

GaAs MMIC Absorptive SP4T Switch Chip, DC- 8 GHz

Performance characteristics

- Frequency range: DC - 8 GHz
- Insertion loss : 2.0 dB
- Isolation: 50 dB
- On-state VSWR : 1.5
- 50Ohm input/output
- QFN4X4mm

Product Introduction

GSW-00084T-CQ4 is a GaAs MMIC absorptive single-pole four-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 ¹	
Control voltage range	-8V ~ +0.5V
Maximum input power	+30dBm
Operating temperature	-55 ~ +85°C
Storage temperature	-65 ~ +150°C

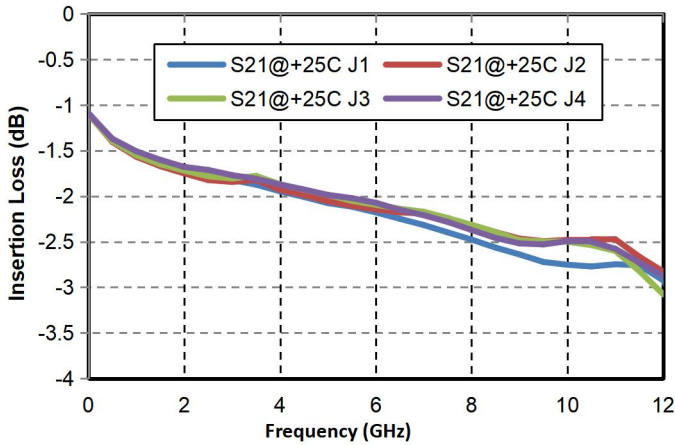
【1】 Exceeding any of these maximum limits may cause permanent damage.

Electrical Parameters (TA = +25°C)				
Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	DC-8			GHz
Insertion loss	-	2.0	-	dB
Isolation	-	50	-	dB
Input return loss	-	15	-	dB
Output return loss	-	15	-	dB
P-1dB	-	23	-	dBm
Switching speed	-	10	-	ns

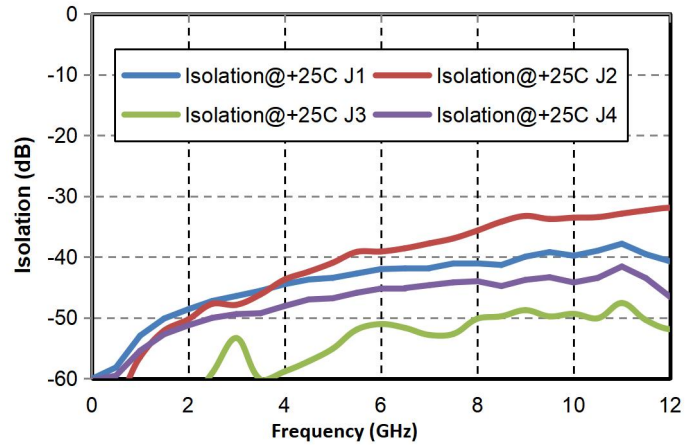
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Main index test curve

