

## GaAs MMIC SPDT absorptive switch chip, DC- 15 GHz

### Performance characteristics

- Frequency range: DC - 15 GHz
- Insertion loss : 1.3 dB
- Isolation: 51 dB
- Wave ratio : 1.3
- 50Ohm input/output
- QFN4X4mm

### Product Introduction

GSW-0015DT-PD-CQ4 is a GaAs MMIC absorptive single-pole double-throw switch chip, with 50Ω matching at the input/output end, a frequency range covering DC ~15 GHz , integrated logic control circuit, -5V power supply, 0V/+5V positive level control , and a switching speed of 30ns. The amplifier uses a 4X4mm surface-mount leadless ceramic tube shell, and the surface of the pin pad is gold-plated, which is suitable for reflow soldering installation process.

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

Control voltage range	-0.5V ~ + 6V
Supply voltage range	- 6V
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.

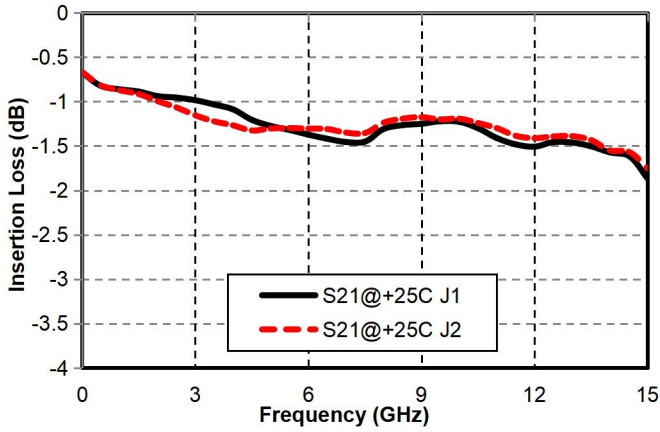
#### Electrical Parameters ( TA = +25°C)

Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	DC-15			G Hz
Insertion loss	-	1.3	-	dB
Isolation	-	51	-	dB
Input return loss (on, off )	-	20	-	dB
Output return loss (on, off )	-	18	-	dB
P-1dB	-	22	-	dBm
Switching speed	-	30	-	ns
Control voltage	-	0/+5	-	V
Control current	-	600	-	uA
Voltage	-	-5	-	V
Quiescent Current	-	3	-	mA

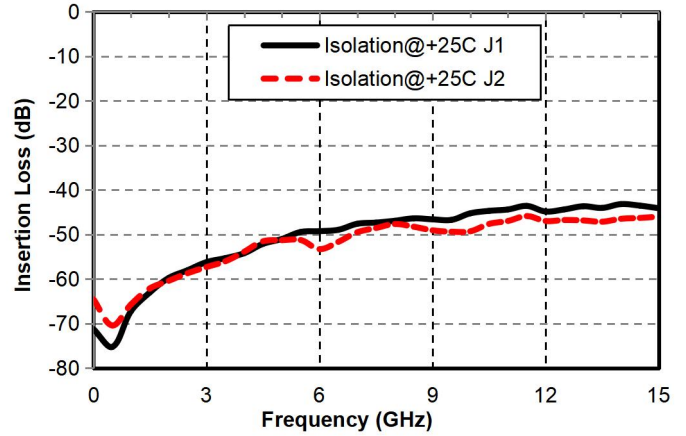
## GaAs MMIC SPDT absorptive switch chip, DC- 15 GHz

