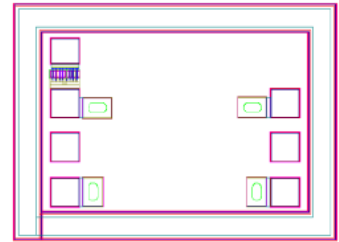


AMT1617
0 - 40GHz Temperature Compensated Attenuator Chip



Key Features :

- Frequency range : 0 – 40GHz
- Input/output standing wave : 1.1
- Room temperature insertion loss : 3.6dB@10GHz, 4dB@25GHz
- Phase consistency : 0 ° @10GHz, -0.1 ° @25GHz
- Chip dimensions : 1.0mm x 0.7mm x 0.1mm
- Applications : wireless communication, transceiver module, radio telecommunication etc.

Description :

AMT1617 is a temperature compensated attenuator, it is designed by Gallium Arsenide (GaAs) pHEMT process. Its core design is an electrical controlled attenuator whose attenuation depends on a linear voltage, its control signal is generated by thermosensitive device. This chip is to stabilize the temperature-depended gain of a microwave amplifier.

Absolute Maximum Ratings (Ta = 25°C)

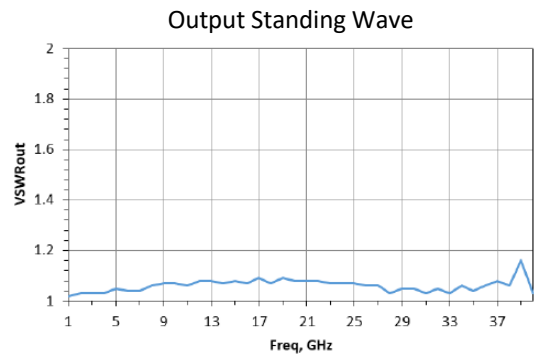
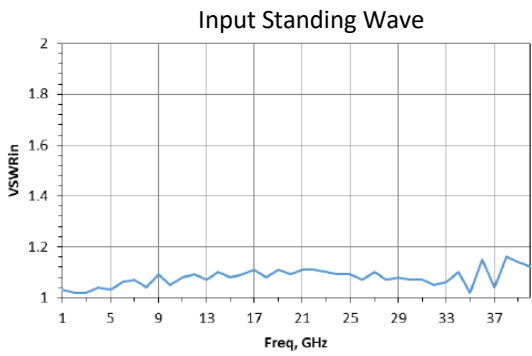
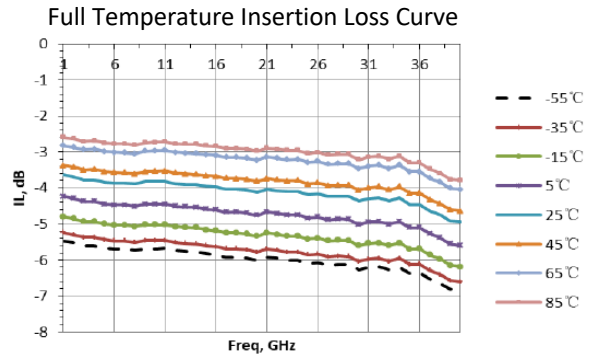
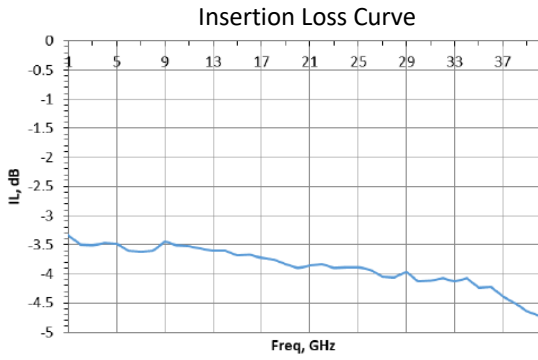
Symbol	Parameter	Value	Remark
VSS	Operation voltage	-6V	
Pin	Input Power	+20dBm	
Tch	Operation Temperature	150°C	
Tm	Sintering Temperature	310°C	30s, N ₂ protection
Tstg	Storage Temperature	-65 ~ +150°C	

