

Features

Freq: DC~12GHz
 Insertion Loss: 1.2/1.7dB
 Isolation: 45dB
 Control Voltage: 0/-5V
 Chip Size: 1.98mm×1.67mm×0.1mm

General Description

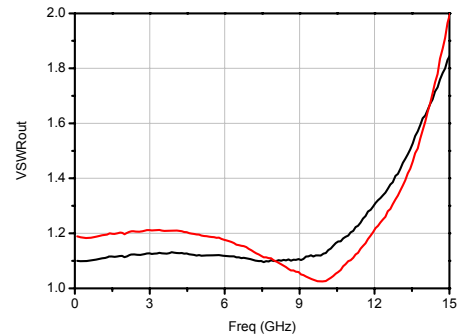
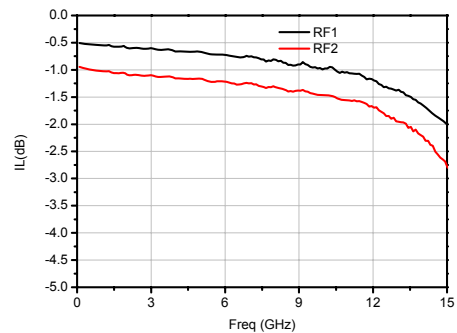
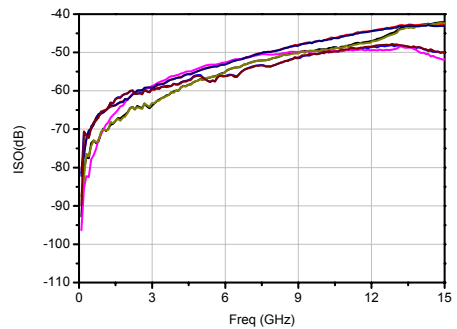
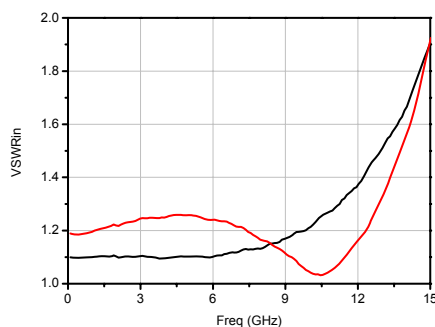
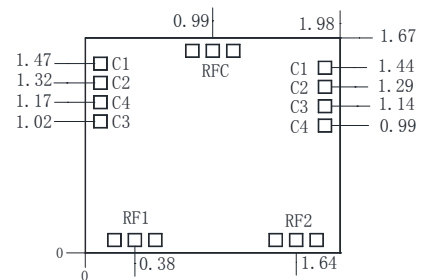
The HG135K-1 is an asymmetric reflective GaAs pHEMT SP3T switch chip. Covering DC to 12 GHz, this switch offers high isolation of 45 dB and extremely low insertion loss of 1.2/1.7dB. This switch operates using a negative control voltage of 0/-5V, and requires no bias supply.

Electrical Specifications($T_A=25^\circ\text{C}$)

Parameter		Min.	Typ.	Max.
Frequency Range(GHz)		DC~12		
Input VSWR		-	1.3	-
Output VSWR		-	1.3	-
Insertion Loss(dB)	RF1	-	1.2	-
	RF2	-	1.7	-
Isolation(dB)		-	45	-

Truth Table(0: 0V, 1: -5V)

C1	C2	C3	C4	RFC-RF1	RFC-RF2	RFC-Load
0	1	0	1	ON	OFF	OFF
0	1	1	0	ON	OFF	OFF
1	0	0	1	OFF	ON	OFF
1	0	1	0	OFF	OFF	ON

Output VSWR

Insertion Loss

Isolation

Input VSWR

Outline Drawing (mm)


Absolute Maximum Ratings

RF Input Power	+27dBm	
Control Voltage	Low Level: 0~-0.5V	High Level: -4~-5V
Operating Temperature	-55°C~125°C	
Storage Temperature	-65°C~150°C	

Notes:

1. The chip should be stored in a dry and nitrogen environment, and used in a clean environment.
2. GaAs material is brittle, can not touch the surface of the chip, must be careful when using.
3. The chip is welding with conductive adhesive or alloy (alloy temperature should not exceed 300°C, and no more than 30 sec.), and should make it fully grounded.
4. The chip microwave port and substrate gap is not exceeding 0.05mm, with $\Phi 25\mu\text{m}$ double gold wire bonding, suggested length of gold wire 250~400 μm .
5. Chip microwave port without DC blocking capacitor.
6. The chip is sensitive to static electricity, and should be protected against static electricity during storage and use.