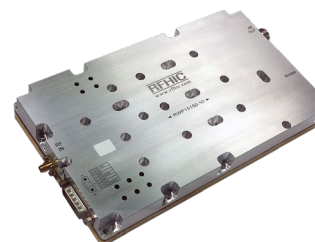


Product Features

- GaN on SiC Broadband High Power Amplifier
- 600 ~ 2700MHz Operation Bandwidth
- Power Gain 53dB @ Pin 0dBm
- 200W Typical @ Pin 0dBm

Applications

- Aerospace & Defense
- Military
- Electronic Warfare
- Rader
- SATCOM
- Communication
- EMI/RFI
- Jamming

**Description**

The power amplifier module is designed for broadcasting, telecommunications, and medical purposes.

The operating frequency range is from 600 ~ 2,700MHz.

Gallium Nitride on Silicon carbide (GaN-on-SiC) technology is used and attached on an aluminum sub carrier.

Full in/out matching for broadband performance is already applied.

Improved thermal handling by patented technology.

Electrical Specifications @ $V_{CC} = 36V$; $T_c = 45^\circ C$; $Z_s = Z_L = 50\Omega$

PARAMETER	UNIT	MIN	TYP	MAX	CONDITION
Operating Frequency	MHz	600	-	2700	-
Power Gain @ Pin 0dBm	dB	52.6	53		600 ~ 2700MHz
Power Gain Flatness @ Pin 0dBm	dBpp	-	±1.0	±2.0	600 ~ 2700MHz
Output Power @ Pin 0dBm	dBm	52.6	53	-	600 ~ 2700MHz
Input Return Loss	dB	-	-9	-5	-
Supply Voltage	V	-	36	38	$V_{CC} (=V_{ds})$
Quiescent Current consumption	A	-	4.6	5.5	-
Current Consumption @ Pin 0dBm	A	-	20	25	CW 1-tone

Absolute Maximum Ratings

PARAMETER	UNIT	RATING
Input RF Power	dBm	3
Supply Voltage	V	38
Load Mismatch Value	-	3 : 1 @all load phase

* Input Signal Condition : CW 1-Tone

Environmental Characteristics

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Flange Temperature	°C	-10	-	70	Tc
Storage Temperature	°C	-40	-	105	Tstg
Vibration	MIL-STD-810G Method 514.6 ANNEX C				VI

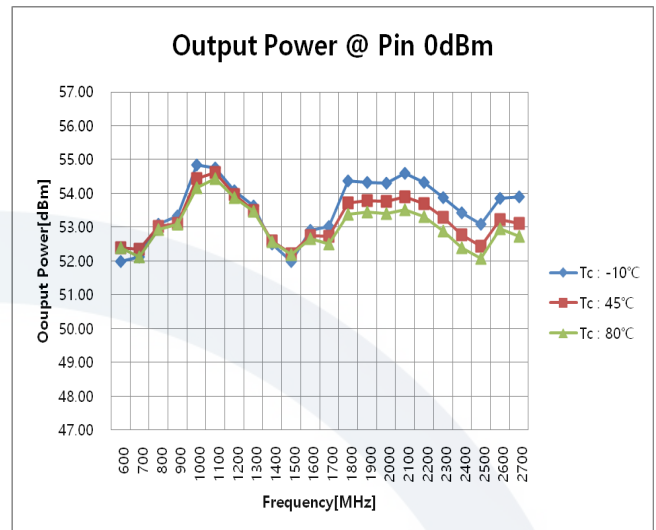
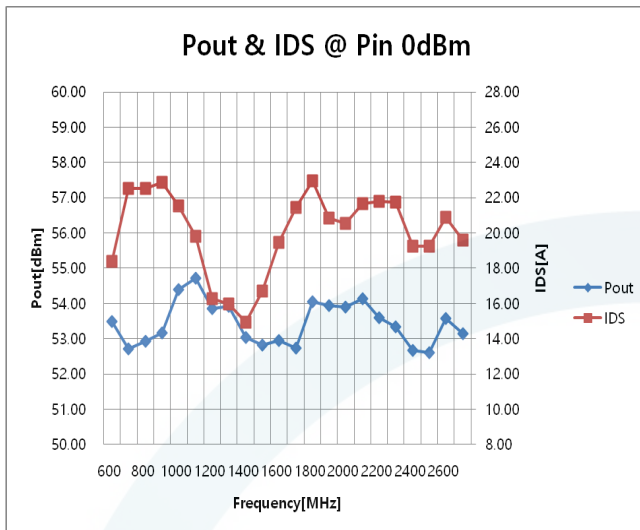
Mechanical Specifications

PARAMETER	UNIT	TYP
Dimension	mm	223(L) x 131(W) x 30(H)
RF Connector	-	RF Input : SMA Female RF Output : N-Type Female
DC Connector	-	C7W2 / D-SUB / Male type
Cooling	-	External Heat-sink

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Typical Performance @ Tc 45°C

