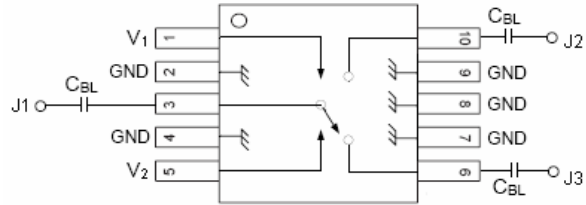


➤ **Features ver1.06**

- Positive Voltage Operation (0/+2.5V~0/+5V)
- High Isolation
- Low Insertion Loss
- Low Power Loss
- MSOP-10 Low-cost Packaging.
- Operation Frequency extend to 4GHz



➤ **Description**

K123 is GaAs MMIC SPDT switch with the feature of high isolation and low insertion loss. Single power supply control, easy to use. The switch is used in many various telecommunication applications including mobile telephone and GSM, WCDMA, PCS, base station etc.

DC blocking Capacitors (C_{BL}) must be supplied for positive operation.
 $C_{BL} \geq 68pF$ for operation $>500MHz$..

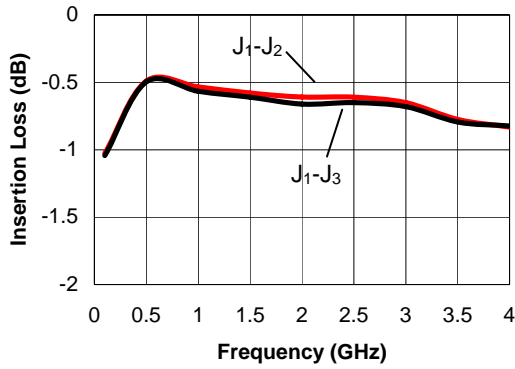
➤ **Typical Electrical Specification at 25°C (0/+3V)**

Characteristic		Frequency	Min.	Typ.	Max.	Unit
Insertion Loss		DC-1.0GHz		0.50	0.60	dB
		DC-2.0GHz		0.60	0.70	dB
		DC-3.0GHz		0.70	0.80	dB
Isolation		DC-2.0GHz	45	47		dB
		DC-3.0GHz	40	45		dB
VSWR (On)		0.25-3.0GHz		1.2:1	1.3:1	
IP ₂	0/+3V to ±5MHz, P _{in} =0dBm	900MHz		85		dBm
IP ₃	0/+3V to ±5MHz, P _{in} =0dBm	900MHz		50		
Switch Characteristic	Rise or Fall (10/90% or 90/10% RF)			20		ns
	On or Off (50% CTL to 90/10% RF)			10		ns
1dB Press Point	0/+2.5V	0.5-2.0GHz		20		dBm
	0/+5V	0.5-2.0GHz		28		dBm
Control Voltage	V _c =+2.5V@15 μ A Max.					

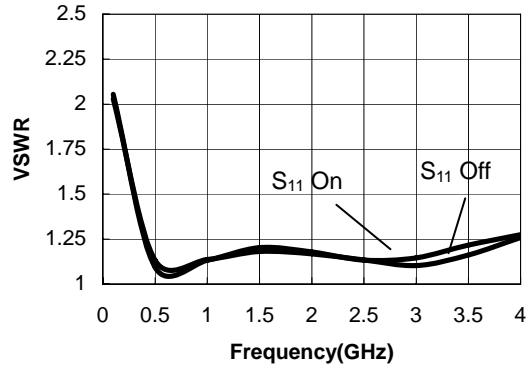
1. All measurements in a 50-Ω system, unless otherwise specified.
2. Insertion Loss changes 0.3dB at 85°C.

➤ Typical performance Curves

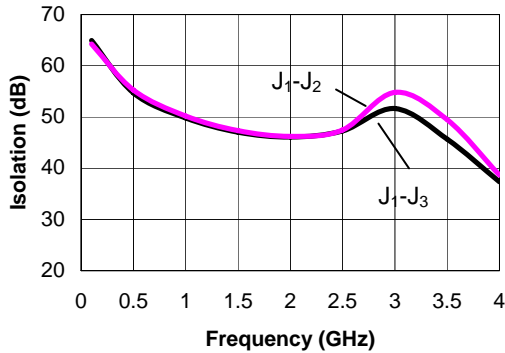
Insertion Loss vs. Frequency



VSWR vs. Frequency



Isolation vs. Frequency

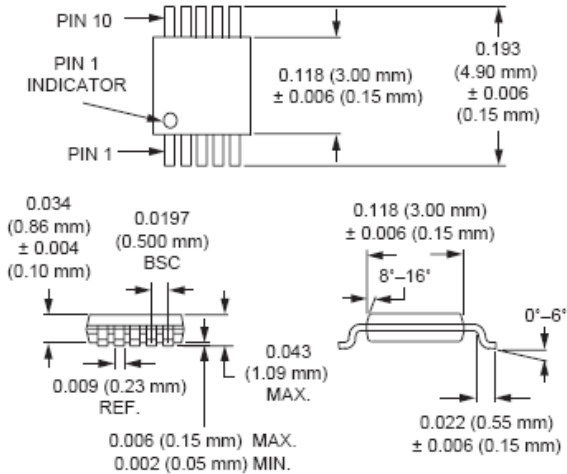


➤ Truth Table

V ₁	V ₂	J ₁ -J ₂	J ₁ -J ₃
0	V _{HIGH}	Isolation	Insertion Loss
V _{HIGH}	0	Insertion Loss	Isolation

V_{HIGH} = +2.5 to +5 Vdc.

➤ MSOP-10 Outline Dimension



➤ Absolute Maximum Ratings

Item	Value
RF input power	1W, >500MHz 0/+8V
Control Voltage	-0.2V, +8V
Operation Temperature	-40°C to 85°C
Storage Temperature	-65°C to 150°C
θ _{JC}	25°C/W

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