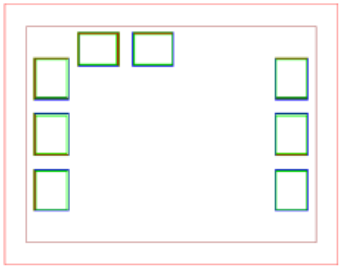
AMT1615
0 - 20GHz Digital Attenuator Chip



Key Features :

- Frequency range : 0 – 20GHz
- Insertion loss : 1.2dB
- Attenuation : 20dB
- Input/output standing wave : 1.3/1.3
- Control method : TTL
- Chip dimensions : 0.9mm x 0.7mm x 0.1mm
- Applications : wireless communication, transceiver module, radio telecommunication etc.

Description :

AMT1615 is a one-bit 20dB digital control attenuator, it is designed by Gallium Arsenide (GaAs) process. This chip is designed with ground through metal vias on the back technology, it covers a frequency range of 0 ~ 20GHz, typical insertion loss is 1.2dB, it uses TTL control. This chip is for microwave transceiver module, to realize transceiver signal amplitude control function.

Absolute Maximum Ratings (Ta = 25°C)

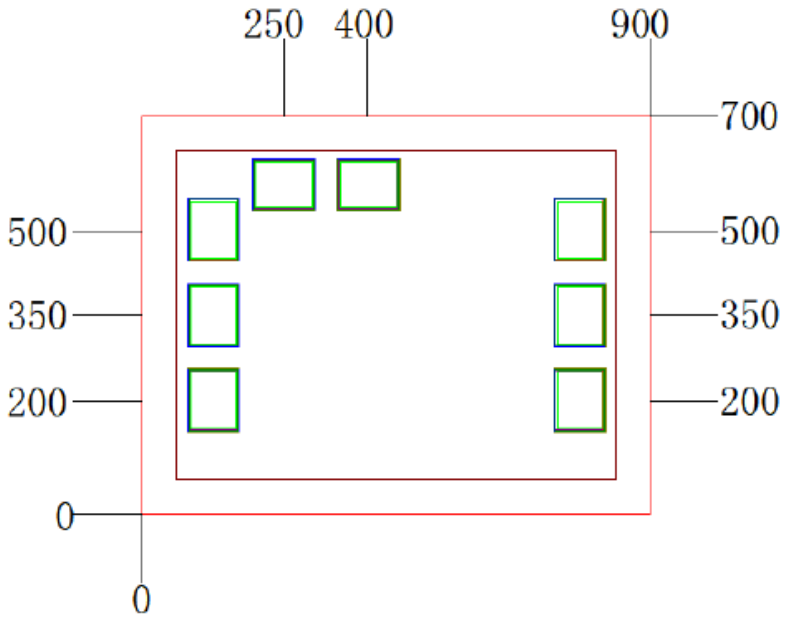
Symbol	Parameter	Value	Remark
Pin	Input Power	25dBm	
Tch	Operating Temperature	-55 ~ +125°C	
Tm	Sintering Temperature	310°C	30s, N_2 protection
Tstg	Storage Temperature	-65 ~ +150°C	

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

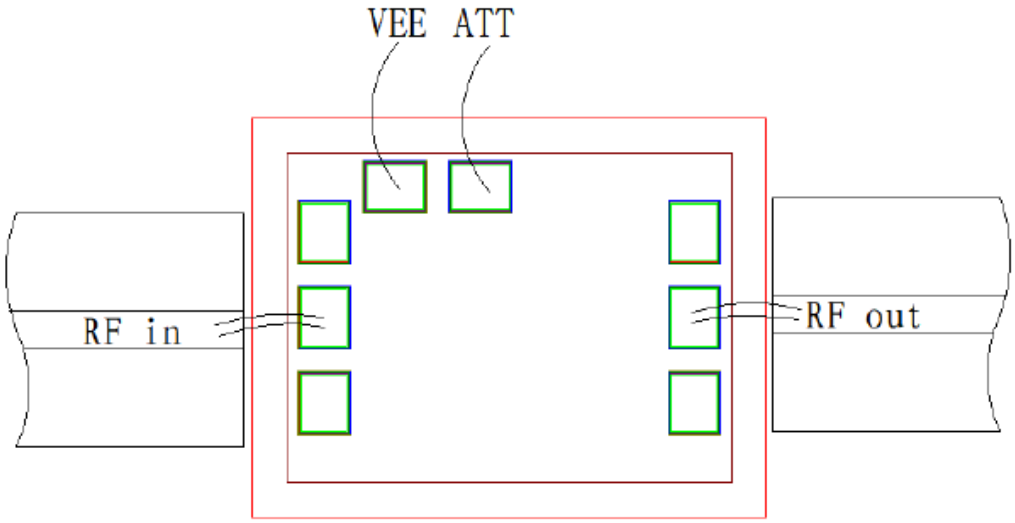
Electrical Characteristics (Ta = 25°C)

Symbol	Parameter	Test Conditions	Value			Unit
			Min	Typical	Max	
IL	Insertion Loss	F : 0 – 20GHz	-	1.2	-	dB
ATT	Attenuation		-	20	-	dB
VSWRin	Input Standing Wave		-	1.3	-	-
VSWRout	Output Standing Wave		-	1.3	-	-

Chip Dimensions (Unit : μm)



Chip Layout Diagram



Pad Definition

Symbol	Function	Dimension
RFin	RF signal input port, external connect to 50Ω system, no DC blocking capacitor	80μm*100μm
RFout	RF signal output port, external connect to 50Ω system, no DC blocking capacitor	80μm*100μm
VSS	-5V power supply	80μm*100μm
ATT	When input high level, attenuator works at attenuating state	80μm*100μm

Please see Appendix A for details.