GSW-0018DT-HP-PD

GaAs High P-1 SPDT Absorptive Switch Chip, DC-18GHz

Performance characteristics

- Frequency range: DC -18 GHz
- P-1: ≥ 35 Bm from 0.1GHz ~ 18GHz
- Insertion loss : 2.6 dB @ 18 GHz
- Integrated logic control (all positive)
- 50Ohm input / output
- Chip size: 1.65 x 1.5 x 0.1mm ^{3}

Product Introduction

GSW-0018DT-HP-PD is a GaAs high P-1 single-pole double-throw absorptive switch chip with 50Ω matching at the input/output end and a frequency range covering DC~18 GHz , +5V power supply, 0V/+5V (compatible with +3.3V) control. Switching speed 180ns, ESD voltage ± 500V.

Use restriction parameter [1]	
Control voltage range	-0.5V ～ + 6V
Supply voltage range	+6V
Maximum input power	+39dBm
Operating temperature	-55 ~ +85°C
storage temperature	-65 ~ +150°C

Electrical Parameters (TA = +25°C)				
index	Minimum	Typical Value	Maximum	unit
Frequency Range		DC-18		G Hz
Insertion loss @18GHz		2.6		dB
Isolation	-	37	-	dB
On-state input return loss	-	18	-	dB
On-state output return loss	-	18	-	dB
Off-state output return loss	-	20	-	dB
P-1dB	-	35@0.1-0.5GHz	-	dBm
		36@1～18GHz		dBm
Switching speed		180		ns
Control high level	2.7	3.3	5	V
Control low level	0	-	0.8	V
Control current	-	1	-	mA
voltage	-	+5	-	V
Quiescent Current	-	2	-	mA

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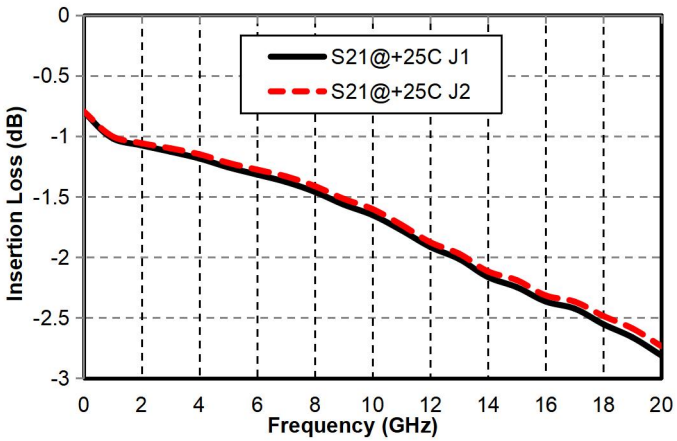
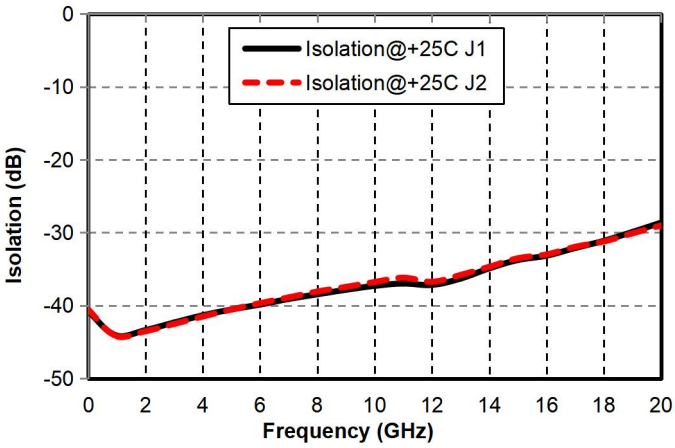
Main index test curve

