

## GaAs MMIC Absorptive SPDT Switch Chip, DC- 19 GHz

### Performance characteristics

- Frequency range: DC - 19 GHz
- Insertion loss : 1.6 dB
- Isolation: 60 dB
- Wave ratio : 1.3
- 50Ohm input/output
- QFN3X3mm

### Product Introduction

GSW-0019DT is a GaAs MMIC absorptive single-pole double-throw switch chip with 50Ω matching at the input/output ends, a frequency range covering DC ~ 19 GHz , and 0V/-5V power supply. The switching speed is 10ns. This chip is packaged in a 3 x 3 mm plastic surface mount package, 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	-8V ~ +0.5V
Maximum input power	+30dBm
Operating temperature	-55 ~ +85°C
Storage temperature	-65 ~ +150°C

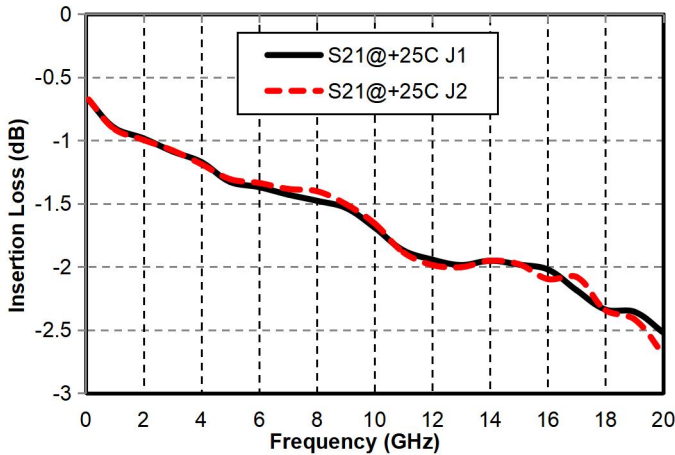
【1】 Exceeding any of these maximum limits may cause permanent damage.

Electrical Parameters ( TA = +25°C)				
Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	DC-19			G Hz
Insertion loss	-	1.6	-	dB
Isolation	-	48	-	dB
Input return loss	-	20	-	dB
Output return loss	-	22	-	dB
P-1dB	-	23	-	dBm
Switching speed	-	10	-	ns

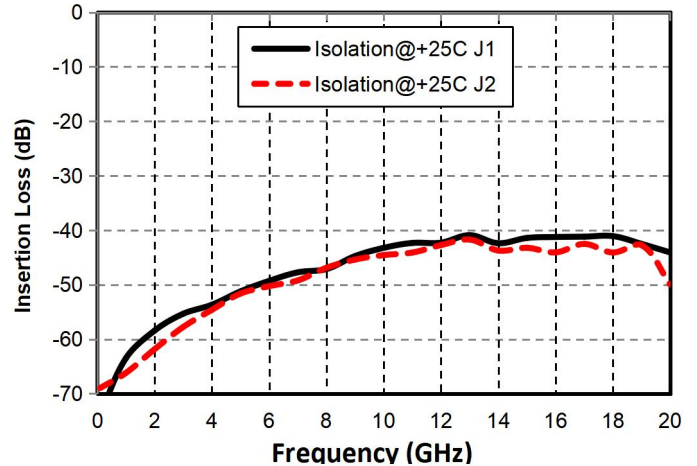
## GaAs MMIC Absorptive SPDT Switch Chip, DC- 19 GHz

