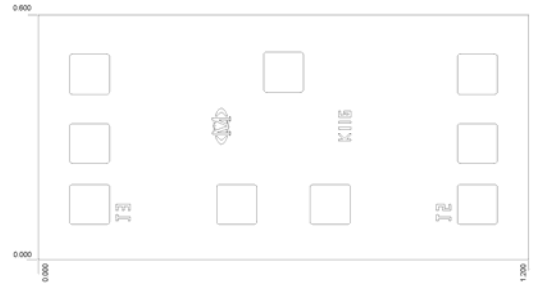


➤ **Features ver1.04**

- GaAs MMIC Chip
- High Isolation
- Low Insertion Loss
- Passivation Protection
- Reflective Switch

➤ **Description**

**K116** is a GaAs MMIC SPDT switch. The switch makes features with high isolation and low insertion loss with -5V control voltage operation., easy to use. The switch is used in many various telecommunication applications including WLAN, GSM, CDMA, RADIO etc.



Unit: mm  
Dimension: 0.1mm×0.1mm, Height of Chip: 0.25mm.

➤ **Typical Electrical Specification at 25°C**

Characteristic	Frequency	Min.	Typ.	Max.	Unit
Insertion Loss	DC-1.0GHz		0.5	0.6	dB
	DC-2.0GHz		0.6	0.7	dB
	DC-4.0GHz		0.8	0.9	dB
	DC-6.0GHz		1.0	1.2	dB
Isolation	DC-1.0GHz	50	52		dB
	DC-2.0GHz	40	42		dB
	DC-4.0GHz	30	34		dB
	DC-6.0GHz	28	30		dB
VSWR	DC-1.0GHz		1.3:1	1.4:1	
	DC-2.0GHz		1.5:1	1.6:1	
	DC-4.0GHz		1.5:1	1.6:1	
	DC-6.0GHz		1.5:1	1.6:1	

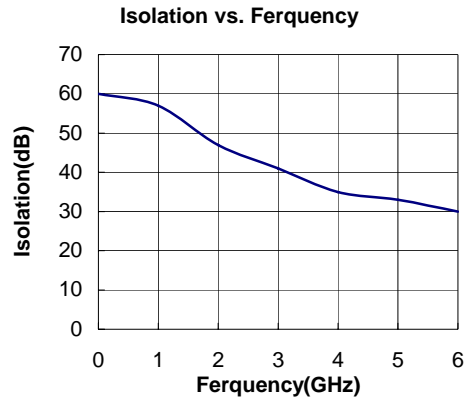
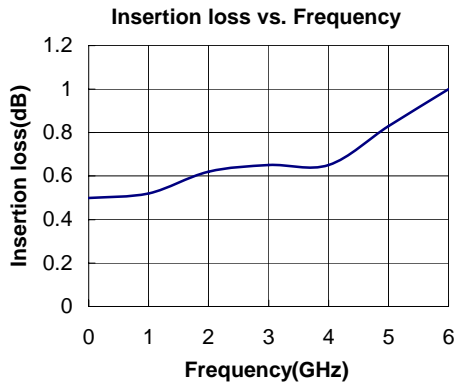
➤ **Using Characteristic at 25°C**

Characteristic		Frequency	Min.	Typ.	Max.	Unit
Switch Characteristic	Rise or Fall(10/90%or90/10 %RF)			10		ns
	On or Off(50%CTL to 90/10% RF)			10		ns
IP <sub>3</sub>	Two-tone, input power +5dBm	0.5-6.0GHz		45		dBm
P <sub>-1</sub>	0/-5V(0/-8V)	0.5-6.0GHz		24(30)		dBm
Control Voltage	V <sub>Low</sub> =0-0.2V@20 μ A Max. V <sub>High</sub> =-5V@20 μ A Max. to -8V@100 μ A Max.					

1. All measurements in a 50-Ω system, unless otherwise specified.
2. Insertion Loss changes 0.3dB at 85°C.
3. Insertion Loss state.

➤ Typical Performance Curves

(0, -5V)

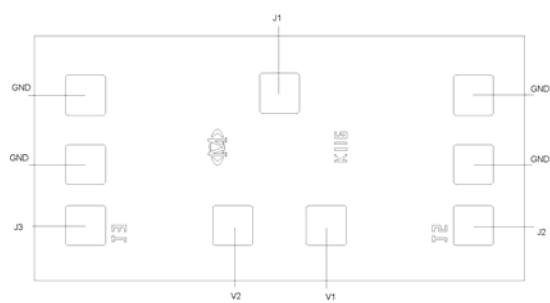


➤ Truth Table and Circuit

Topology

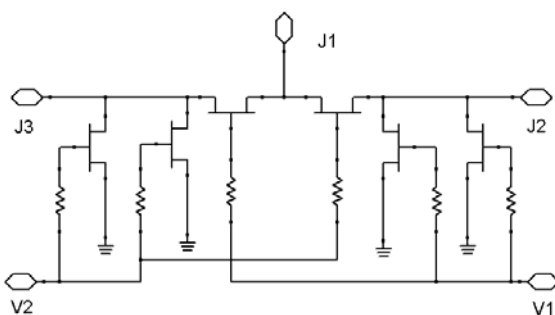
V1	V2	J <sub>1</sub> - J <sub>2</sub>	J <sub>1</sub> - J <sub>3</sub>
0	-5	OFF	ON
-5	0	ON	OFF

➤ Chip Picture



➤ Absolute Maximum Ratings

Item	Value
RF input power	2W, >500MHz, 0/-8V
Control Voltage	-0.2V, -10V
Operation Temperature	-40°C to 85°C
Storage Temperature	-65°C to 150°C
$\theta_{JC}$	25°C/W



1. Operation of this device above any one of these parameters may cause permanent damage.