

GaAs MMIC Absorptive SP8T Switch Chip, 0.1-6GHz

Performance characteristic

- Frequency range: 0.1-6GHz
- Full positive power supply, control, integrated TTL
- Insertion loss : 1.7 dB @ 6GHz
- Isolation: 49dB
- wave ratio : 1.3
- 50Ohm input / output
- 100% on-wafer testing
- Chip size: 2.7 x 2.62 x 0.1mm

Product Introduction

GSW-00068T-PD is a GaAs MMIC absorptive single-pole eight-throw switch chip with 50Ω matching at the input/output ends and a frequency range of 0.1~6 GHz . The chip is powered by +5V, + 5V /0V positive level control (compatible with +3.3V), switching speed of 30 ns, and 1dB compression input power of +30 dBm (typical value) .

Use limit parameters

Control voltage range	-0.5V ~ + 6V
Supply voltage range	+6V
Maximum input power	+33dBm
Operating temperature	-55 ~ +85°C
storage temperature	-65 ~ +150°C

Exceeding any of these maximum limits may cause permanent damage.

Electrical Parameters (TA = +25°C)

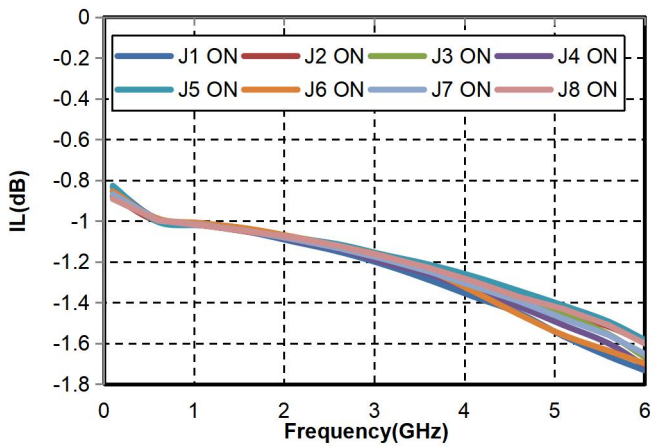
index	Minimum	Typical Value	Maximum	unit
Frequency Range	0.1-6			GHz
Insertion loss @3GHz	-	-	1.7	dB
Isolation	-	49	-	dB
On-state input return loss	-	19	-	dB
On-state output return loss	-	19	-	dB
P-1dB	-	25.0 @ 0.1G	-	dBm
		25.0 @ 0.2G		
		27.0 @ 0.5G		
		29 @ 1.0G		
		30.0 @ 2.0G		

		30.0 @ 3.0G		
Switching speed	-	30	-	ns

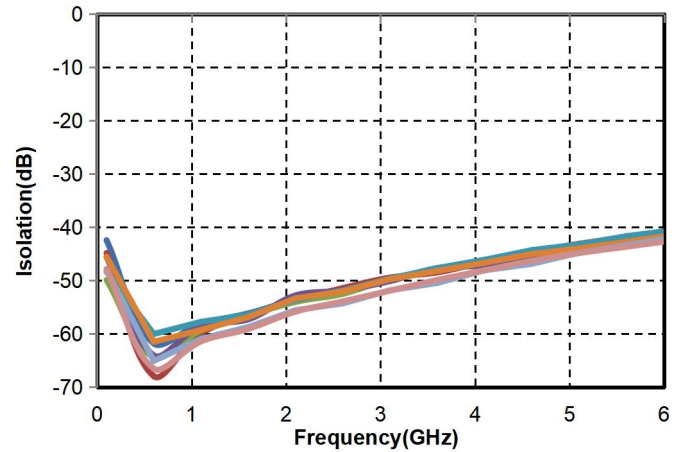
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Main index test curve

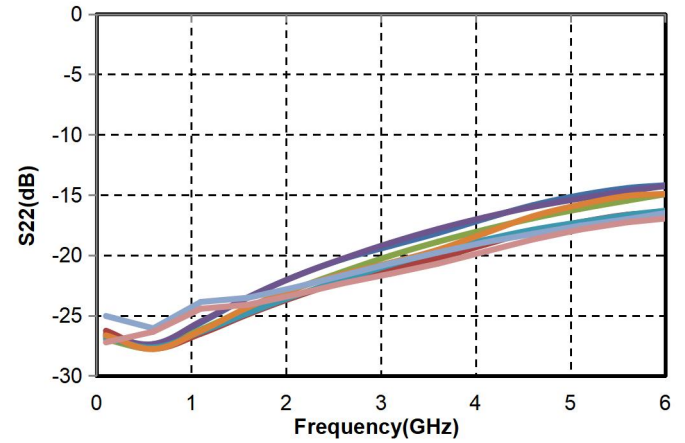
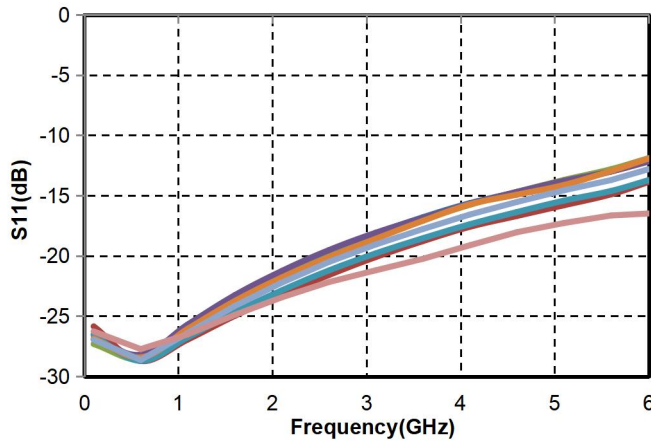
Insertion Loss vs. Operating Frequency