Frequency (MHz)	Pout @Pin 0dBm (dBm)	Gp @Pin 0dBm (dB)	Current @Pin 0dBm (A)	PAE @ Pin 0dBm (%)	Harmonic @ Pin 0dBm	
					2 nd Harm (dBc)	3 rd Harm (dBm)
600	53.50	53.50	18.37	33.84	-13.21	-30.64
700	52.70	52.70	22.54	22.97	-15.03	-25.64
800	52.92	52.92	22.52	24.18	-20.32	-30.98
900	53.17	53.17	22.85	25.21	-18.64	-16.25
1000	54.39	54.39	21.54	35.40	-26.28	-33.58
1100	54.72	54.72	19.81	41.52	-31.44	-36.49
1200	53.86	53.86	16.29	41.45	-28.72	-37.46
1300	53.92	53.92	15.97	42.84	-32.67	-36.33
1400	53.04	53.04	14.94	37.44	-21.43	-46.31
1500	52.83	52.83	16.71	31.90	-34.91	-56.70
1600	52.96	52.96	19.46	28.22	-28.93	-33.74
1700	52.74	52.74	21.43	24.34	-31.11	-30.82
1800	54.04	54.04	22.97	30.65	-33.01	-51.56
1900	53.95	53.95	20.85	33.10	-38.00	-55.85
2000	53.90	53.90	20.53	33.22	-41.93	-50.92
2100	54.14	54.14	21.67	33.27	-57.09	-32.80
2200	53.60	53.60	21.80	29.19	-51.39	-47.55
2300	53.34	53.34	21.74	27.60	-57.09	-46.51
2400	52.67	52.67	19.25	26.70	-42.25	-40.48
2500	52.61	52.61	19.24	26.31	-35.25	-50.86
2600	53.57	53.57	20.91	30.22	-31.40	-49.10
2700	53.15	53.15	19.59	29.29	-39.09	-45.39



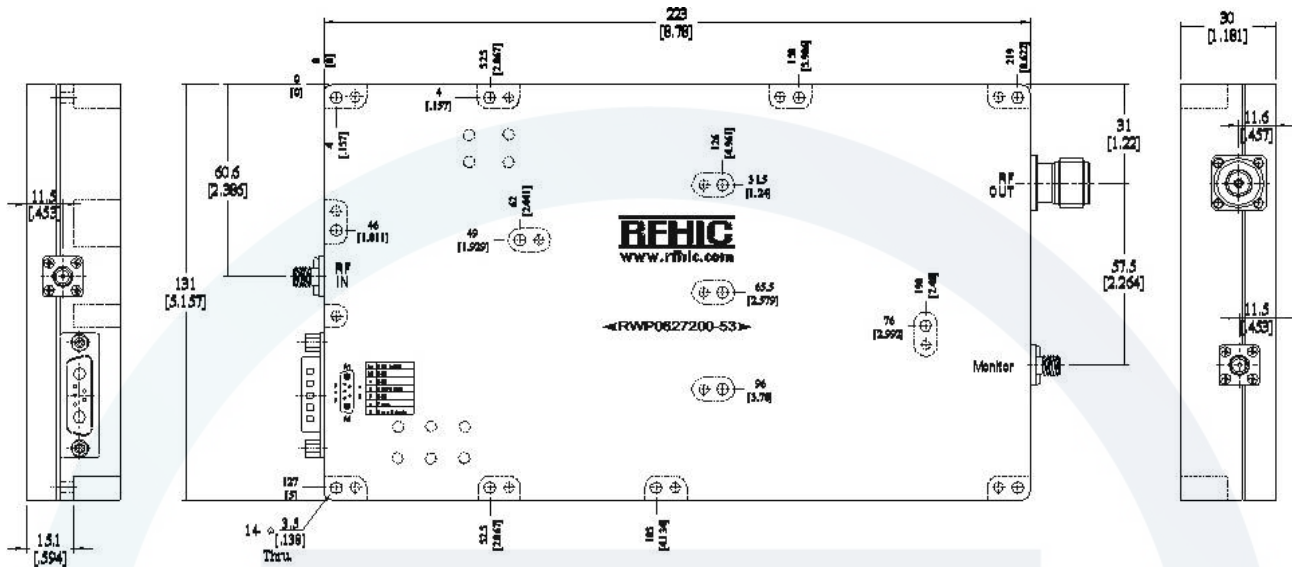
Precautions

1. This product is designed to be used for broadband amplification. Heat generation is higher when there is RF signal in the device. Therefore, the worst case scenario is when there is RF signal. The temperature must be calculated properly. Case temperature must maintain below 70°C.
2. Thermal Grease or Metal Thermal Interface Materials are recommended for heat dissipation. An example would be spreading thermal grease on the bottom of the device



Package Dimensions

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



Pin Description (C7W2 / D-SUB / Male type)			
Pin No	Description	I/O	Specifications
A1	Vcc	I	+36VDC
A2	GND	I	Ground
1	GND	I	Ground
2	Shout Down	I	Enable : TTL "Low", Disable : TTL "High" (Low : 0 ~ 0.5V, High : 2.5 ~ 5V) Disable Status : 200mA Current consumption
3	GND	I	Ground
4	Temperature Monitor	O	Reference voltage : 750mV @ 25°C, Scale : 10mV/°C
5	Power Detector	O	Pout 48dBm Voltage : 600 ~ 1000mV, Scale : 25mV/dB

* Recommended Screw Torque : 8.0kgf.cm \pm 1 using SEMS M3 19mm Bolt

Revision History

Part Number	Release Date	Version	Modification	Data Sheet Status
RWP0627200-53	2022.11.30	0.1	-	Preliminary



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