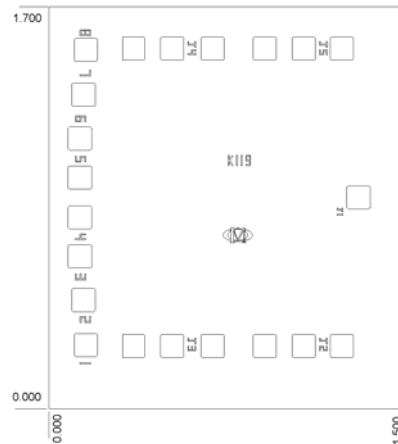


➤ **Features ver1.04**

- GaAs MMIC Chip
- High isolation
- Non-reflective switch
- Passivation Protection

➤ **Description**

**K119** is a GaAs MMIC SP4T switch in a low-cost SOIC-8 plastic package. The switch makes features with high isolation and low insertion loss with -5V control voltage operation. The switch is used in many various telecommunication applications include mobile telephone and GSM/CDMA base station.. The chip is used by single chip to reach passivation protection. All chips are 100% tested.



Unit: mm

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

➤ **Typical Electrical Specificaiton at 25°C ( 0, -5V )**

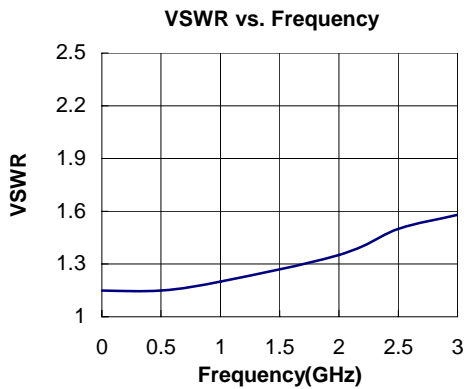
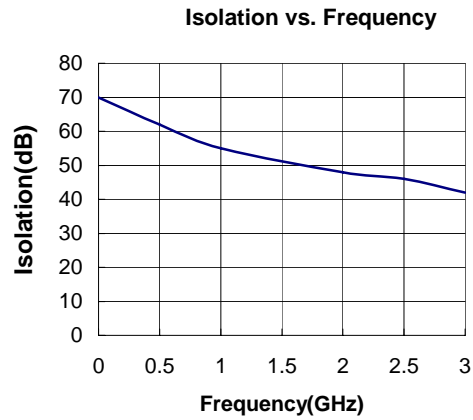
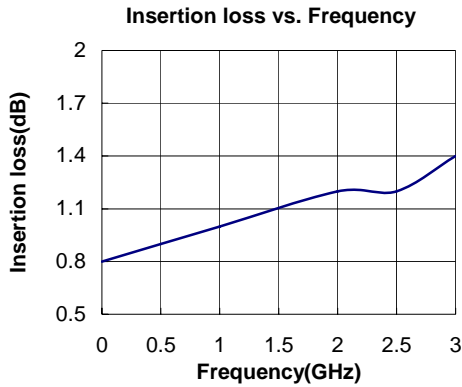
Chartacteristic	Frequency	Min.	Typ.	Max.	Unit
Insertion Loss	DC-1.0GHz		0.9	1.1	dB
	DC-2.0GHz		1.1	1.3	dB
	DC-3.0GHz		1.4	1.6	dB
Isolation	DC-1.0GHz	50	52		dB
	DC-2.0GHz	45	48		dB
	DC-3.0GHz	40	42		dB
VSWR	DC-1.0GHz		1.2:1	1.3:1	
	DC-2.0GHz		1.4:1	1.5:1	
	DC-3.0GHz		1.5:1	1.7:1	

➤ **Typical Electric Specification at 25°C ( 0, -5V )**

Characteristic		Frequency	Min.	Typ.	Max.	Unit
Switch Characteristic	Rise or Fall(10/90% or 90/10 %RF)			20		ns
	On or Off(50%CTL to 90/10% RF)			20		ns
IP <sub>3</sub>	Two-tone, input power +13dBm	0.5-3.0GHz		40		dBm
P <sub>-1</sub>	0/-5V	0.5-3.0GHz		24		dBm
Control Voltage	V <sub>Low</sub> =0-0.2V@20 μ A Max. V <sub>High</sub> =-5V@20 μ A Max. to -9V@100 μ A Max.					

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

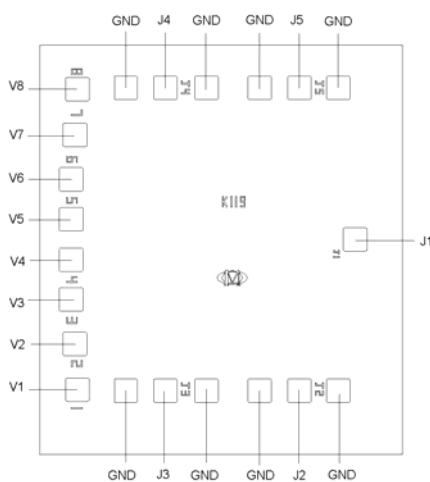
➤ **Typical Performance Curves**  
(0, -5V)



➤ **Truth Table**

IL J1 to	V1	V2	V3	V4	V5	V6	V7	V8
J2	0	-5	-5	0	-5	0	-5	0
J3	-5	0	0	-5	-5	0	-5	0
J4	0	-5	0	-5	-5	0	0	-5
J5	0	-5	0	-5	0	-5	-5	0

➤ **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.