

## GaAs MMIC Absorptive SPDT Switch Chip, DC- 8 GHz

### Performance characteristics

- Frequency range: DC - 8 GHz
- Insertion loss : 1.1 dB
- Isolation: 45 dB
- On-state VSWR : 1.2
- 50Ohm input/output
- QFN4X4mm

### Product Introduction

GSW-0008DT is a GaAs MMIC absorptive single-pole double-throw switch chip with 50Ω matching at the input/output ends, a frequency range covering DC ~ 8 GHz , and 0V/-5V power supply. The switching speed is 10ns. The amplifier adopts a 4X4mm surface-mount leadless ceramic tube shell to achieve airtight packaging. The surface of the pin pad is gold-plated and is suitable for reflow soldering installation.

Use restriction parameter <sup>1</sup>	
Control voltage range	-8V ~ +0.5V
Maximum input power	+30dBm
Operating temperature	-55 ~ +85°C
Storage temperature	-65 ~ +150°C

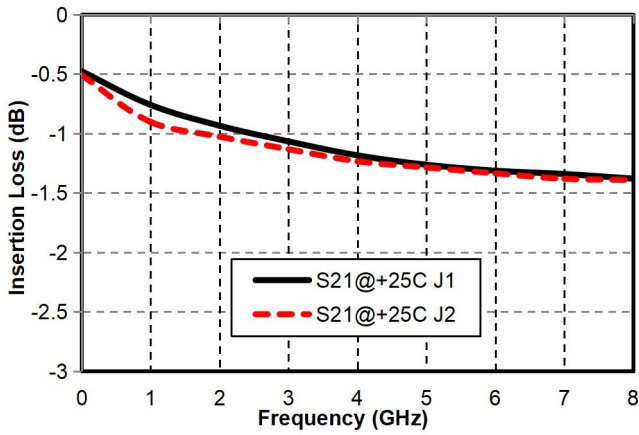
【1】 Exceeding any of these maximum limits may cause permanent damage.

Electrical Parameters ( TA = +25°C)				
Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	DC-8			G Hz
Insertion loss	-	1.1	1.4	dB
Isolation	36	45	-	dB
Input return loss	22	23	-	dB
Output return loss	20	23	-	dB
P-1dB	-	23	-	dBm
Switching speed	-	10	-	ns

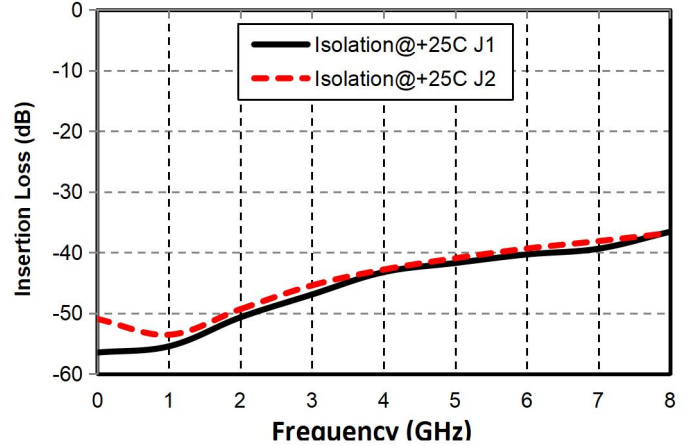
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Main index test curve

