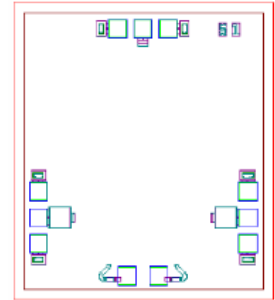


**AMT1715**  
**10 - 20GHz SPDT Switch Chip**



**Key Features :**

- Frequency range : 10 – 20GHz
- Insertion loss : 0.8dB
- Isolation : 45dB
- Input/output standing wave : 1.5
- Static operating current : 30mA
- Input power P-1 : 36dBm
- Control method : +5V/-5V
- Chip Dimensions : 1.52mm x 1.73mm x 0.1mm
- Applications : wireless communication, transceiver module, radio telecommunication etc.

**Description :**

AMT1715 is a high performance GaAs PIN switch chip. This chip is designed with ground through metal vias on the back technology. All chip products p are 100% RF tested. It uses +5V, -5V level control, typical insertion loss is 0.8dB, isolation is 45dB, input/output standing wave 1.5.

**Absolute Maximum Ratings (Ta = 25°C)**

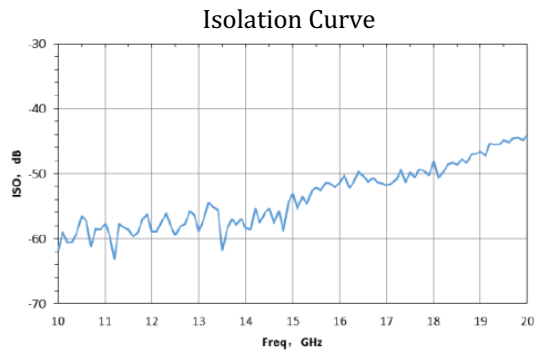
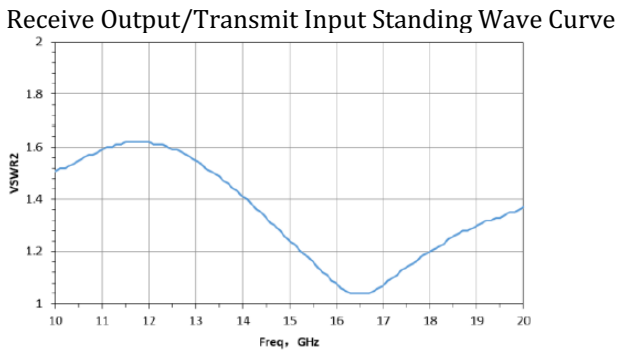
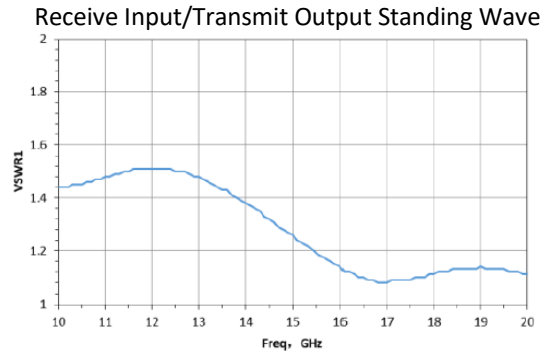
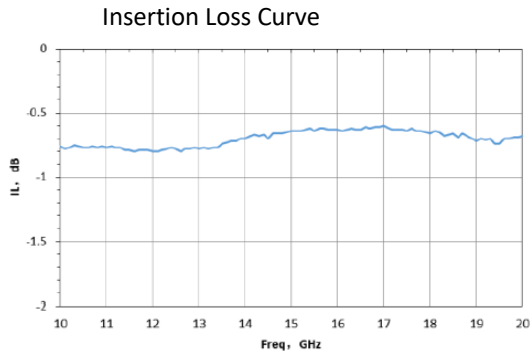
Symbol	Parameter	Value	Remark
V1, V2	Control voltage	6V/-6V	
Pin	Input Power	40dBm	
Tm	Sintering Temperature	310°C	30s, N <sub>2</sub> protection
Tstg	Storage Temperature	-65 ~ +150°C	

