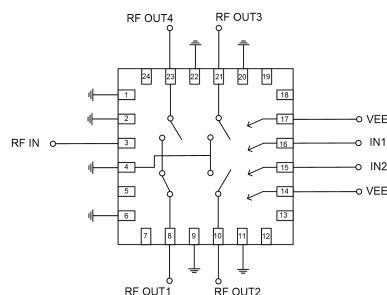


GaAs MMIC absorptive SP4T switch chip, DC- 14G Hz

Performance characteristics

- Frequency range: DC - 14 GHz
- Insertion loss : 1.7 dB
- Isolation: 49 dB
- On-state VSWR : 1.4
- Integrated logic control
- 50Ohm input/output
- QFN4X4mm

Block Diagram



Product Introduction

GSW-0014 4 DT-PD-CQ4 is a GaAs MMIC single-pole four -throw switch chip, with 50Ω matching at the input / output end , a frequency range covering DC ~ 14GHz , a -5V power supply, 0V/+5V positive level control, a switching speed of 30ns , and a P-1dB input power of +21dBm . The amplifier uses a 4X4mm surface-mount leadless ceramic tube shell to achieve airtight packaging, and the surface of the pin pad is gold-plated, which is suitable for reflow soldering installation.

Use restriction parameter ¹

Control voltage range	-0.5V ~ + 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.

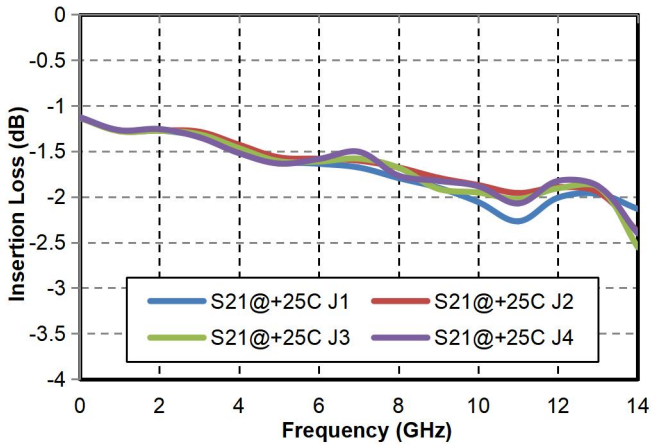
Electrical performance parameters (TA = +25°C, VEE = -5V, VC = 0/+5V)

Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	DC-14			G Hz
Insertion loss	-	1.7	-	dB
Isolation	-	49	-	dB
Input return loss	-	18	-	dB
Output return loss	-	17	-	dB
P-1dB	-	21	-	dBm
Switching speed	-	30	-	ns
Control voltage		0/+5		V
Control current		1		mA
Supply voltage		-5		V
Quiescent Current		10		mA

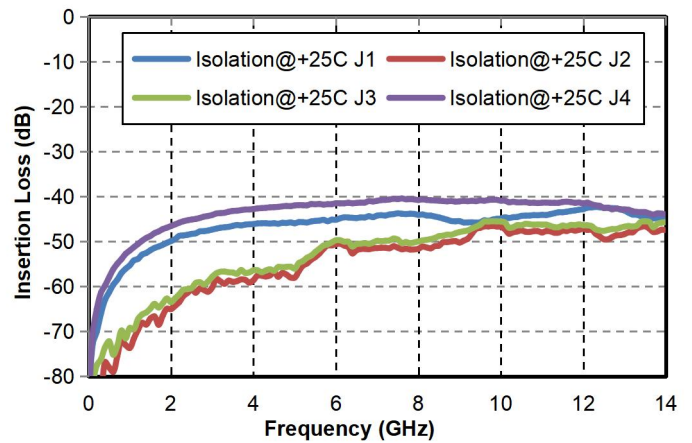
GaAs MMIC Absorptive SP4T Switch Chip, DC- 14 GHz

