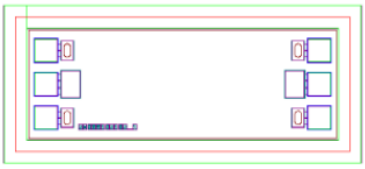
AMT1505A
7 - 13GHz Clipper Chip



Key Features :

- Frequency range : 7 – 13GHz
- Input/output standing wave : 1.3
- Insertion loss : 0.45dB
- Endurance power : 10W (CW)
- Chip dimensions : 1.5mm x 0.6mm x 0.1mm
- Applications : wireless communication, transceiver module, radio telecommunication etc.

Description :

AMT1505A 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 7 ~ 13GHz, with DC blocking capacitor at input and output, typical insertion loss at 0.45dB, and input/output standing wave is 1.3.

Absolute Maximum Ratings (Ta = 25°C)

Symbol	Parameter	Value	Remark
Pin	Input Power	40dBm	
Tch	Channel Operating Temperature	150°c	
Tm	Sintering Temperature	310°c	30s, N_2 protection
Tstg	Storage Temperature	-65 ~ +150°c	

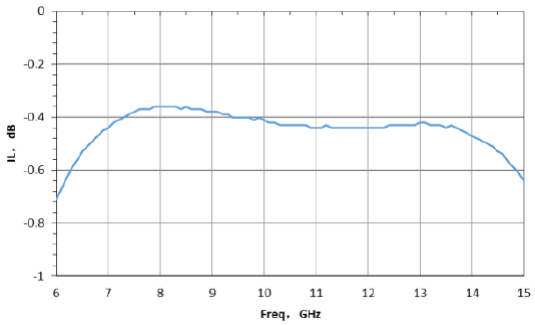
[1] Operation outside any of the Absolute Maximum Ratings may cause permanent device damage.

Electrical Characteristics (Ta = 25°C)

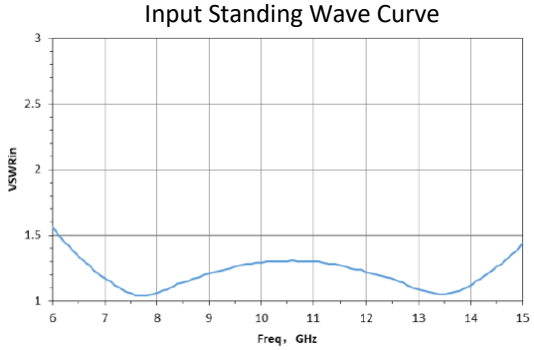
Symbol	Parameter	Test Conditions	Value			Unit
			Min	Typical	Max	
VSWRin	Input Standing Wave	F : 7 – 13GHz	-	1.3	1.4	
VSWRout	Output Standing Wave		-	1.3	1.4	
IL	Insertion Loss		-	0.45	0.6	dB
P_{LIM}	Clipper output level		-	15	17	dBm

Typical Performance

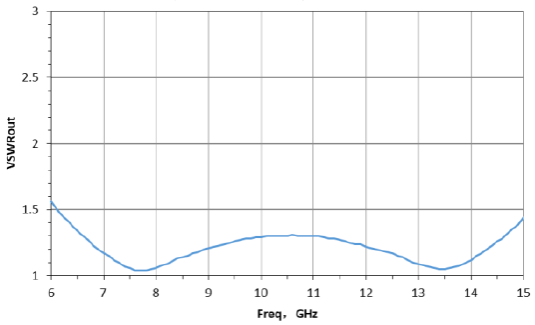
Insertion Loss Curve



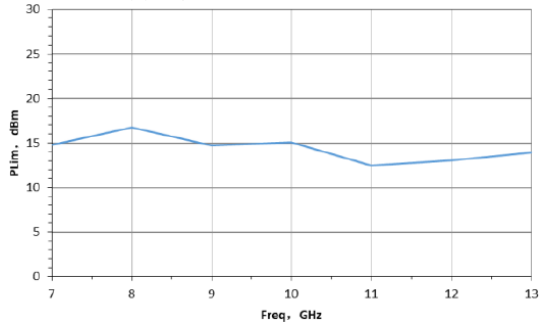
Input Standing Wave Curve



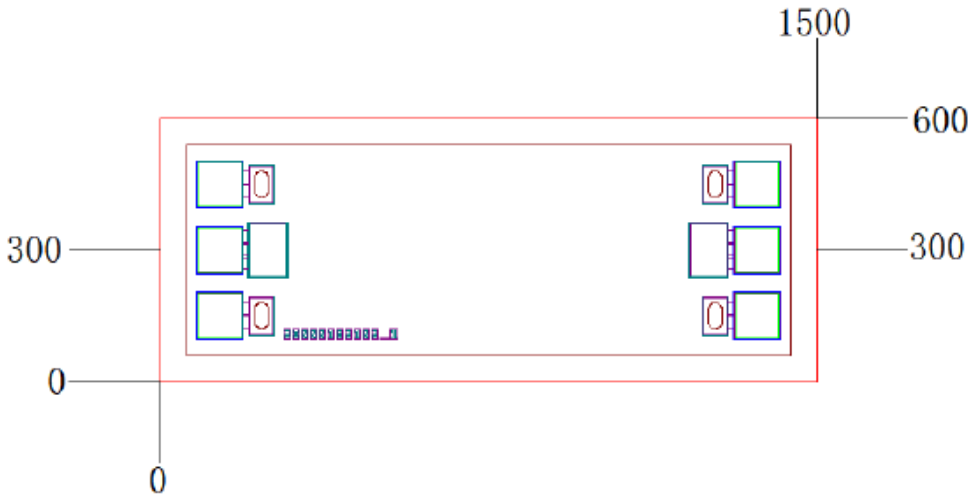
Output Standing Wave Curve



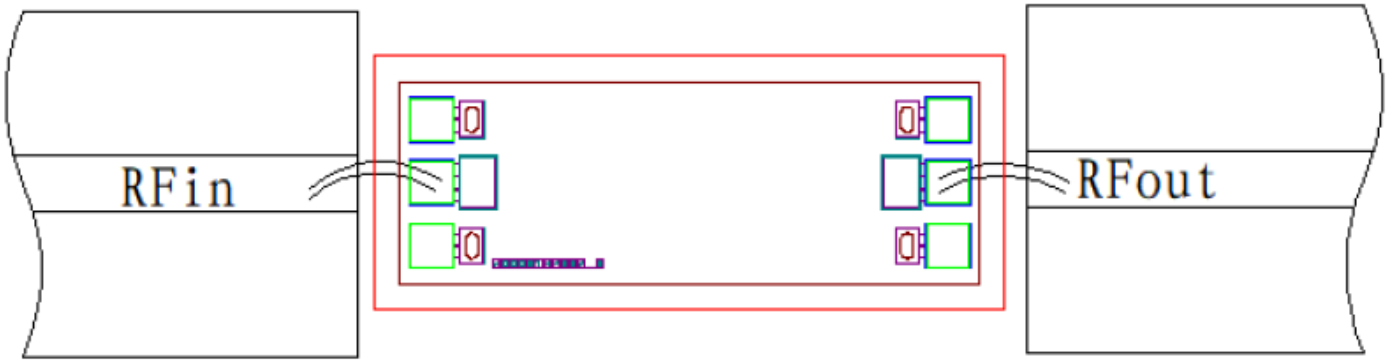
Clipping Level Curve (Pin = 45dBm)



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	RFout	RF signal output port, external connect to 50Ω system, internal built in DC blocking capacitor	100μm*100μm

Please see Appendix A for details.