AMT3102
Adjustable Amplitude and Phase Modulator Chip

Key Features :

- Frequency range : 0.8 – 1.2GHz
- Attenuation range : 0 – 3.5dB
- Phase shift range : 0 ~ 35°
- Input/output standing wave : 1.3 : 1 (max 1.5)
- Chip dimensions : 1.5mm x 4mm x 0.127mm
- Applications : wireless communication, transceiver module, radio telecommunication etc.

Description :

AMT3102 is a high performance adjustable amplitude and phase modulation chip, this chip is designed with ground through metal vias on the back technology. No electric bias is required in 0.8 – 1.2GHz; through gold wire bond, attenuation can be adjusted by 0.5dB per step between 0dB ~ 3.5dB, and phase can be adjusted by 7° per step between : 0 ~ 35° range.

Absolute Maximum Ratings (Ta = 25°C)

Symbol	Parameter	Value	Remark
Pin	Input power	+30dBm	
Tstg	Storage Temperature	-65 ~ +150°C	

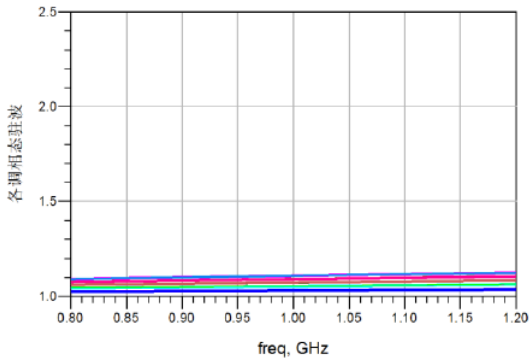
[1] Operation outside any of the Absolute Maximum Ratings may cause permanent device damage.

Electrical Characteristics (Ta = 25°C)

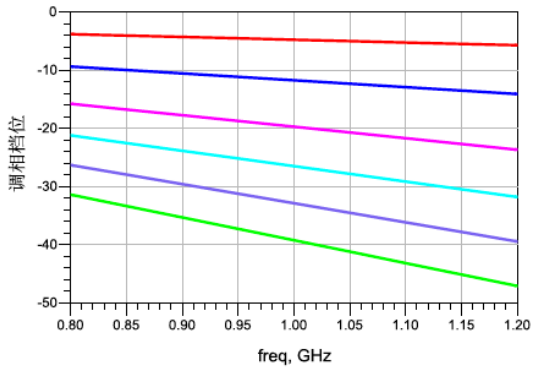
Symbol	Parameter	Value			Unit
		Min	Typical	Max	
IL	Insertion loss	-	0.1	0.3	dB
Ai, ΔAi	Attenuation range, step	-	range : 0 ~ 3.5, step : 0.5	-	dB
Pi, ΔPi	Phase range, step		range : 0 ~ 35, step : 7	-	°
VSWR	Input/output standing wave ratio	-	1.3	1.5	-

Typical Test Curve

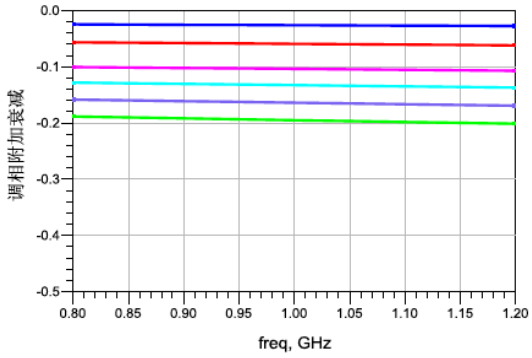
Each Phase Shift State Standing Wave Curve



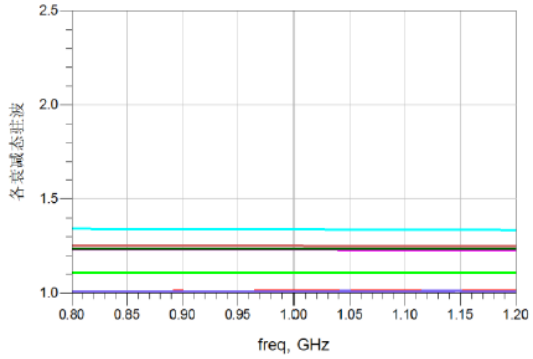
Each Phase Shift State Phase Curve



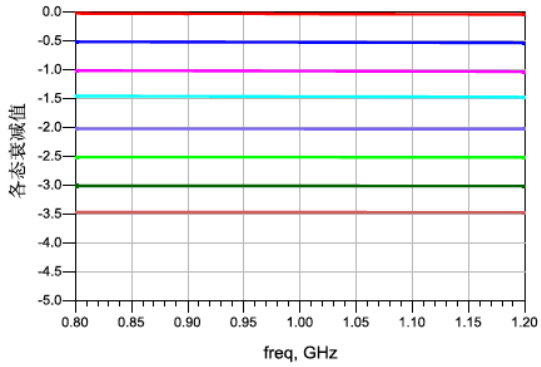
Each Phase Shift State Insertion Loss Curve