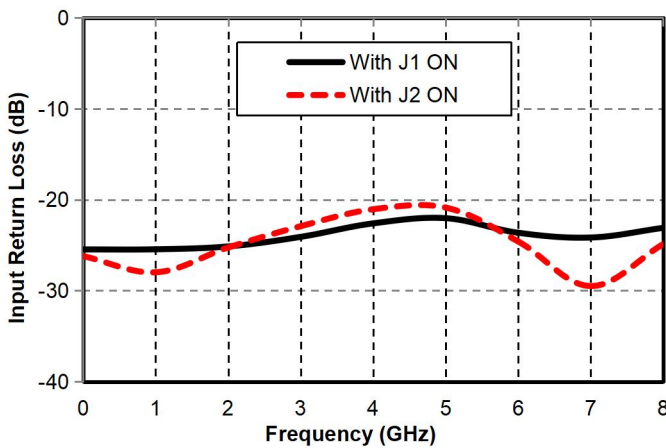
Insertion Loss vs. Operating Frequency



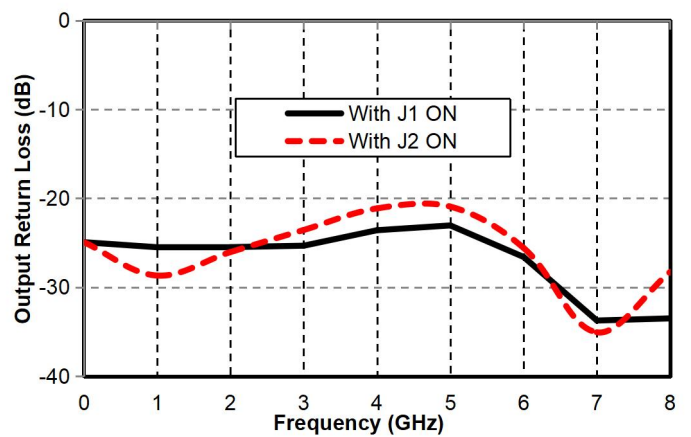
Isolation vs. Operating Frequency



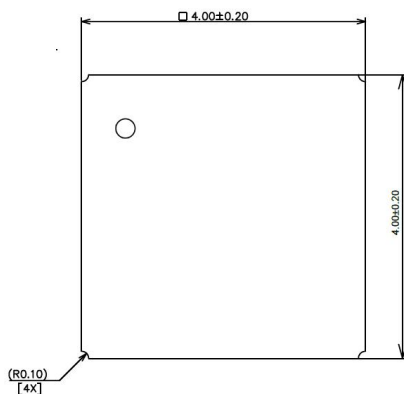
Input Wave Loss vs. Operating Frequency



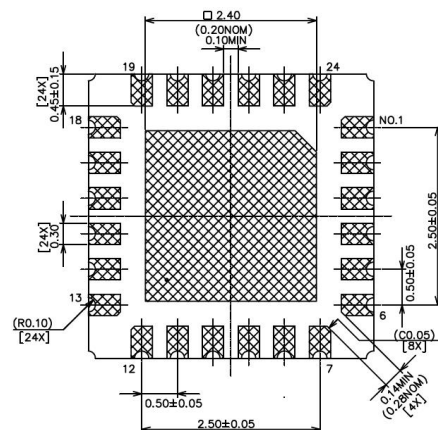
Output Return Loss vs. Operating Frequency



### Appearance structure



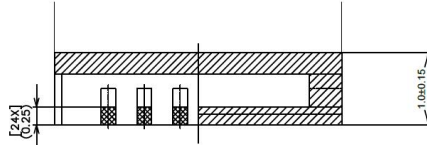
Top view



Bottom view

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### Appearance structure



Side View

All units in the figures are millimeters .

### Truth table :

V SE	V S	IN-OUT1	IN-OUT2
-5V	0V	Conductivity	closure
0V	-5V	closure	Conductivity

### Pin Definition

Pin number	Function Symbol	Functional Description
3	RFIN	The signal input terminal is connected to a 50 ohm circuit, and there is no DC blocking capacitor integrated into the chip.
9, 22	RF OUT1/2	The signal output terminal is connected to a 50 ohm circuit, and there is no DC blocking capacitor integrated into the chip.
2, 4, 8, 10, 21, 23	GND	The bottom of the chip needs to be well grounded to RF and DC
14, 17	Voltage Control	For on/off control, VSE and VSH can use any one of the two groups.
other	NC	The pin is left floating and can be grounded

### Application Circuit

