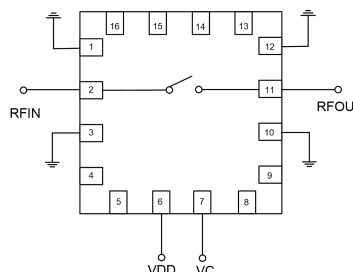


## GaAs MMIC Absorptive SPST Switch Chip, DC- 25 GHz

### Performance characteristics

- Frequency range: DC-25GHz
- Insertion loss: 1.5dB
- Isolation degree: 48dB
- Integrated logic circuit
- Full positive: +5V power supply, 0/+5V (compatible with +3.3V) control
- Switching state standing wave ratio: 1.4
- 50Ohm input/output
- QFN3X3mm

### Functional Block Diagram



### Product Introduction

GSW-0025ST-PD-CQ3 is a GaAs MMIC absorption single pole single throw switching chip, with a frequency range covering DC-25GHz. The chip integrates logic circuits, uses +5V power supply, 0V/+5V (compatible with +3.3V) control, and a switching speed of 20ns. This switch adopts a 3X3mm surface mount lead-free ceramic tube shell, which can achieve airtight packaging. The surface of the pin solder pads is treated with gold plating technology, suitable for reflow soldering installation process.

#### Use restriction parameters<sup>1</sup>

Control voltage range	-0.5V~+6V
Power supply voltage range	+6V
Maximum input power	+30dBm
Working temperature	-55 ~ +85°C
Storage temperature	-65 ~ +150°C

【1】 Exceeding any of the above maximum limits may result in permanent damage.

#### Electrical performance parameters (T<sub>A</sub> = +25°C)

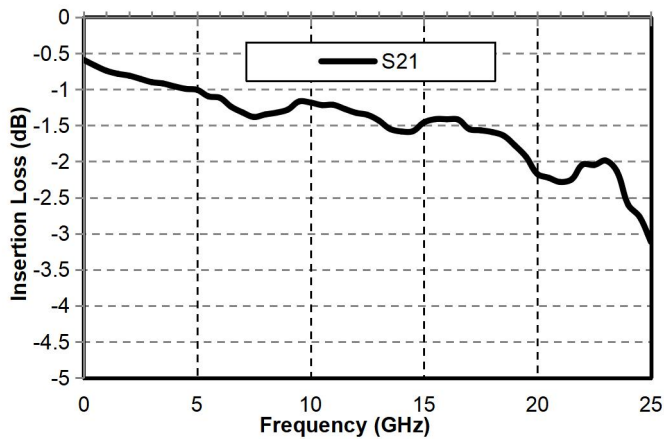
Index	Minimum value	Typical value	Maximum value	Unit
Frequency range	DC-25			GHz
Insertion loss	-	1.5	-	dB
Isolation degree	-	48	-	dB
Input return loss	-	18	-	dB
Output Return Loss	-	18	-	dB
P-1dB @>1GHz	-	26	-	dBm
Switching speed	-	20	-	ns
Control high level	3	3.3	5	V
Control low level	0	-	0.8	V

Control current		600		uA
Supply voltage	-	+5	-	V
Static current	-	1.5	-	mA

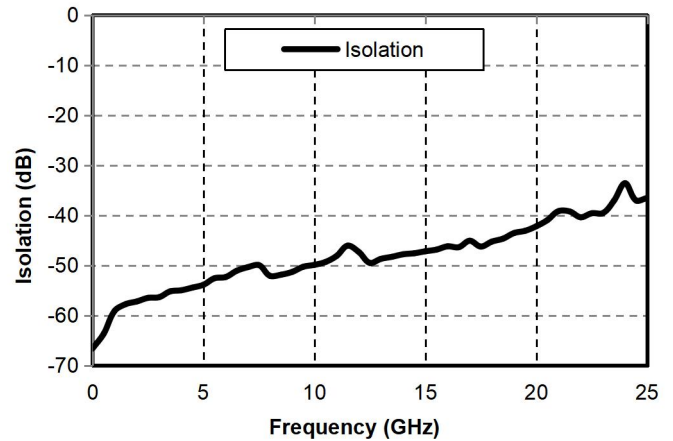
## GaAs MMIC Absorptive SPST Switch Chip, DC- 25 GHz