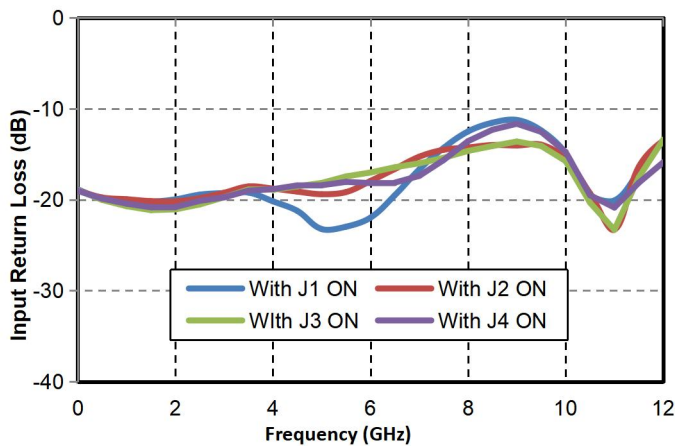
Insertion Loss vs. Operating Frequency



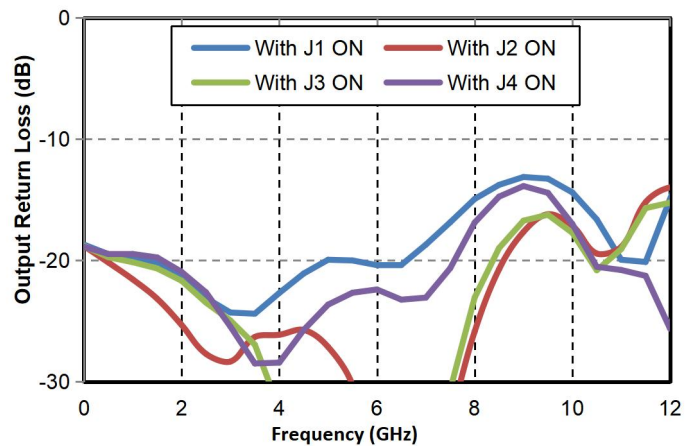
Isolation vs. Operating Frequency



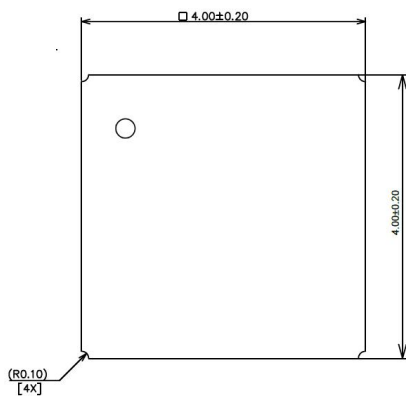
Input Return Loss vs. Operating Frequency



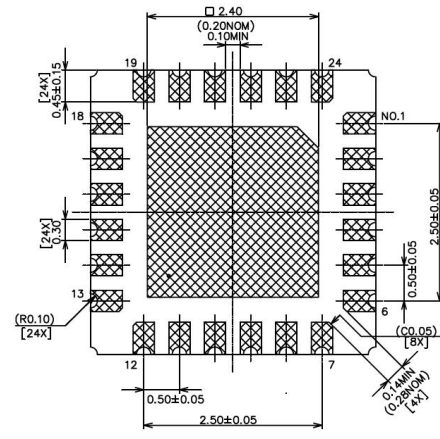
Output Return Loss vs. Operating Frequency



Appearance structure



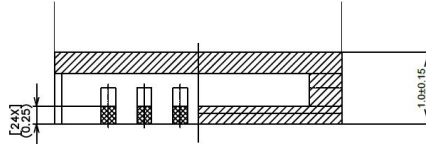
Top view



Bottom view

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Appearance structure



Side View

All units in the figures are millimeters .

Truth table

1A	1B	2A	2B	3A	3B	4A	4B	RF1	RF2	RF3	RF4
0V	-5V	-5V	0V	-5V	0V	-5V	0V	Conductivity	closure	closure	closure
-5V	0V	0V	-5V	-5V	0V	-5V	0V	closure	Conductivity	closure	closure
-5V	0V	-5V	0V	0V	-5V	-5V	0V	closure	closure	Conductivity	closure
-5V	0V	-5V	0V	-5V	0V	0V	-5V	closure	closure	closure	Conductivity

Pin Definition

Pin number	Function Symbol	Functional Description
3	RFIN	Signal input terminal, external 50 ohm circuit, no DC blocking capacitor integrated into the chip
8, 10, 21, 23	RF OUT1/2/3/4	Signal output terminal, external 50 ohm circuit, no DC blocking capacitor integrated into the chip
1, 2, 4, 6, 9, 11, 20, 22	GND	The bottom of the chip needs to be well grounded to RF and DC
15, 16	Voltage Control	On/off control
other	NC	The pin is left floating and can be grounded

Application Circuit

