

Preliminary Wideband Amp Pallet



Product Features

- Frequency from 2000~4000MHz
- GaN HEMT
- 50 Ohm Input/Output Impedance
- Instantaneous Wide Bandwidth
- High Reliability and Ruggedness



Description

The RWP2040400-19 is designed for general purpose. Operating frequency range is from 2000~4000MHz. 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	2000	-	4000	f _O
Operating Bandwidth	MHz	-	2000	-	BW
Output Pulse Power	W	400	-	-	P _O
Input Pulse Power	dBm	-	37	-	P _I
Power Gain	dB	19	-	-	G _P
Gain Flatness	dB	-	-	±2.0	ΔG _P
Duty Cycle	%	-	-	10	DC
Pulse Width	us	-	-	100	PW
Efficiency	%	-	20	-	E _{ff}
Amplitude Pulse Droop	dB	-	1.0	2.0	Droop
Harmonics 1 to N	dBc	10	-	-	H _N
Spurious Level	dBc	60	-	-	Spur
Input VSWR	dB	-	-	2.5 : 1	VSWR
Switching Time	ns	-	-	500	t _{sw}
Operating Voltage(Main)	V	-	50	-	V _{DS}
Power Consumption @Saturated Output Power	W	-	275	-	P _C
Phase Deviation	°	-20	-	20	Δφ

* Test Pulse conditions = 100us, 10%

* Custom design available

Absolute Maximum Ratings

PARAMETER	UNIT	RATING	SYMBOL
Operating Flange Temperature	°C	-20 ~ 50	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}
Drain Enable Control Voltage	V	0V : SSPA OFF, +5V : SSPA ON		V _{DC1}
Pulse On/Off Control Voltage	V	TTL Low(0V) : Pulse OFF, TTL High(+5V) : Pulse ON		V _{DC2}
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	-	5.5	8.0	I _{DS}

* Duty Cycle 10%, Pulse Width 100us

Mechanical Specifications

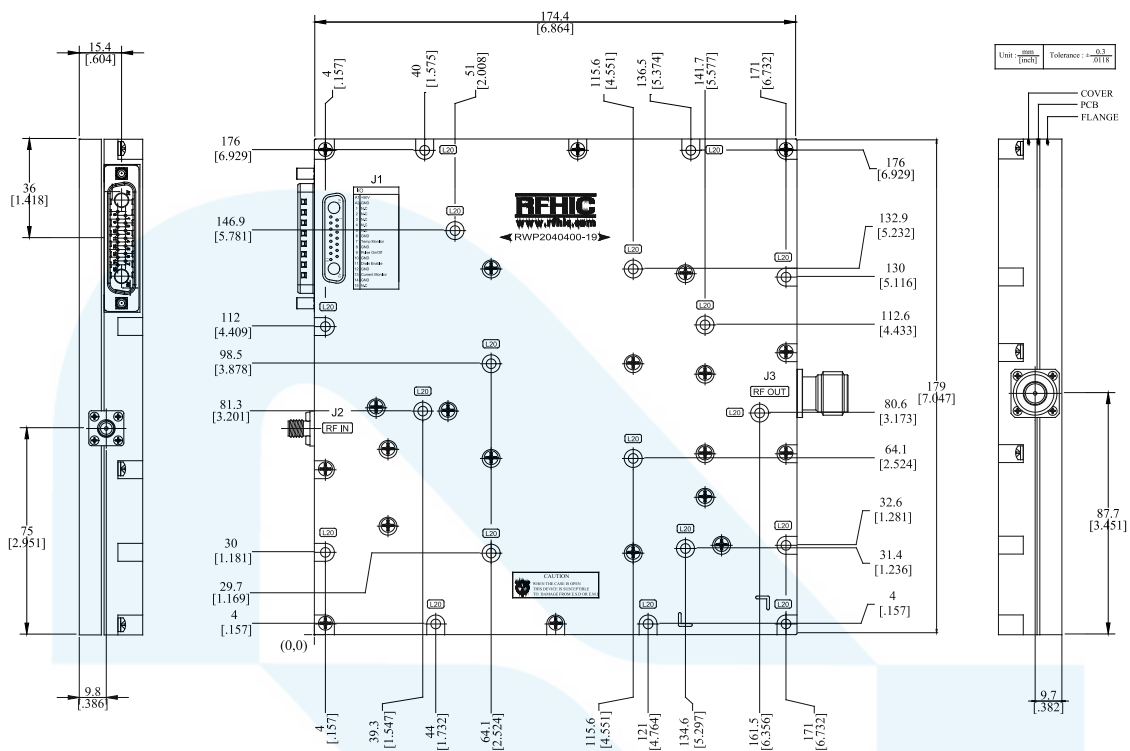
PARAMETER	UNIT	TYP
Mass	kg	1.2
Dimension (W x L x H)	mm	175 x 180 x 23
RF Connector	-	RF Input : SMA Female
		RF Output : N-type Female
DC Connector	-	17W2 Combo Connector : Supply and Control
Cooling	-	External Heat-sink Required

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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	V _{DS} (+50V)	8	Ground
A2	Ground	9	Pulse On/Off
1	N.C	10	Ground
2	N.C	11	Drain Enable
3	N.C	12	Ground
4	N.C	13	Current Monitor
5	N.C	14	Ground
6	Ground	15	N.C
7	Temp Monitor	-	

* Temp Monitor [0.75V/25°C(10mV/°C)]

Revision History

Part Number	Release Date	Version	Modification	Data Sheet Status
RWP2040400-19	November, 2022	0.1	Initial Release of Datasheet	Preliminary
RWP2040400-19	November, 2022	0.2	Modification of Outline Drawing	Preliminary



Certification

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

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