Main index test curve

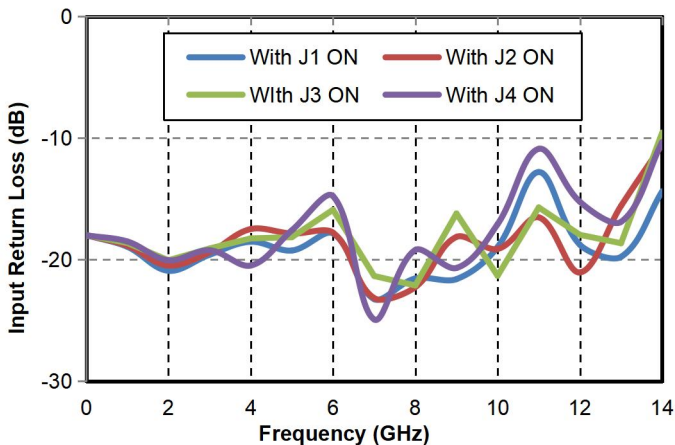
Insertion Loss vs. Operating Frequency



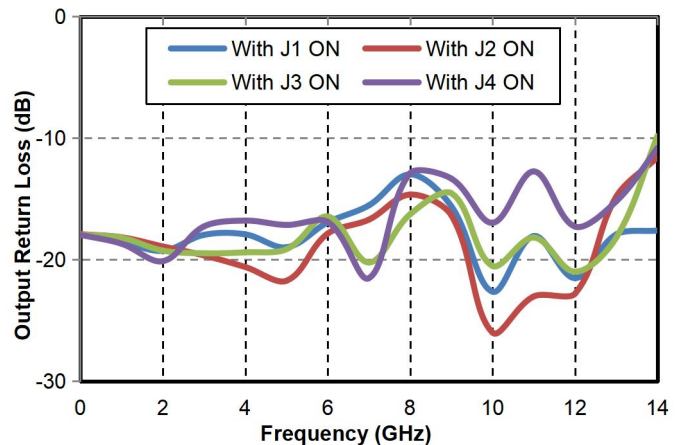
Isolation vs. Operating Frequency



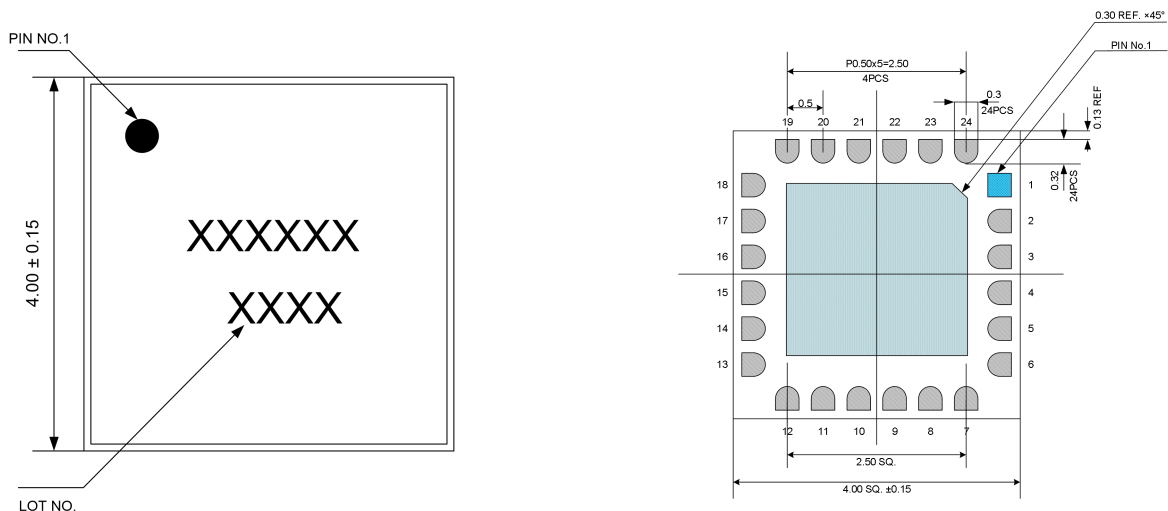
Input Wave Loss vs. Operating Frequency



Output Return Loss vs. Operating Frequency



Appearance structure

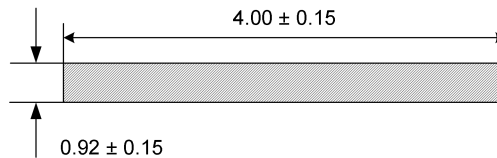


Top view

Bottom view

GaAs MMIC Absorptive SP4T Switch Chip, DC- 14 GHz

Appearance structure



Side View

The units in the figures are all millimeters , and the tolerance is ± 0.15 mm.

Truth table

VEE	IN2	IN1	RF1	FR2	RF3	RF4
-5V	0V	0V	Conductivity	closure	closure	closure
-5V	0V	5V	closure	Conductivity	closure	closure
-5V	5V	0V	closure	closure	Conductivity	closure
-5V	5V	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	IN2, IN1	Positive level control port
14, 17	VEE	Power supply voltage (connect any end to VEE)
other	NC	The pin is left floating and can be grounded

Application Circuit

