficiency.

Electrical Specifications @ T=25°C, 50Ω System

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency	MHz	9400	-	9500	f _O
Operating Bandwidth	MHz	-	100	-	BW
Output Pulse Power	W	-	500	-	P _O
Input Pulse Power	dBm	0	+2	+4	P _I
Power Gain	dB	-	55	-	G _P
Gain Flatness	dB	-	-	±1.0	ΔG _P
Duty Cycle	%	-	-	10	DC
Pulse Width	us	-	-	100	PW
PAE	%	20	25	-	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/Fall Time	ns	-	-	50	t _r / t _f
Off State Isolation	dBc	100	-	-	Off Iso
Input VSWR	dB	-	-	2:1	VSWR
Output VSWR	dB	-	-	2:1	VSWR
Switching Time	ns	-	-	200	t _{sw}
Phase Deviation	°	-20	-	20	Δφ
Operating Voltage(Main)	V	-	50	-	O _{V1}
Operating Voltage(Sub)	V	-	5.6	-	O _{V2}
Power Consumption	W	-	200	250	P _C

Note.

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

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Absolute Maximum Ratings

PARAMETER	UNIT	RATING	SYMBOL
Operating Junction Temperature	°C	225	T _J
Operating Flange Temperature	°C	-30 ~ 75	T _C
Storage Temperature	°C	-50 ~ 125	T _{STG}

Operating Voltages

PARAMETER	UNIT	NOMINAL VOLTAGE	VOLTAGE ACCURACY	SYMBOL
Drain-Source Voltage	V	50	± 2%	V _{DS1}
Drain-Source Sub Voltage	V	5.6	± 2%	V _{DS2}
SSPA On/Off Control Voltage	V	Low(0V) : SSPA OFF, High(5V) : SSPA ON		V _{DC1}
Pulse On/Off Control Voltage	V	TTL Low(0V) : Pulse OFF, TTL High(5V) : Pulse ON		V _{DC2}

Power Supply

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Drain-Source Current (AVG)	A	-	4.0	5.0	I _{DS1}
Drain-Source Sub Current (AVG)	A	-	0.5	1.0	I _{DS2}

Mechanical Specifications

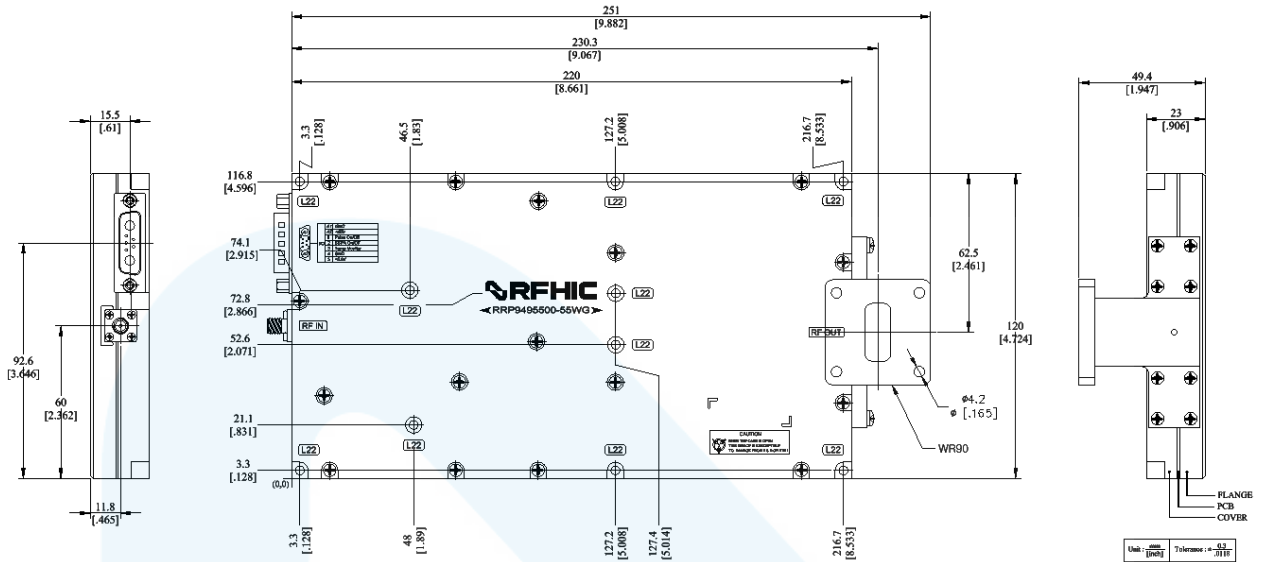
PARAMETER	UNIT	TYP
Mass	kg	1.4 (TBD)
Dimension (W x L x H)	mm	220 x 120 x 23 (Without Connectors)
RF Connector	-	RF Input : SMA Female
		RF Output : WR-90
DC/Control Connector	-	7W2 Combo Connector

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Package Dimensions

* Unit: mm[inch] | Tolerance: ± 0.3 [.118]



Pin Description

Supply and Control : 7W2 Combo Connector			
Pin No	Description	Pin No	Description
A1	Ground	3	Temp Monitor
A2	V _{DS1} (+50V)	4	Ground
1	TTL Control(Pulse On/Off)	5	V _{DS2} (+5.6V)
2	Enable(SSPA On/Off)		

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Revision History

Part Number	Release Date	Version	Modification	Data Sheet Status
RRP9495500-55WG	2026.03.31	0.1	Initial release of datasheet	Preliminary



Certification

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

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