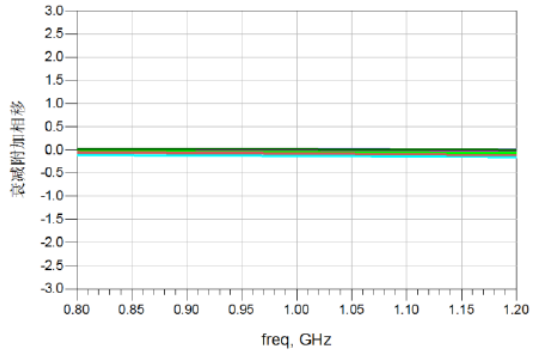
Each Attenuation State Standing Wave Curve



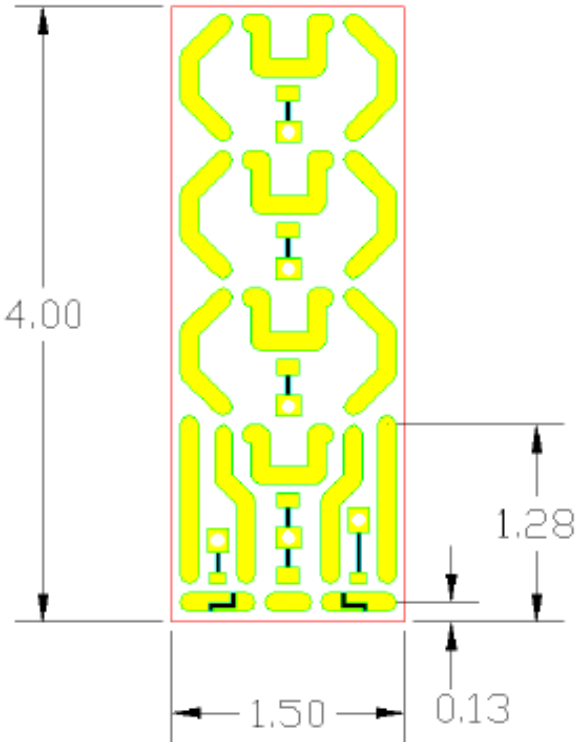
Each Attenuation State Attenuating Curve