Main index test curve

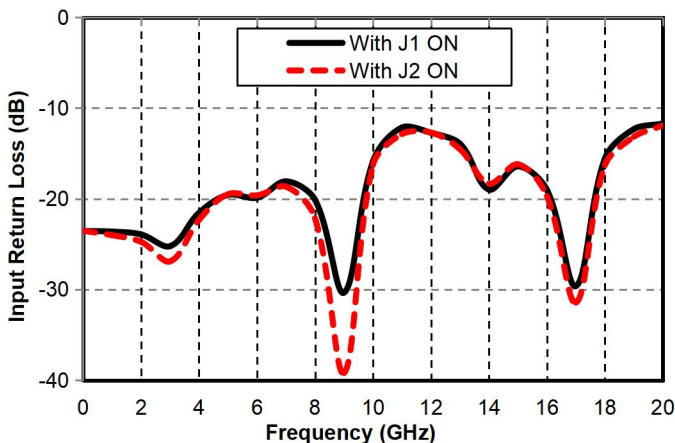
Insertion Loss vs. Operating Frequency



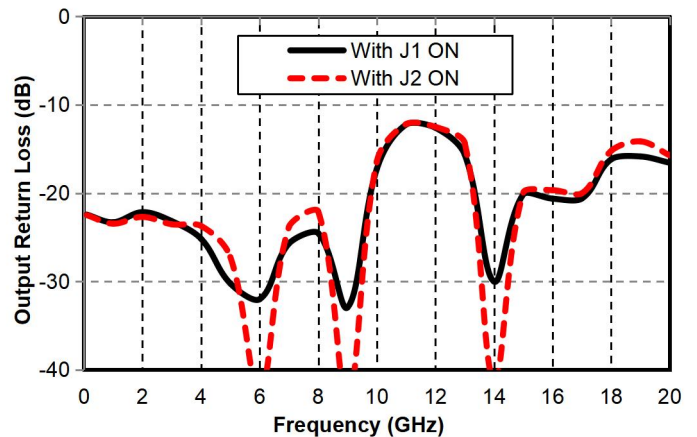
Isolation vs. Operating Frequency



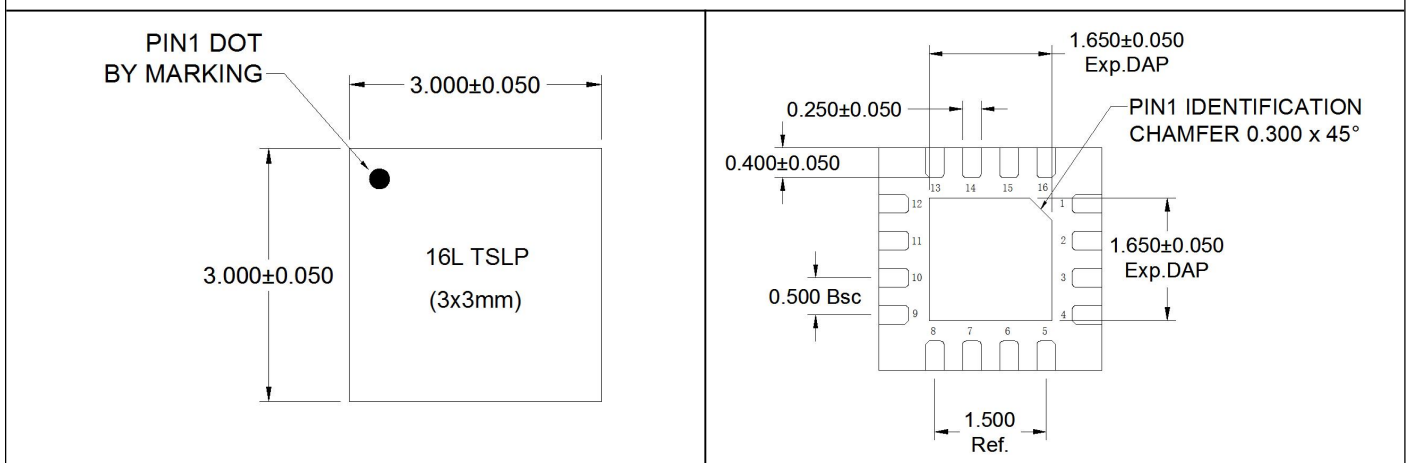
Input Wave Loss vs. Operating Frequency



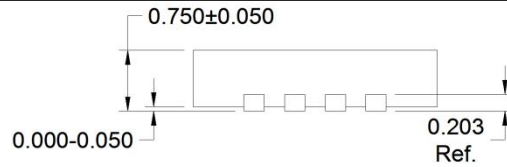
Output Return Loss vs. Operating Frequency



### Appearance structure



## GaAs MMIC Absorptive SPDT Switch Chip, DC- 19 GHz



Side View

The units in the figure are all millimeters, with a tolerance of  $\pm 0.05$  mm.

## Pin Definition

Bonding point number	Function Symbol	Functional Description
3	RFIN	RF signal input terminal, external DC blocking capacitor is required
7, 14	RFOUT1, RFOUT2	RF signal output terminal, external DC blocking capacitor is required
2, 4, 6, 8, 13, 15	GND	The bottom of the chip needs to be well grounded to RF and DC
10, 11	VC1, VC2	On/off control
other	NC	No welding required

## Truth table :

V C1	V C2	IN-OUT1	IN-OUT2
-5V	0V	closure	Conductivity
0V	-5V	Conductivity	closure

## Application Circuit

