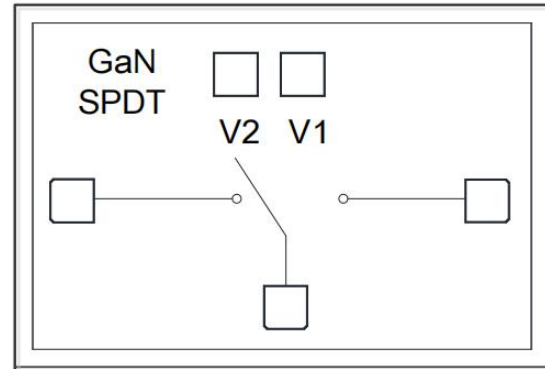


Performance

- Technology: 0.25um GaN FET
- Frequency: 0.1~30GHz
- Insertion loss: 1.5dB
- Isolation: 30dB
- Input P-0.3: 34dBm
- Input/Output VSWR: 1.5:1
- Switching Time: 20ns
- Control Mode: 0/-40V
- Voltage control reflective switch
- Chip size: 1.4*1.0*0.08mm

Function Diagram



Electrical Specifications (Ta=+25°C, V1~V2=0V/-40V, F=0.1~30GHz)

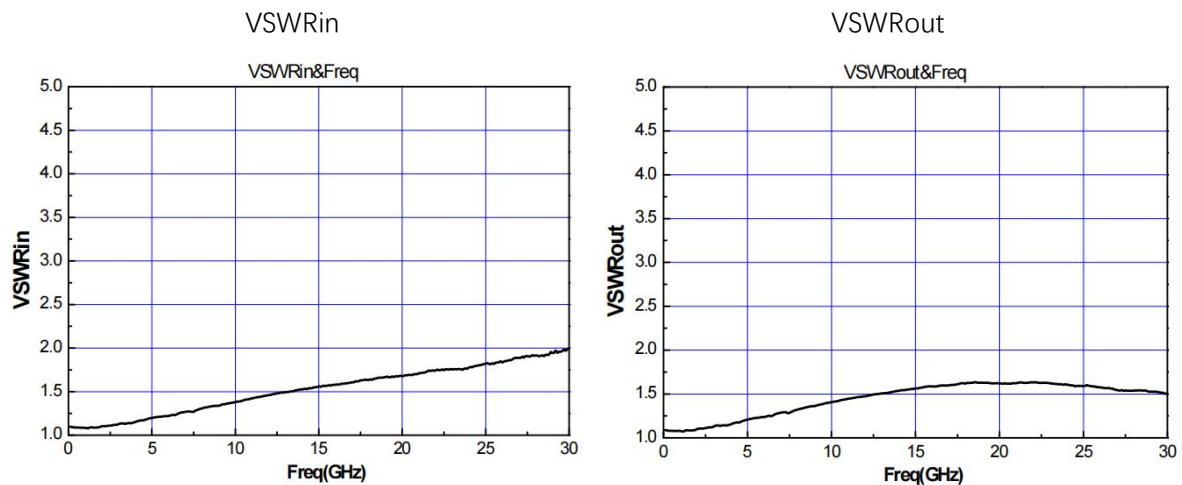
Symbol	Parameter	Min.	Typ.	Max.	Unit
Li	Insertion Loss	-	1.5	-	dB
ISO	Isolation	-	30	-	dB
VSWR	Input / Output VSWR	-	1.5	-	-

Absolute Maximum Ratings (Ta=+25°C)

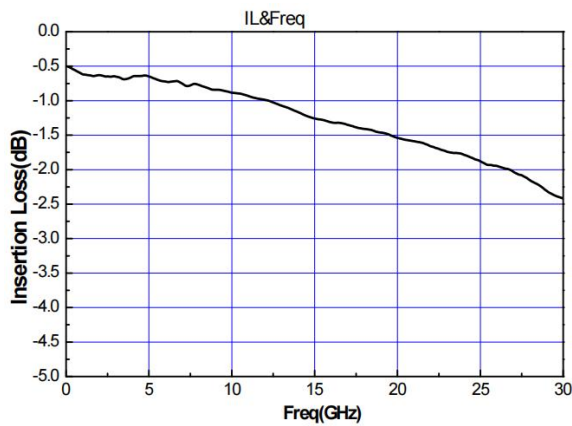
Symbol	Parameter	Value	Notes
V1,2	Control Voltage	-60V	
P _{cw}	Input Continuous Wave Power	37dBm	
T _{ch}	Channel Temperature	225°C	
T	Sintering Temperature	310°C	30s, N2 protection
T _{stg}	Storage Temperature	-55~150°C	

Exceed any of above listed ratings may cause permanent damage.

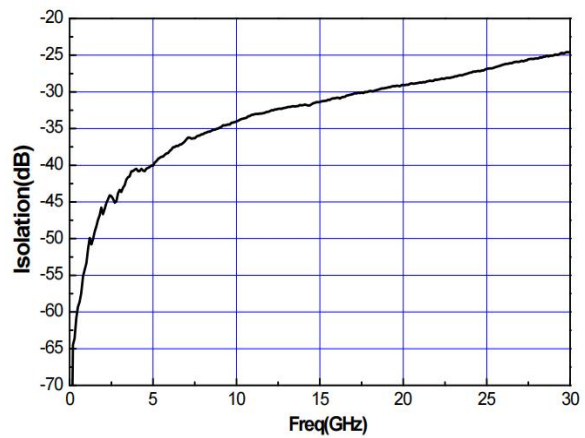
Test Curves (Ta=+25°C, (V_{1,2}=-40V))



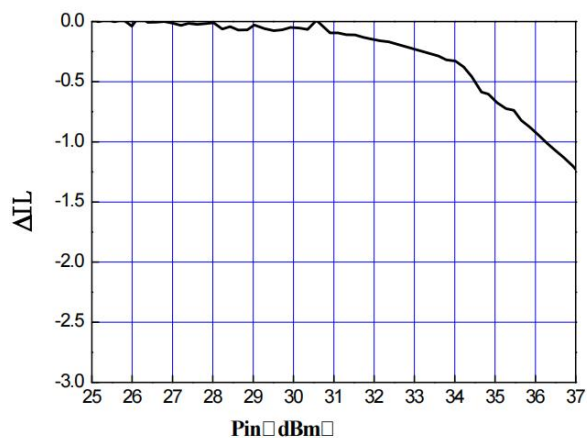
Insertion Loss



Isolation



Input Power (Y axis is normalized value of I.L)



Outline Size (μm)	Assembly Diagram
Dimensions: 375, 1025, 1400, 1000, 415, 0, 1000. Labels: V1, V2, RF1, RF2, RFC, O1, O2.	Connections: TTL-5V, Vcc, Vee, In, 100 Ohm, -40V, 2000pF. Part Number: P/N: SQD0042H Labels: GaN SPDT, Vx, Vy, RF, RFC. Note: The driver is connected to Vee or suspension on the back

Note: RF input/output gold wire length is less than 300μm.

PIN Definition

PIN	Description
RF1、RF2	RF ports, 50Ω
RFc	RF common ports, 50Ω
V1、V2	Control Ports
GND	Bottom must be grounded

Truth Table

V1	V2	RF _c →RF1	RF _c →RF2
1	0	OFF	ON
0	1	ON	OFF

Note: Low level "0" is -28V~-40V, High level "1" is 0V~0.5V