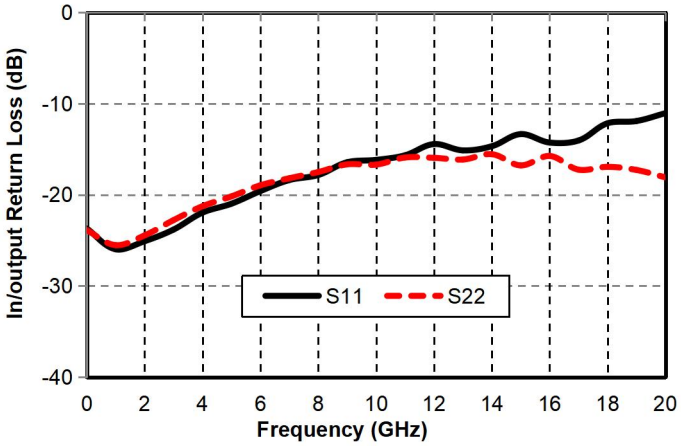
Insertion Loss vs. Operating Frequency



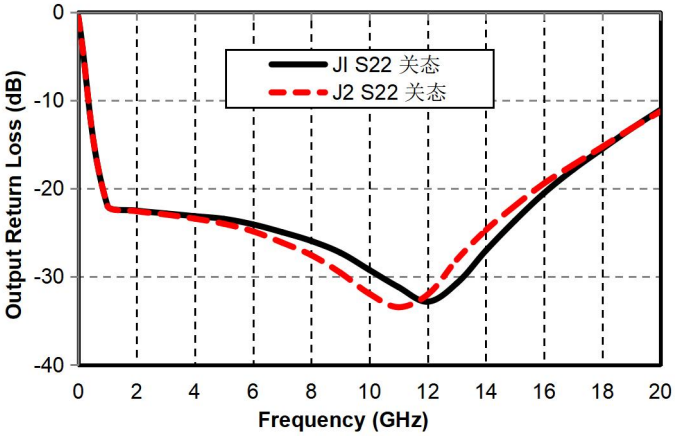
Isolation vs. Operating Frequency



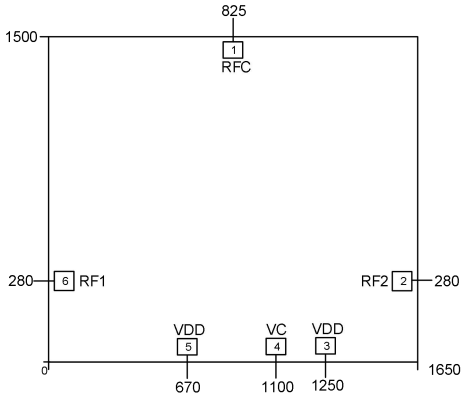
Input /Output Return Loss vs. Operating Frequency (On State)



Output Return Loss vs. Operating Frequency (Off State)



Appearance structure [2]



【 2 】All units in the figure are micrometers

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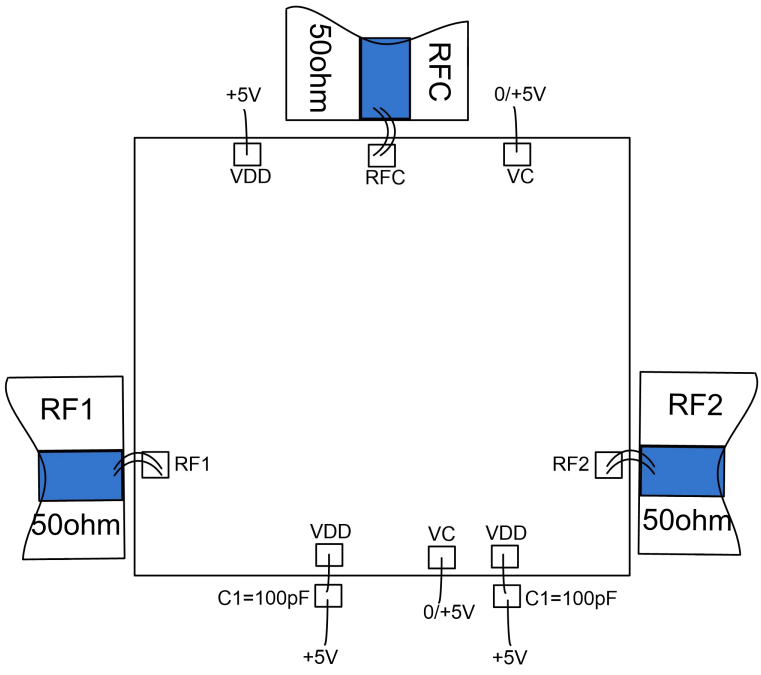
Bonding point definition		
Bonding point number	Function Symbol	Functional Description
1	RF COMM	RF signal input terminal, no internal DC blocking capacitor
2, 6	RF OUTPUT	RF signal output terminal, no internal DC blocking capacitor
4	VC	Positive level control port
3, 5	VDD	voltage
Chip bottom	GND	The bottom of the chip needs to be well grounded to RF and DC

Truth table :

VD	VC	path
+ 5V	Low (0)	RFC-RF 1
+ 5V	High (1)	RFC-RF 2

High (1), +2.7~ +5V; Low (0), 0~ + 0.8V

Recommended assembly drawing



Just connect VD on either side.

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