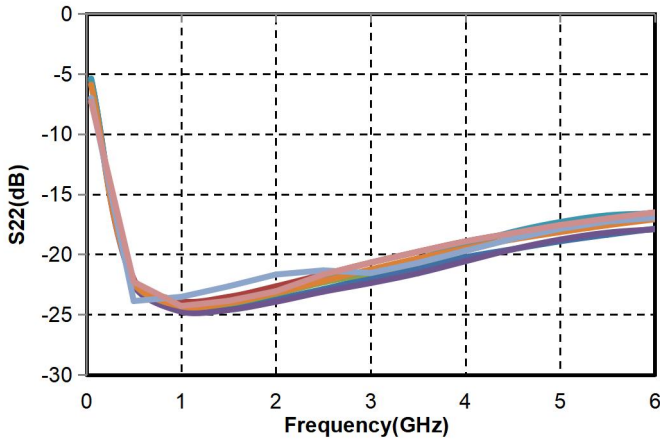
Isolation vs. Operating Frequency



Input Return Loss vs. Operating Frequency (Off State) Output Return Loss vs. Operating Frequency (Off State)

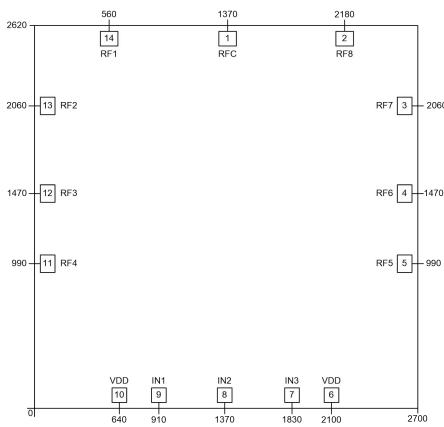


Output Return Loss vs. Operating Frequency (Off State)



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Appearance structure



All units in the figure are micrometers

Bonding point definition

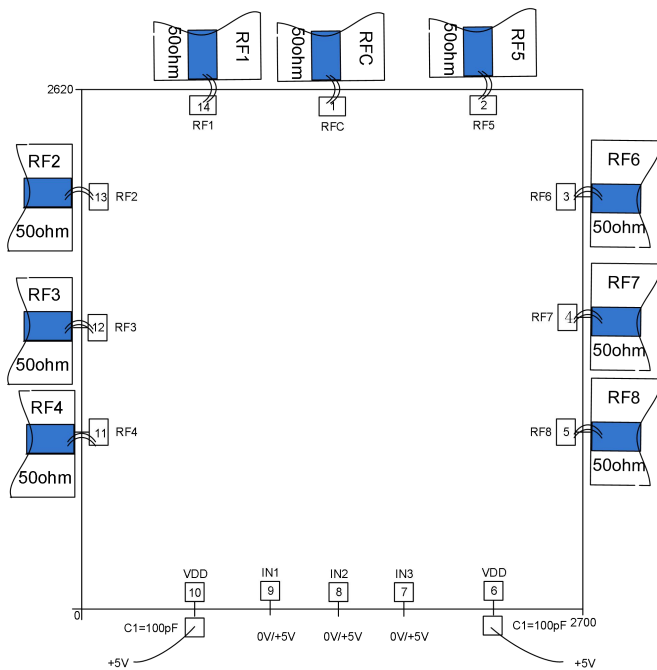
Bonding point number	Function Symbol	Functional Description
1	RF COMM	RF signal terminal
2~5, 11~14	RF2~RF8	RF signal terminal
7, 8, 9	IN1~IN3	Signal control port, on/off control
6, 10	VDD	Power supply terminal
Chip bottom	GND	The bottom of the chip needs to be well grounded to RF and DC

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Truth table :

Control Input			Signal Path State
IN1	IN2	IN3	RFCOM
0V	0V	0V	RF1
+5V (compatible with	0V	0V	RF2
0V	+5V (compatible with	0V	RF3
+5V (compatible with	+5V (compatible with	0V	RF4
0V	0V	+5V (compatible with	RF5
+5V (compatible with	0V	+5V (compatible with	RF6
0V	+5V (compatible with	+5V (compatible with	RF7
+5V (compatible with	+5V (compatible with	+5V (compatible with	RF8

Recommended assembly drawing



* Only one VDD connection is required to work