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

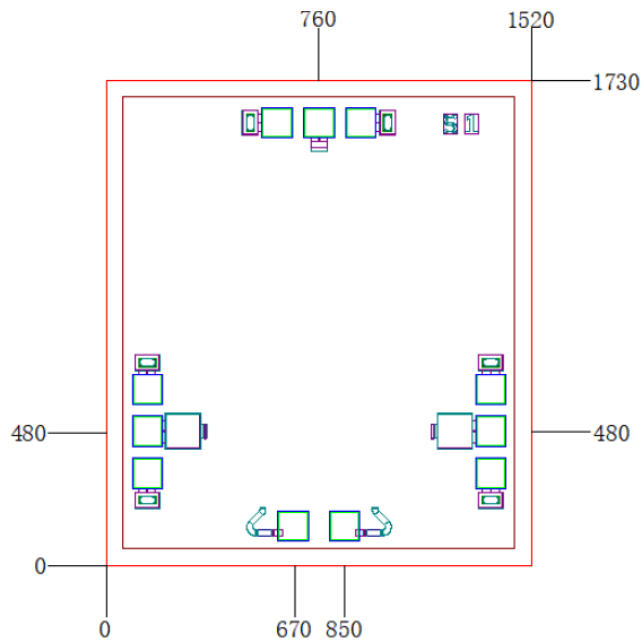
**Electrical Characteristics (Ta = 25°C)**

Symbol	Parameter	Test Conditions	Value			Unit
			Min	Typical	Max	
VSWRin	Input standing wave	F : 10 ~ 20GHz Refer to Truth Table for V1/V2 control logic	-	1.5	1.6	-
VSWRout	Output standing wave		-	1.5	1.6	-
IL	Insertion Loss		-	0.8	1	dB
ISO	Isolation		43	45	-	dB
I	Static operating current		-	30	-	mA
P-1	Input power at P-1		-	36	-	dBm

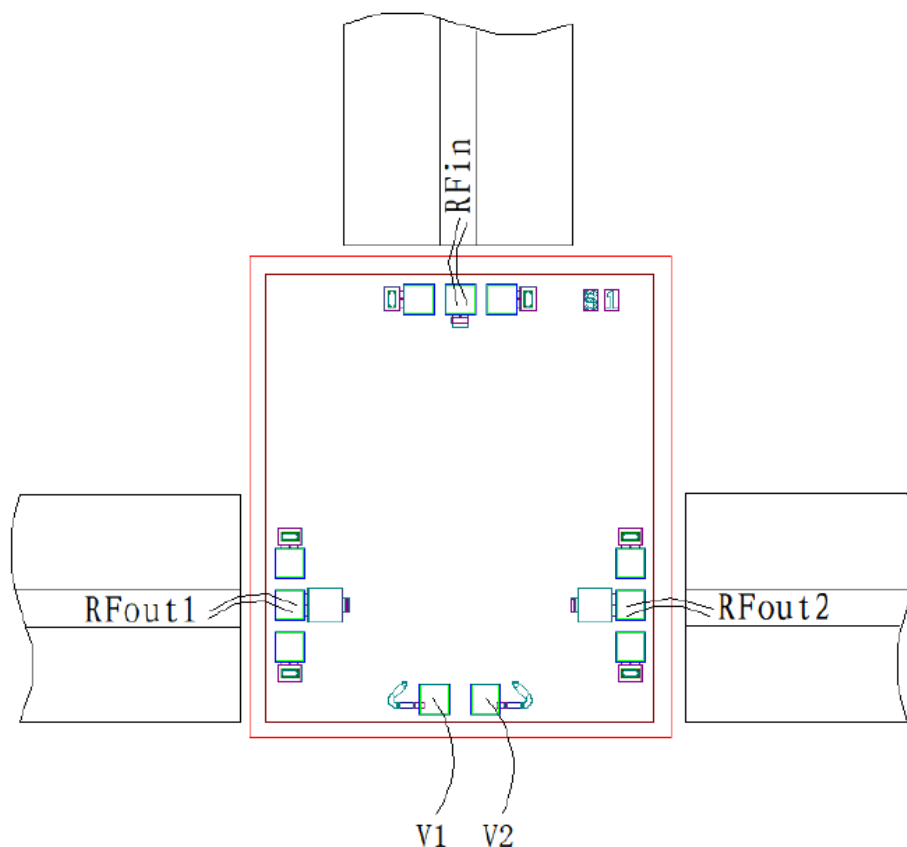
**Typical Performance**



**Chip Dimensions (Unit :  $\mu\text{m}$ )**



### Chip Layout Diagram



#### Pad Definition

No.	Symbol	Function Description	Dimension
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 1, external connect to 50Ω system, internal built in DC blocking capacitor	100μm*100μm
3	RFout2	RF signal output port 2, external connect to 50Ω system, internal built in DC blocking capacitor	100μm*100μm
4	V1	Supply voltage control port, see Truth Table for control logic	100μm*100μm
5	V2	Supply voltage control port, see Truth Table for control logic	100μm*100μm

#### Truth Table

	V1	V2
RFin – RFout1	-5V	+5V
RFin – RFout2	+5V	-5V
Off	+5V	+5V

Please see Appendix A for details.