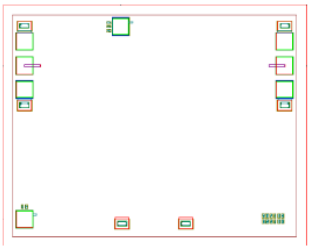
AMT1623

6 – 18GHz Voltage Controlled Attenuator Chip



Key Features :

- Frequency range : 6 – 18GHz
- Insertion loss : 3dB
- Attenuation : 2.8 – 30dB
- Input/output standing wave : 1.5/1.5
- Chip dimensions : 1.8mm x 0.8mm x 0.1mm
- Applications : wireless communication, transceiver module, radio telecommunication etc.

Description :

AMT1623 is a voltage controlled attenuator chip, it is designed by Gallium Arsenide (GaAs) pHEMT process. It covers frequency range of 6 – 18GHz, typical insertion loss is 3dB, attenuation is 2.8 - 30dB. This chip is designed with ground through metal vias on the back technology. All chip products p are 100% RF tested. This chip is for microwave transceiver module, to realize transceiver signal amplitude control function.

Absolute Maximum Ratings (Ta = 25°C)

Symbol	Parameter	Value	Remark
Pin	Max. input signal power	+20dBm	
VC	Control voltage	-0.5V ~ 7V	
Tch	Operation Temperature	-55 ~ 125°C	
Tstg	Storage Temperature	-65 ~ 150°C	

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

Electrical Characteristics (Ta = 25°C)

Symbol	Parameter	Value			Unit
		Min	Typical	Max	
F	Frequency range		6 - 18		GHz
IL	Insertion loss	-	3	-	dB
ATT	Attenuation		2.5 - 30		dB
VSWRin	Input standing wave	-	1.5	-	-
VSWRout	Output standing wave	-	1.5	-	-

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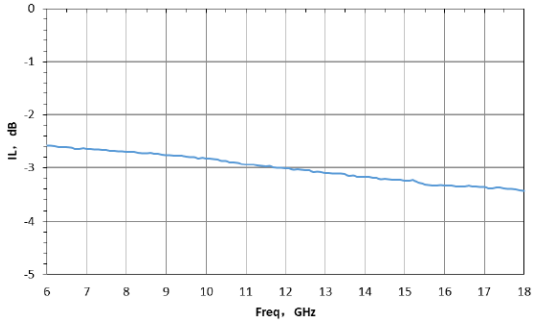
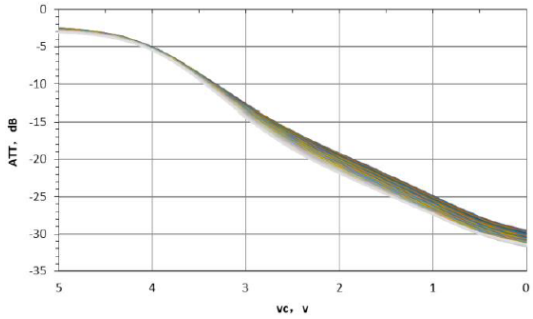
Typical Performance

