Wideband Power Amplifier RUM43010-10

Product Features

- GaN on SiC Broadband High Power Amplifier
- 2500 ~ 6000MHz Operation Bandwidth
- 10W Typical Psat
- 20% typical Power Efficiency at Psat

Applications

- General Purpose

Description

The power amplifier module is designed for General Purpose.
Operating frequency range is from 2500~ 6000MHz.
Gallium Nitride on SiC Technology
Improved thermal handling by patented technology.

Electrical Specifications @ VDD=28VDC, T=25°C, 50Ω System

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency Range	MHz	2500	-	6000	BW
Power Output @ P_{SAT} (CW)	Watt	-	10	-	P_{SAT}
Power Gain	dB	-	30	-	G_P
Gain Flatness @ P_{SAT}	dB	-	±1.5	±2.5	ΔG
Gain Variation	dB	-	±1.5	±2.0	ΔG_{TEMP}
Input Return Loss	dB	-	-4.5	-3.5	S11
Power Added Efficiency @ P_{SAT}	%	-	20	-	**η**
Operating Voltage	Volt	27.5	28	30	VDC
Current Consumption @ Pout = 10W, VDC=28V	Amp	-	2.2	-	IDD

Environmental Characteristics

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Case Temperature	°C	-30	-	85	Tc
Storage Temperature	°C	-45	-	105	Tstg
Relative humidity w/o condensation	%	-	-	95	RH
Altitude	Feet	10,000	30,000	-	ALT
Shock & Vibration	Per Mil Std 810E				SH / VI

Mechanical Specifications

PARAMETER	UNIT	VALUE	LIMIT
Dimensions	Inch mm	5.12 x 2.52 x 0.84 130 x 64 x 21.5	-
Weight	lb. Kg	0.66 0.30	-
RF Connectors In/Out	-	SMA female	-
DC & Control Signals Connector	-	D-sub, 9-Pin	-
Cooling	-	External Heat-sink	-

