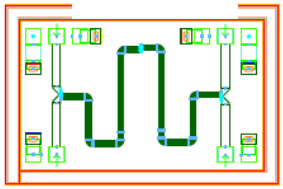
AMT1810-02
7 - 13GHz Lange Coupler Chip



Key Features :

- Frequency range : 7 – 13GHz
- Input/Output standing wave : 1.2
- Insertion loss : 0.6dB
- Isolation : 27dB
- Chip dimensions : 1.8mm x 1.0mm x 0.1mm
- Applications : wireless communication, transceiver module, radio telecommunication etc.

Description :

AMT1810-02 is a Lange coupler chip, it is designed by Gallium Arsenide (GaAs) process. This chip is designed with ground through metal vias on the back technology. All chip products are 100% RF tested. It covers frequency range of 7 - 13GHz, port standing wave is smaller than 1.2, insertion loss less than 0.6dB.

Absolute Maximum Ratings (Ta = 25°C)

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

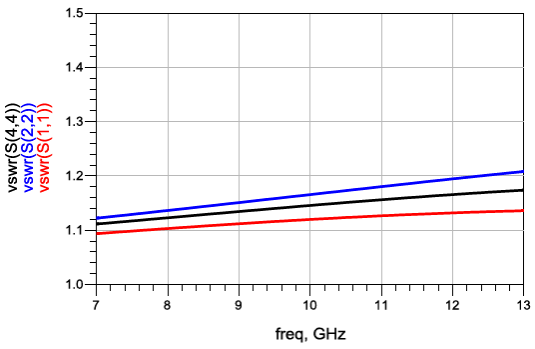
[1] Operation outside any of the Absolute Maximum Ratings may cause permanent device damage.

Electrical Characteristics (Ta = 25°C)

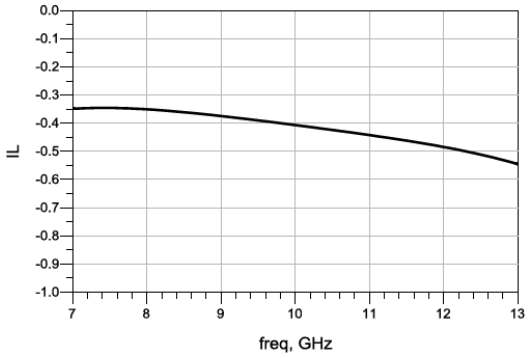
Symbol	Parameter	Test Condition	Value			Unit
			Min	Typical	Max	
VSWRin	Input standing wave	F : 7 ~ 13GHz	-	1.2	-	-
VSWRout	Output standing wave		-	1.2	-	-
IL	Insertion Loss		-	0.6	-	dB
ISO	Isolation		-	27	-	dB

Typical Performance

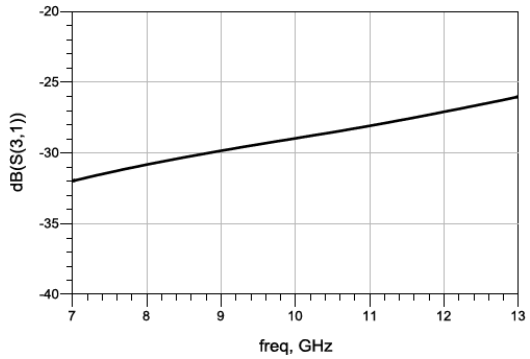
Input/Output Standing Wave Curve



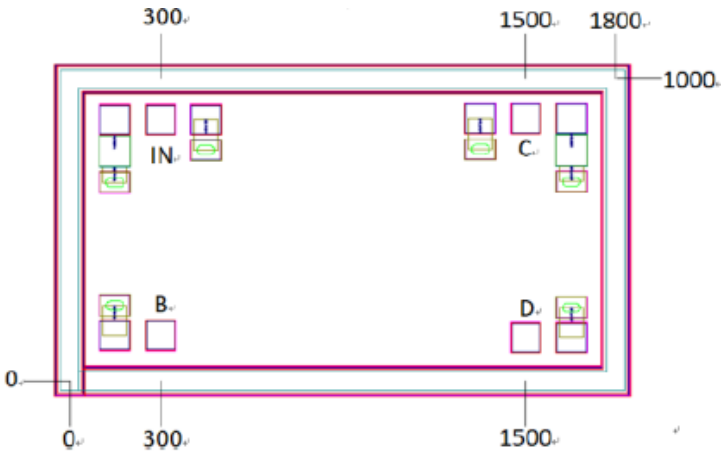
Insertion Loss Curve



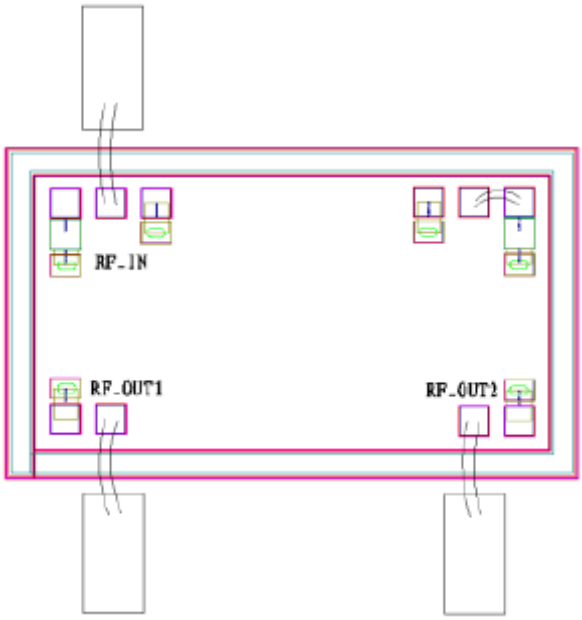
Isolation Curve



Chip Dimensions (Unit : μm)



Chip Layout Diagram



Note, customer can choose different coupling port, depending on different input and output direction, each coupling port has a 50 Ω load.

Please see Appendix A for details.