Main indicator testing curve

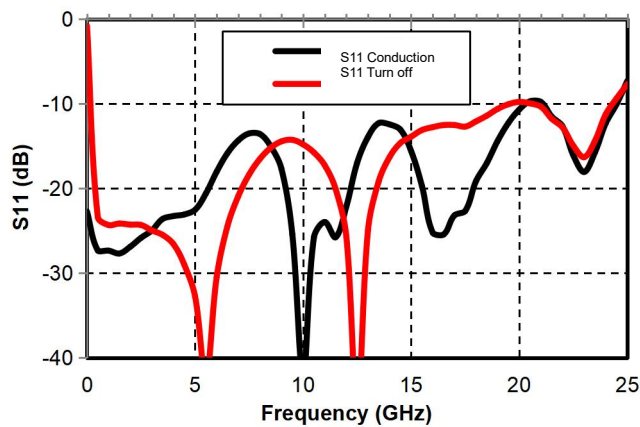
Insertion loss vs. operating frequency



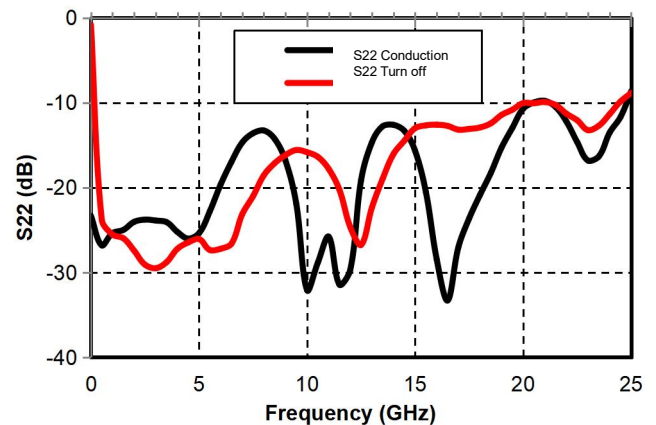
Isolation degree vs. operating frequency



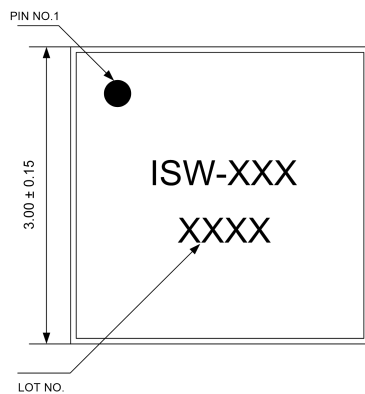
Input wave loss vs. operating frequency



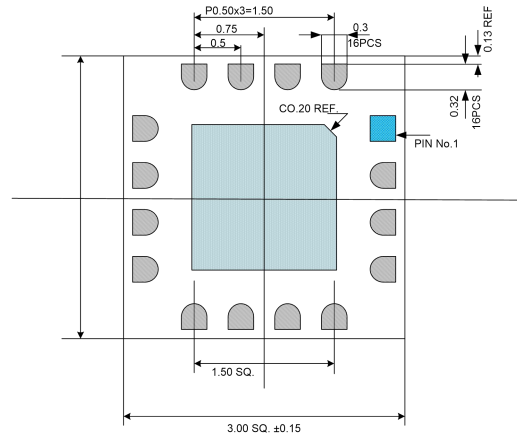
Output return loss vs. operating frequency



## External structure



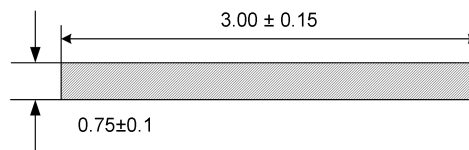
vertical view



Top view

## GaAs MMIC Absorptive SPST Switch Chip, DC- 25 GHz

## External structure



Side view

The units in the figure are all millimeters.

### True Table

VDD	VC	State
+5V	+5V(compatible+3.3V)	Conduction
+5V	0V	Turn off

### Pin Definition

Pin number	Functional symbols	Function Description
2	RFIN	RF signal input terminal, without DC isolation capacitor inside
11	RFOUT	RF signal output terminal, without DC isolation capacitor inside
6	VDD	supply voltage
7	VC	Positive level control port
1、3、10、12	GND	The pins should have sufficient and good contact with the

		RF and DC ground
Chip bottom	GND	The bottom of the chip needs to have sufficient and good contact with RF and DC ground
other	NC	Hanging pins can be grounded

## Application circuit