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

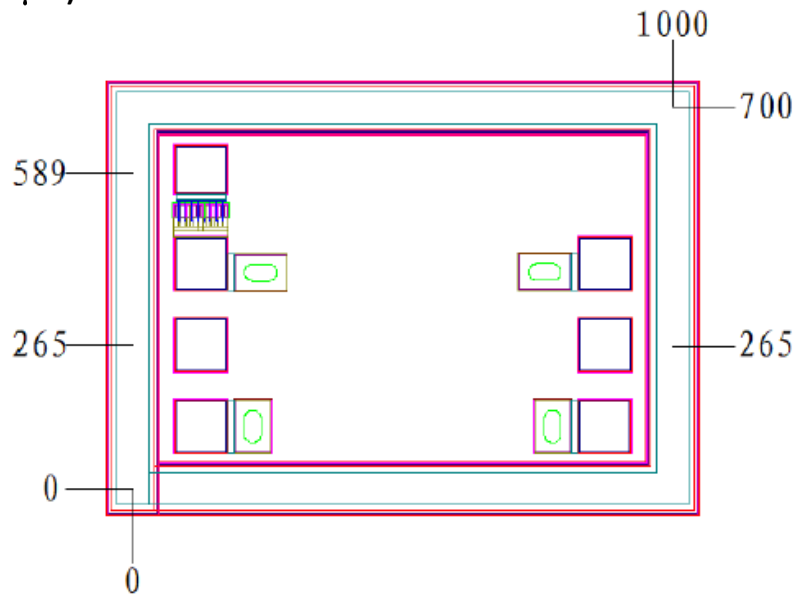
Electrical Characteristics (Ta = 25°C)

Symbol	Parameter	Value			Unit	
			Min	Typical		Max
F	Frequency range	DC - 40			GHz	
IL	Insertion Loss	F = 10GHz	-	3.6	4.5	dB
		F = 25GHz	-	4	4.75	
ΔP	Phase consistency	F = 10GHz	-0.25	0	0.2	°
		F = 25GHz	-0.55	-0.1	0.35	
VSWRin	Input Standing Wave	F = 1~40GHz	-	1.1	1.3	-
VSWRout	Output Standing Wave	F = 1~40GHz	-	1.1	1.3	-

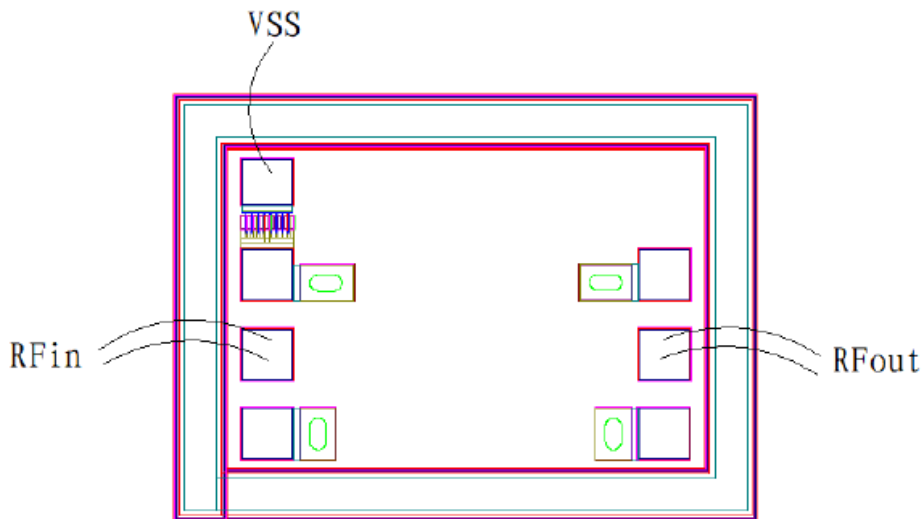
Typical Performance



Chip Dimensions (Unit : μm)



Chip Layout Diagram



Pad Definition

No.	Symbol	Function	Dimension
1	RF_in	RF input pad	100*100 μm^2
2	RF_out	RF output pad	100*100 μm^2
3	VSS	-5V power supply	90*100 μm^2

Please see Appendix A for details.