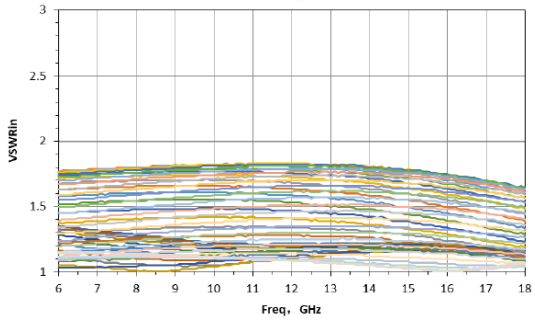
Insertion Loss Curve



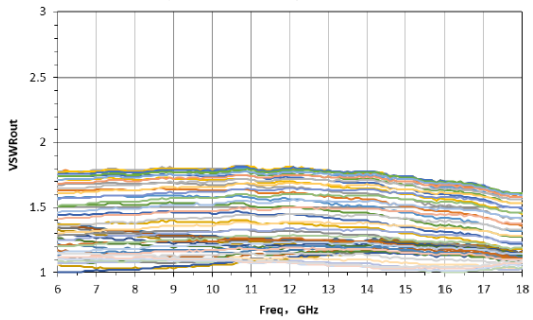
Attenuation Curve



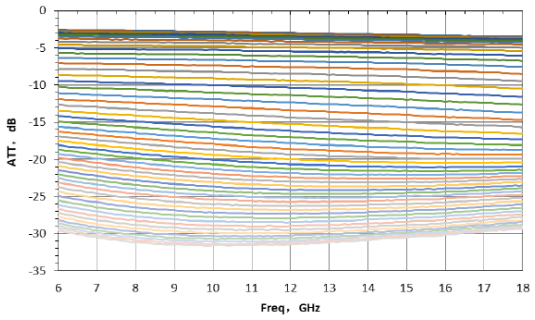
Input Standing Wave Curve



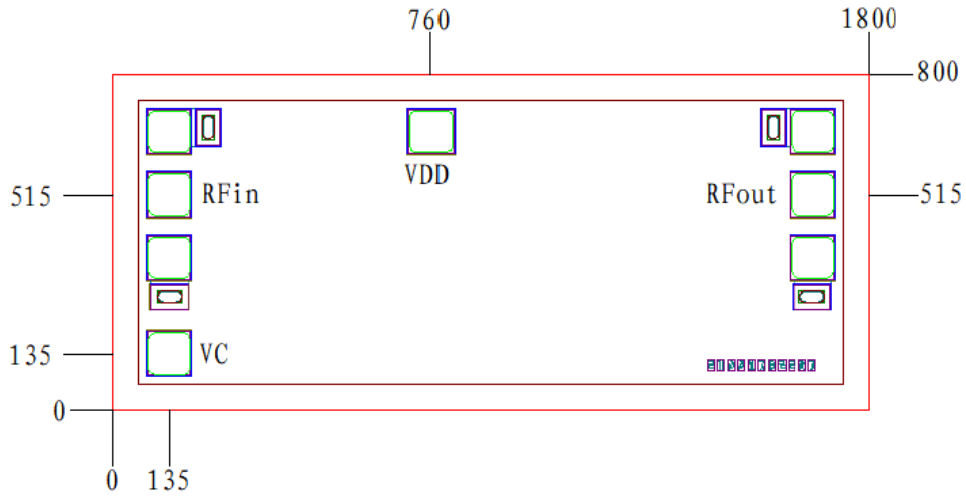
Output Standing Wave Curve



Each Attenuation Curve



Chip Dimensions (Unit : μm)



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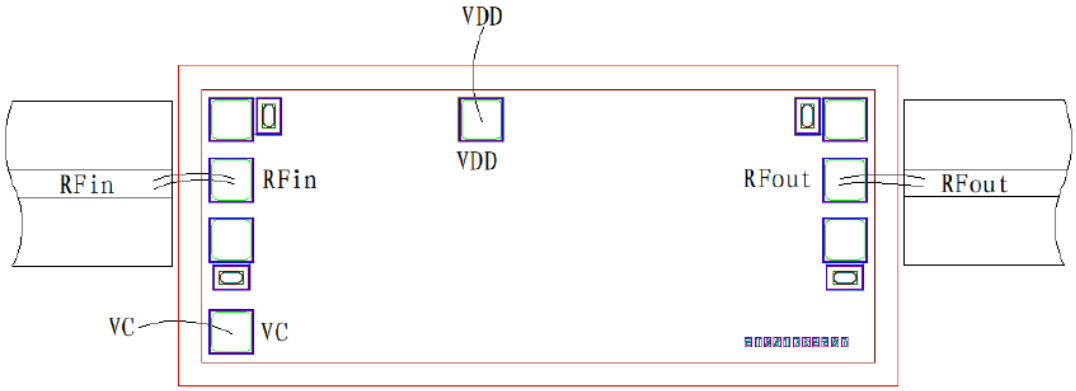
Chip Layout Diagram



Pad Definition

No.	Symbol	Function	Dimension
1	RFin	RF signal input port, external connect to 50Ω system, internal built in DC blocking capacitor	100μm*100μm
2	RFout	RF signal output port, external connect to 50Ω system, internal build in DC blocking capacitor	100μm*100μm
3	VDD	+5V supply voltage	100μm*100μm
4	VC	Control port, 0 - +5V, 0V is max. attenuation, +5V is initial state	100μm*100μm

Please see Appendix A for details.

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