Each Attenuation State Phase Shift Curve

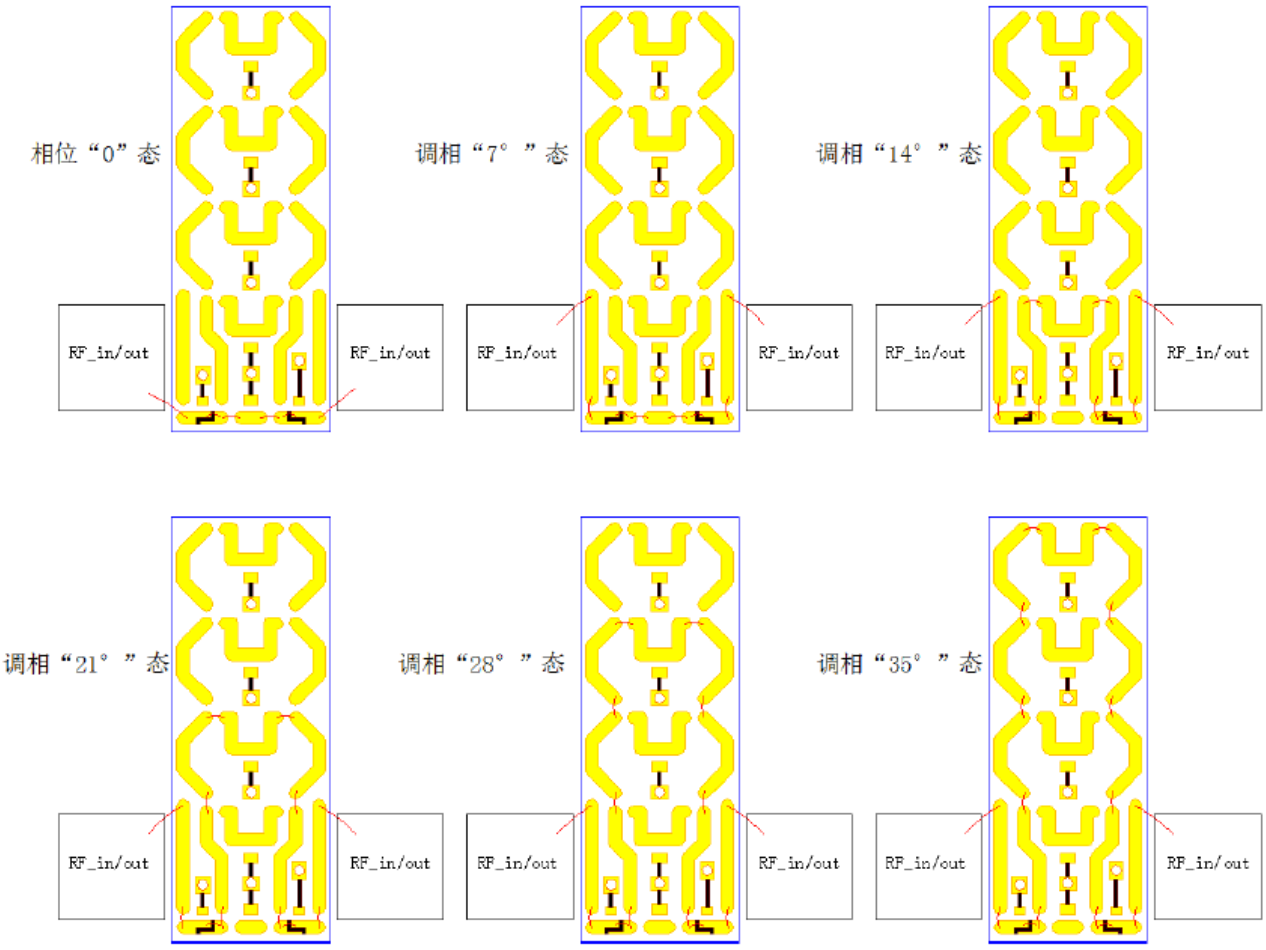


Chip Dimensions (Unit : μm)

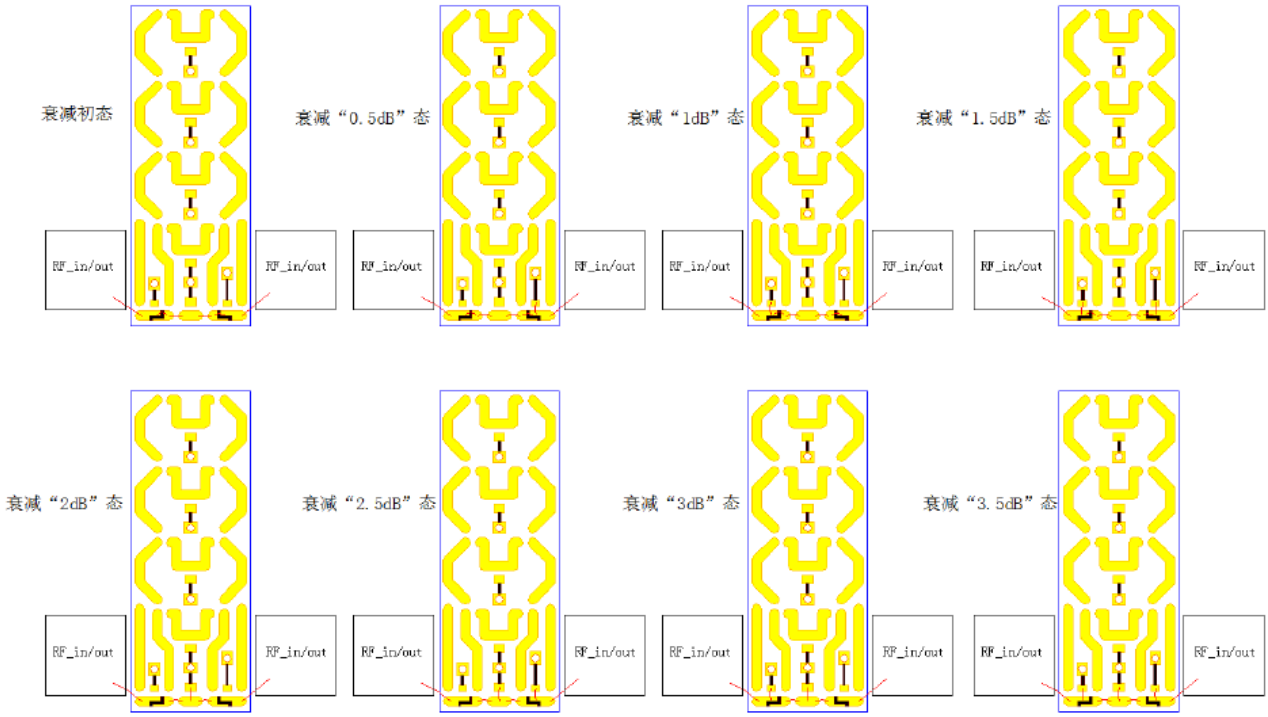


Chip Layout Diagram

Each Phase Shift State Assembly Connection Method (Zero Attenuation)



Each Attenuation State Assembly Connection Method (Zero Phase Shift for example)



Each Attenuation State Assembly Connection Method (Phase Shift 35° for example)