AMT1509
13-19GHz Clipper Chip

Key Features :

- Frequency range : 13 – 19GHz
- Input/output standing wave : 1.4
- Insertion loss : 0.5dB
- Clipping level : 15dBm
- Endurance power : 5W (CW)
- Chip dimensions : 1.45mm x 0.7mm x 0.1mm
- Applications : wireless communication, transceiver module, radio telecommunication etc.

Description :

AMT1509 is a high performance clipper chip, it is designed by Gallium Arsenide (GaAs) process. This chip is designed with ground through metal vias on the back technology, it covers frequency range of 13 ~ 19GHz, typical insertion loss is 0.5dB, and input/output standing wave is 1.4.

Absolute Maximum Ratings (Ta = 25°C)

Symbol	Parameter	Value	Remark
Pin	Input Power	40dBm	
Tch	Operation Temperature	150°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	Min	Typical	Max	Unit
VSWRin	Input Standing Wave	F : 13 ~ 19GHz	-	1.4	-	-
VSWRout	Output Standing Wave		-	1.4	-	-
IL	Insertion Loss		-	0.5	-	dB
Po	Output level limit		-	15	-	dBm

Typical Performance

Insertion Loss Curve

Input Standing Wave Curve

Output Standing Wave Curve

Clipping Level Curve (Pin = 37dBm)

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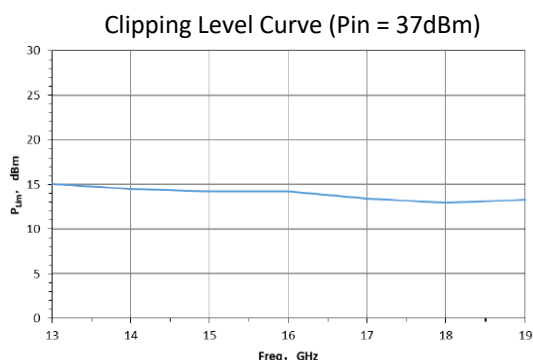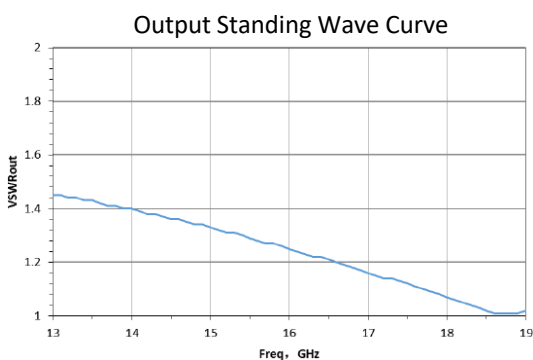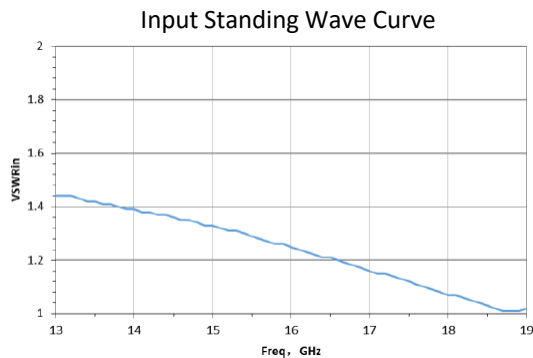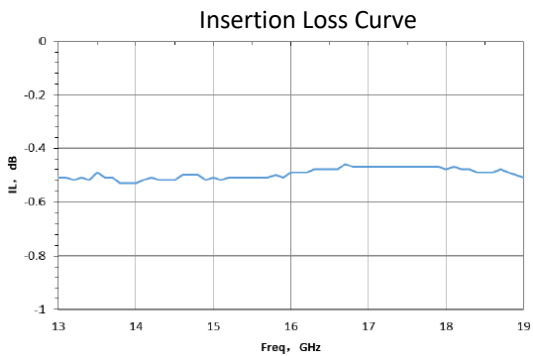
Chip Dimensions (Unit : μm)
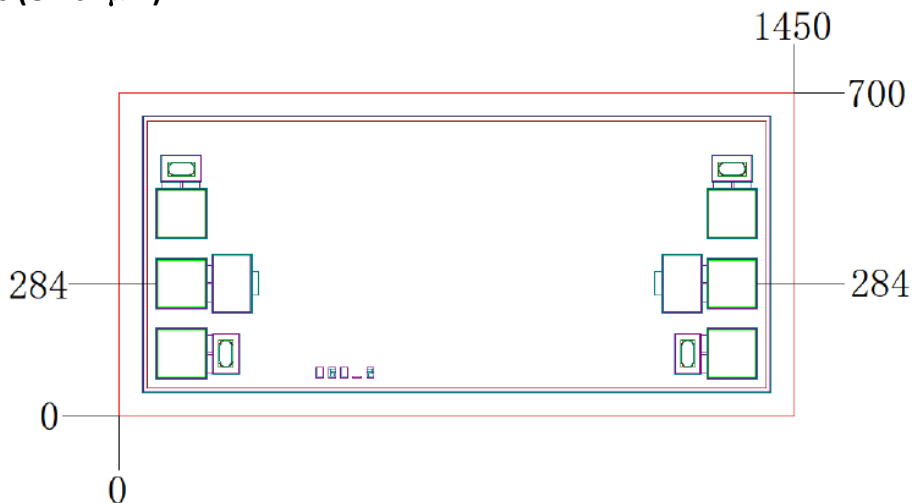
Chip Layout Diagram
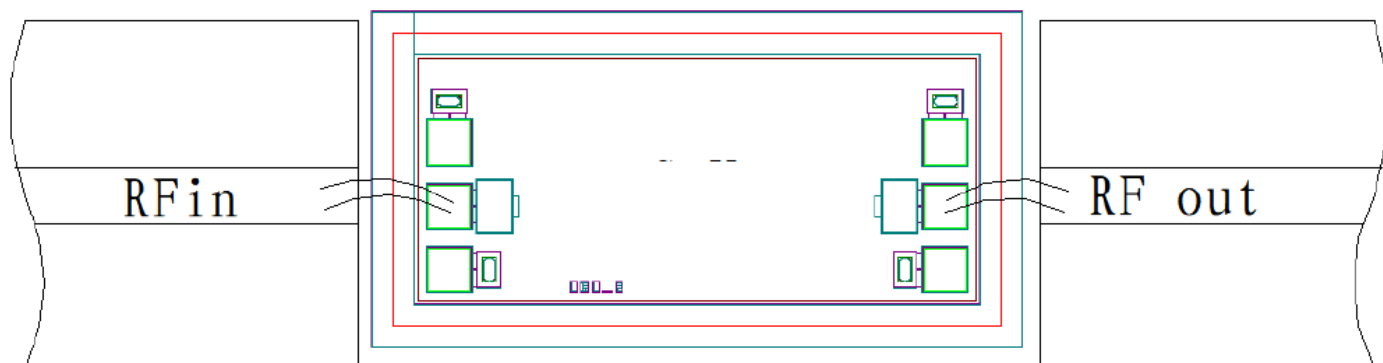
Pad Definition

No.	Symbol	Function Description	Dimensions
1	RFin	RF signal input port, external connect to 50Ω system, internal built in DC blocking capacitor	100μm*100μm
2	RFout1	RF signal output port, external connect to 50Ω system, internal built in DC blocking capacitor	100μm*100μm

Please see Appendix A for details.