

GaAs MMIC Absorptive SPDT Switch Chip, DC- 12 GHz

Performance characteristics

- Frequency range: DC - 12 GHz
- Insertion loss : 1.5 dB
- Isolation: 48 dB
- On-state VSWR : 1.4
- 50Ohm input/output
- QFN4X4mm

Product Introduction

GSW-0012DT is a GaAs MMIC absorptive single-pole double-throw switch chip, with 50Ω matching at the input/output, a frequency range covering DC ~ 12 GHz , and 0V/-5V power supply. The switching speed is 10ns. The amplifier adopts a 4X4mm surface-mount leadless ceramic tube shell, which can achieve airtight packaging. The surface of the pin pad is treated with gold plating technology, which is suitable for reflow soldering installation process.

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

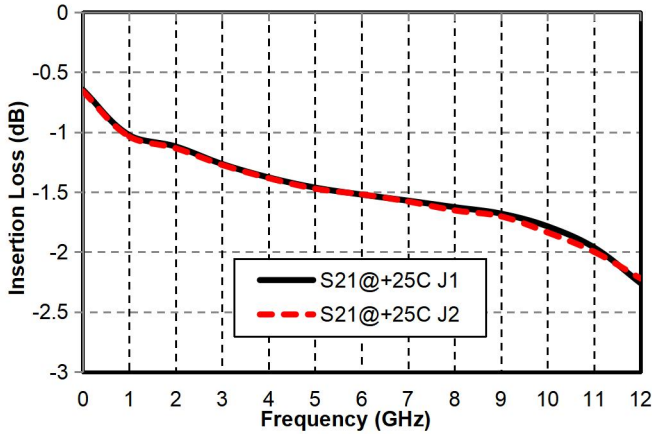
【1】 Exceeding any of these maximum limits may cause permanent damage.

Electrical Parameters (TA = +25°C)				
Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	DC-12			G Hz
Insertion loss	-	1.5	2.3	dB
Isolation	43	48	-	dB
Input return loss	11	18	-	dB
Output return loss	12	twenty three	-	dB
P-1dB	-	twenty three	-	dBm
Switching speed	-	10	-	ns

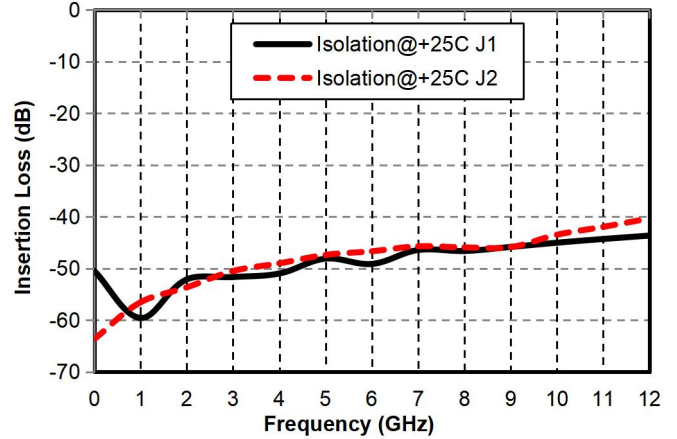
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Main index test curve