### Main index test curve

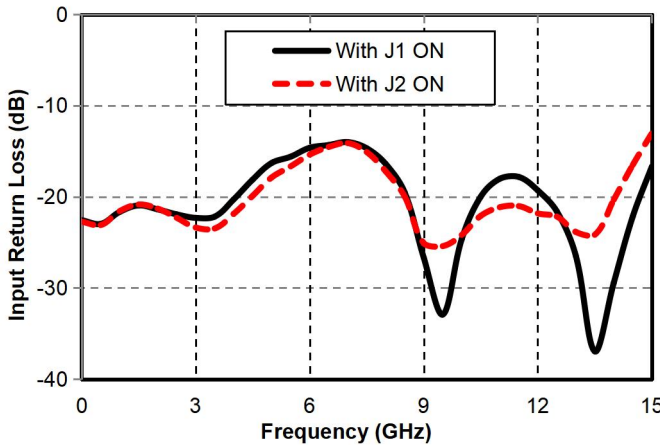
Insertion Loss vs. Operating Frequency



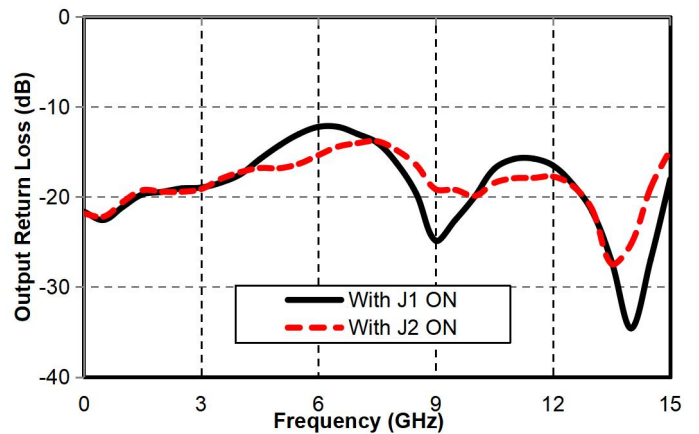
Isolation vs. Operating Frequency



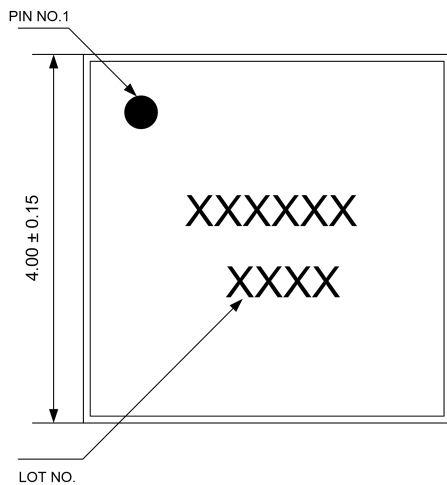
Input Wave Loss vs. Operating Frequency



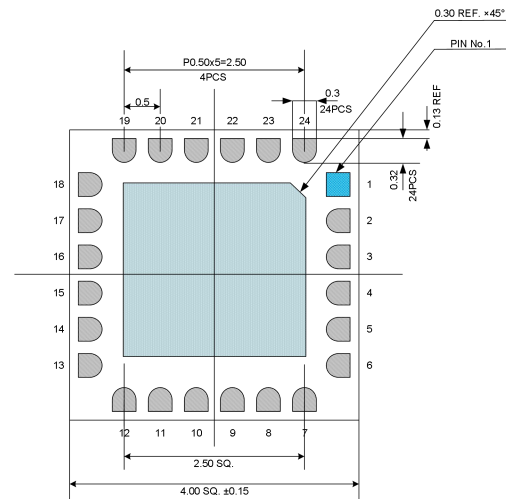
Output Return Loss vs. Operating Frequency



### Appearance structure



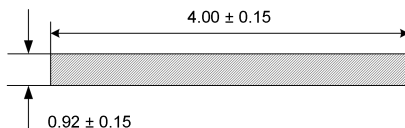
Top view



Bottom view

## GaAs MMIC SPDT Switch Absorption Chip, DC- 15 GHz

### Appearance structure



Side View

The units in the figures are all in millimeters , and the tolerance is  $\pm 0.15$  mm.

### Truth table:

VEE	VC	path
-5V	5V	RFC-RF1
-5V	0V	RFC-RF2

### Pin Definition

Pin number	Function Symbol	Functional Description
3	RF C	RF signal input terminal, no internal DC blocking capacitor
10, 21	RF 1, RF 2	RF signal output terminal, no internal DC blocking capacitor
15	VC	Positive level control port
16	VEE	Power supply voltage (used for positive level control)
2, 4, 9, 11, 20, 22	GND	The pins need to be in good contact with the RF and DC grounds.
Chip bottom	GND	needs to be in good contact with the RF and DC grounds
other	NC	The pin is floating and can be grounded

### Application Circuit

