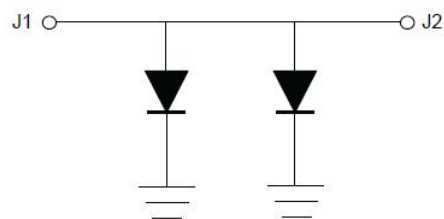


GaAs PIN Reflective single-pole single-throw switch chip,0.05-50GHz

Performance characteristics

- Frequency range: 0.05-50GHz
- Insertion loss: 0.5dB typ.
- Isolation: 40dB typ.
- P-1dB: See the following table
- 50Ohm Input/output
- 100% on film test
- Chip size: 0.77 x 0.64 x 0.1mm
- Silicon nitride passivation, scratch protection

Functional block diagram



Product introduction

GSW1C is a GaAs PIN reflective single-pole single-throw switch chip with 50 Ω matching input/output, frequency range covering 0.05 ~ 50GHz, and -5V/+5V control.

Usage limit parameter	
Maximum input voltage	25V
Maximum input power	+33dBm CW
Operating temperature	-55 ~ +85°C
Storage temperature	-65 ~ +150°C

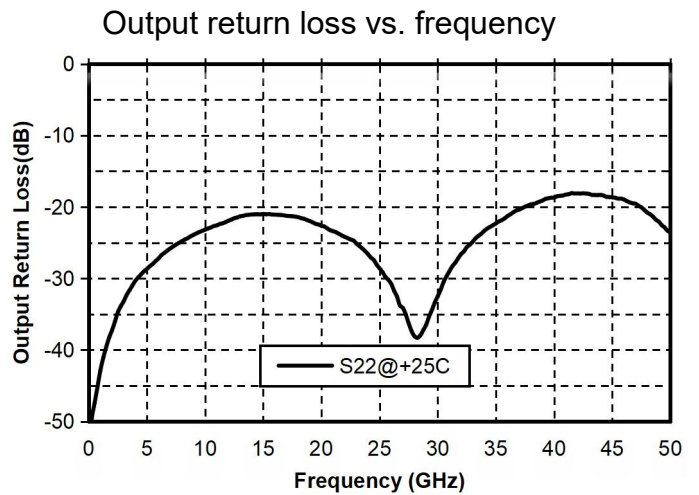
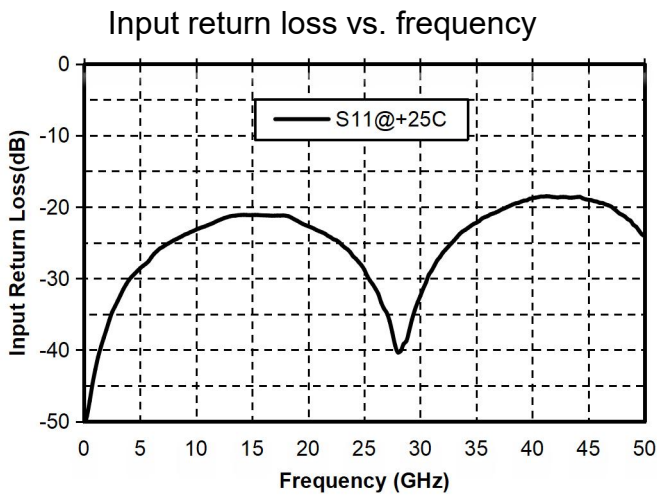
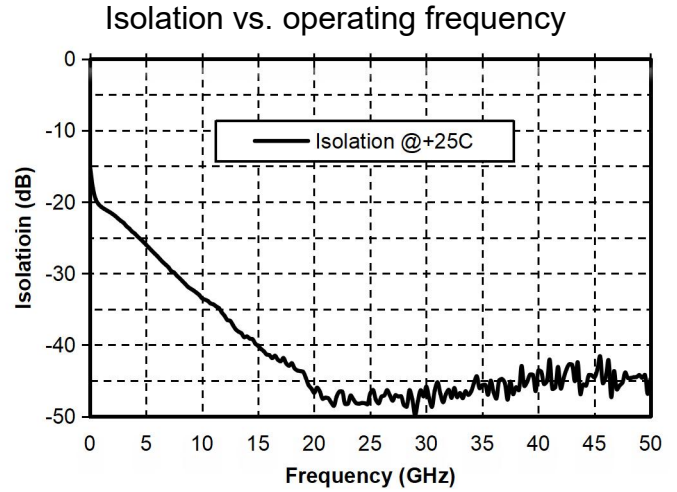
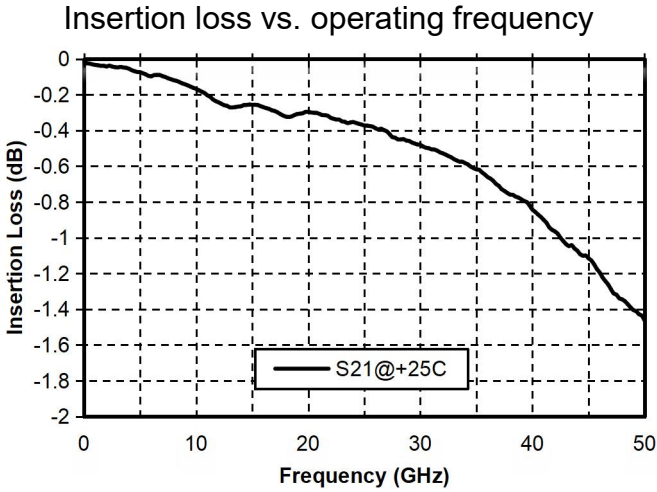
【1】 Exceeding any of these maximum limits may cause permanent damage