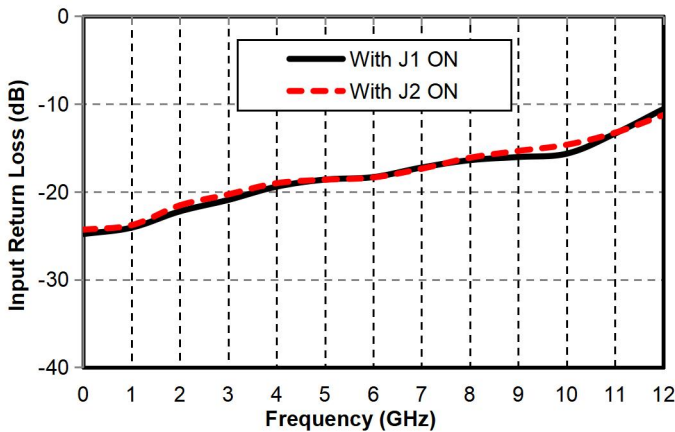
Insertion Loss vs. Operating Frequency



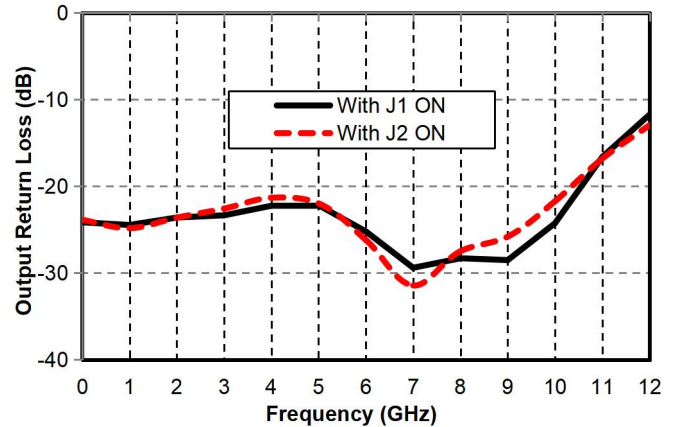
Isolation vs. Operating Frequency



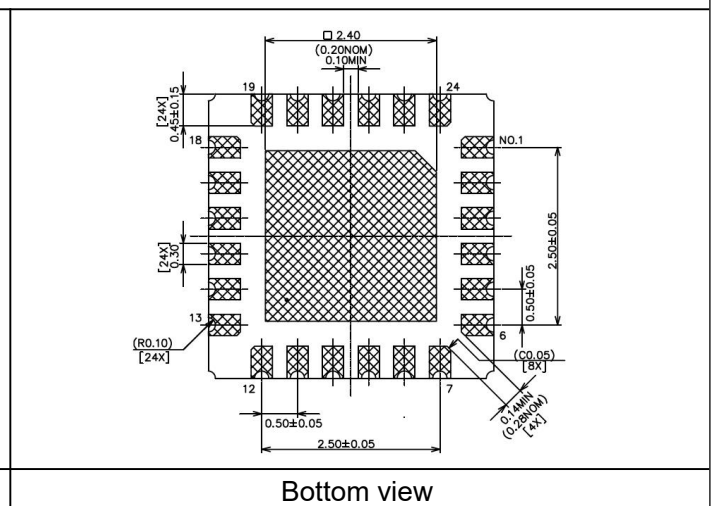
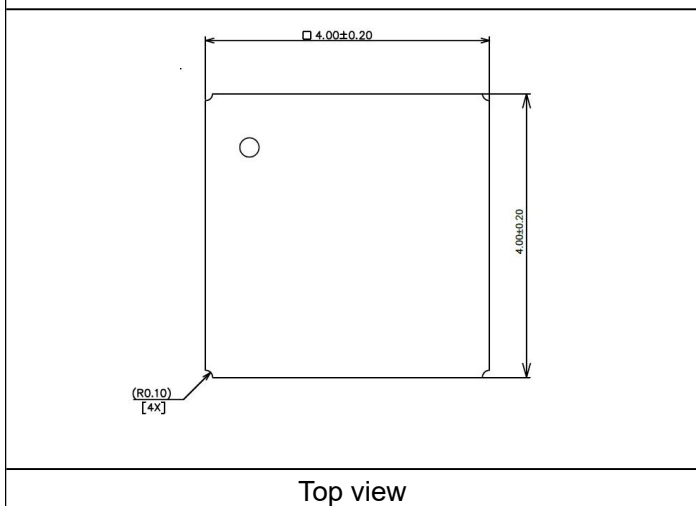
Input Wave Loss vs. Operating Frequency



Output Return Loss vs. Operating Frequency

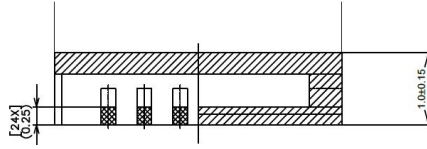


Appearance structure



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Appearance structure



Side View

All units in the figures are millimeters .

Truth table :

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

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
15, 16	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

