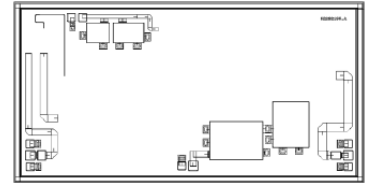


AMT2103
2 – 18GHz Power Amplifier Chip



Key Features :

- Frequency : 2 – 18GHz
- Typical small signal gain : 13dB
- Typical output power : 39dBm
- Typical power added efficiency : 25%
- Supply voltage : 28V, -2V
- Chip dimensions : 4.55mm x 2.3mm x 0.1m
- Applications : wireless communication, transceiver module, radio telecommunication etc.

Description :

AMT2103 chip is a high performance high efficiency 2 – 18GHz power amplifier, it is designed based on Gallium Nitrate (GaN) HEMT process, with ground through metal via on the back technology. All chip products are 100% RF tested. AMT2103 is with dual voltage supply, drain voltage $V_{ds} = 28V$, provides 39dBm output power in 2 – 18GHz frequency range.

Absolute Maximum Ratings (Ta = 25°C)

Symbol	Parameter	Value	Remark
Vd	Drain Voltage	35V	
Id	Drain Current	2A	
Vg	Gate Voltage	-1.5V	
Ig	Gate Current	150mA	
Pd	DC Power Consumption	50W	
Pin	Input Signal Power	35dBm	
Tch	Operating Temperature	150°C	
Tm	Sintering Temperature	310°C	30s, N ₂ protection

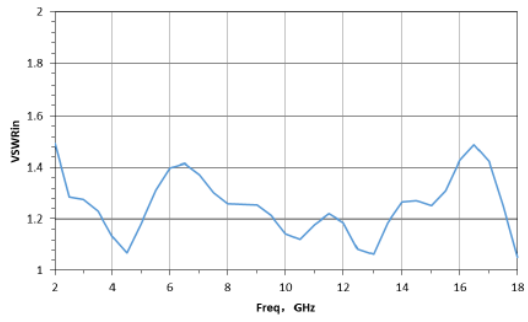
[1] Operation outside any of the Absolute Maximum Ratings may cause permanent device damage.

Electrical Characteristics (Ta = 25°C)

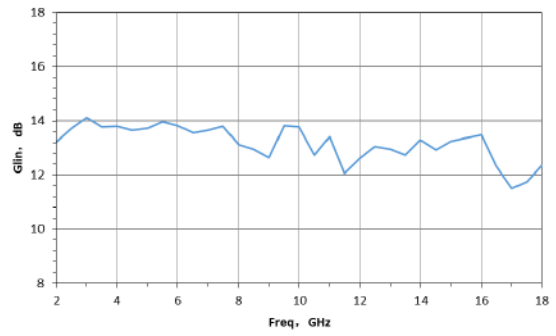
Symbol	Parameter	Test Condition	Value			Unit
			Min	Typical	Max	
G	Small Signal Gain	Vd = 28V Vg = -2V F : 2~18GHz Duty Cycle : 10%	-	12	-	dB
VSWRin	Input SW		-	1.3	1.8	dB
Pout	Saturated Output Power		37.5	39	41	dBm
PAE	Power Added Efficiency		-	25	-	%
Id	Operating Current		-	1.3	1.4	A

Typical Performance

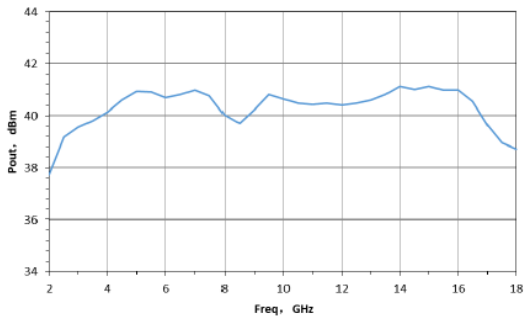
Input Standing Wave Curve



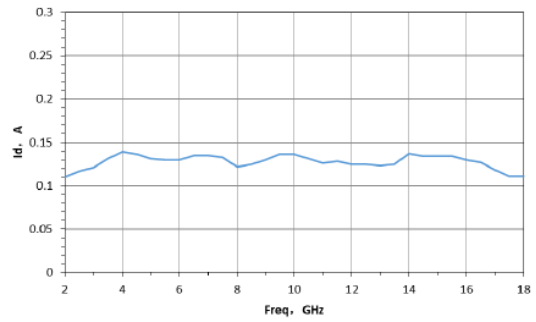
Gain Curve



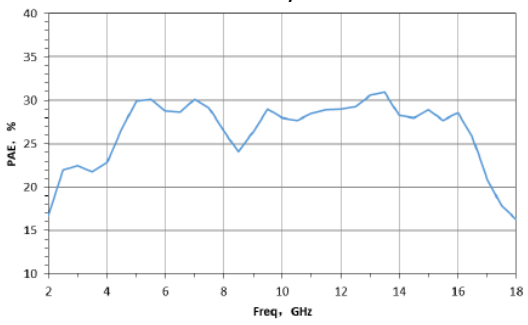
Output Power Curve



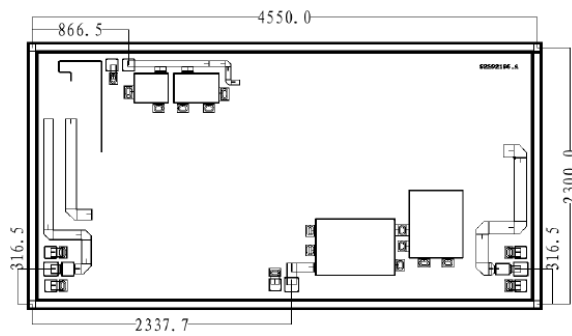
Drain Current Curve (10% duty cycle)



Efficiency Curve



Chip Dimension (Unit : μm)



Chip Layout Diagram