Electrical property parameter($T_A = +25^\circ\text{C}$)

Index	Minimum value	Typical value	Maximum value	Unit
Frequency range	0.05-50			GHz
Insertion loss	-	0.2 @0.05~18GHz	-	dB
	-	0.7@18~50GHz	-	dB
isolation	-	31@0.05~18GHz	-	dB
	-	45@18~50GHz	-	dB
Input return loss	-	25@0.05~18GHz	-	dB
	-	22@18~50GHz	-	dB
Output return loss	-	24@0.05~18GHz	-	dB
	-	21@18~50GHz	-	dB
P-1dB	-	21.5@0.5GHz	-	dBm
	-	22.5@1GHz	-	dBm
	-	22@20GHz	-	dBm
	-	21@40GHz	-	dBm
Switching speed	-	10	-	ns

GaAs PIN Reflective single-pole single-throw switch chip, 0.05-50GHz

Main index test curve

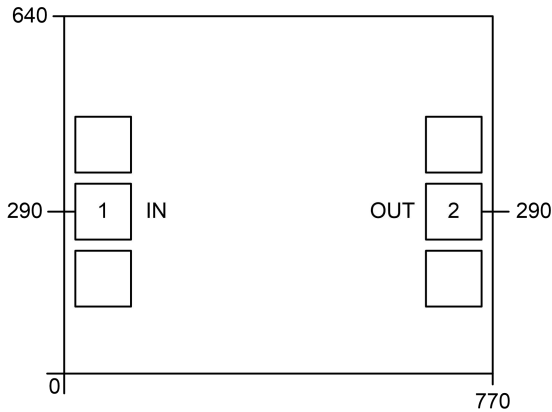


Typical Driver Connections

CONTROL LEVEL (DC CURRENT)	RF OUTPUT STATE
IN(J1) or OUT(J2)	IN(J1)-OUT(J2)
-5V	Low Loss
+10mA	Isolation

GaAs PIN Reflective single-pole single-throw switch chip, 0.05-50GHz

External structure



Unit: micron

Close pressure point definition

Bonding point serial number	Functional symbol	Function description
1	J1 (IN)	At the RF signal end, a straight capacitor must be installed
2	J2 (OUT)	At the RF signal end, a straight capacitor must be installed
Chip bottom	GND	The bottom of the chip must be properly grounded to the RF and DC

Recommended circuit diagram