Performance Data

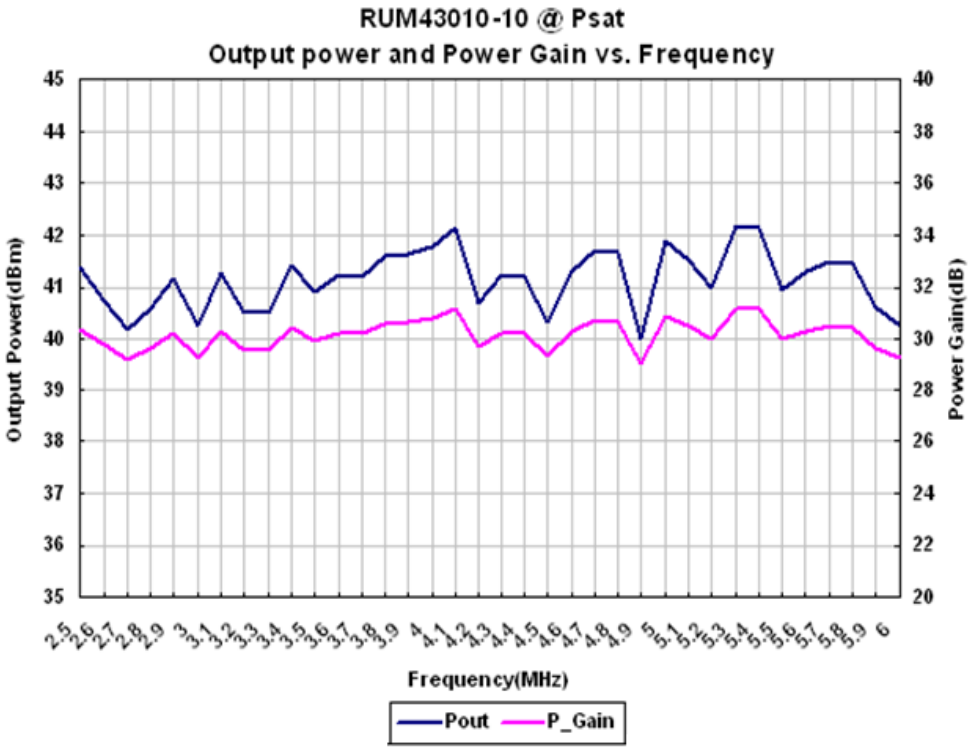
(1) Spectrum Analyzer Test Results

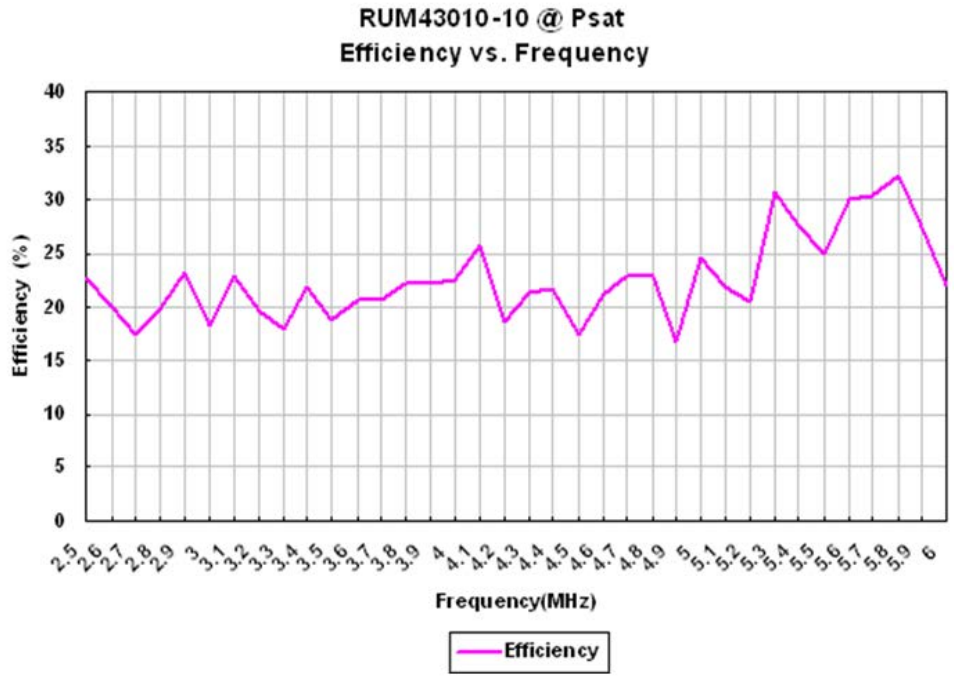
1) Summary Table

Test Condition : Ta=25℃, Tc=37℃

	Test Condition : Fixed Input Power=-3dBm			
Frequency	**Pout**	**Ids @Pout**	**Power Gain @Pout**	**Drain Efficiency @Pout**
MHz	dBm	A	dB	%
2500	41.37	2.16	30.37	22.67
2700	40.15	2.12	29.15	17.44
2900	41.15	2.01	30.15	23.16
3100	41.24	2.07	30.24	22.95
3300	40.49	2.22	29.49	18.01
3500	40.92	2.36	29.92	18.7
3700	41.18	2.27	30.18	20.65
3900	41.6	2.32	30.60	22.25
4100	42.13	2.27	31.13	25.69
4300	41.2	2.21	30.20	21.3
4500	40.3	2.19	29.30	17.47
4700	41.68	2.29	30.68	22.96
4900	40	2.13	29.00	16.77
5000	41.86	2.22	30.86	24.69
5200	41	2.2	30.00	20.44
5400	42.15	2.12	31.15	27.64
5600	41.27	1.59	30.27	30.09
5800	41.42	1.53	30.42	32.37
6000	40.25	1.72	29.25	21.99

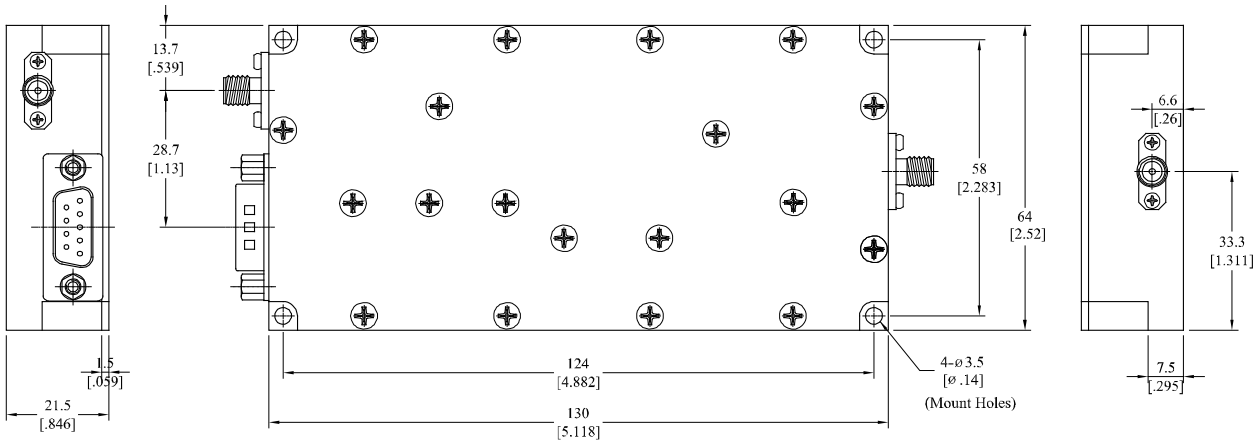
2) Performance Graph





Outline Drawing

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



Note
Cover screw holes and Module Mount Holes would be changed.

Pin Description

D-Sub, 9-Pin, male

Pin No	Description	I/O	Specifications
1	N.C.	-	-
2	N.C.	-	-
3	N.C.	-	-
4	N.C.	-	-
5	Shutdown	I	Enable = 0V or Open, Disable = 5V(40mA)
6	VDD	I	28 VDC
7	VDD	I	28 VDC
8	GND	I	Ground
9	GND	I	Ground

Revision History

Part Number	Release Date	Version	Modification	Data Sheet Status
RUM43010-10	2012.10.04	1.0	-	-