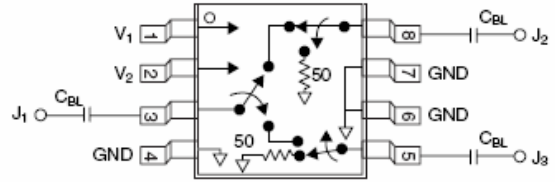


➤ Features ver2.06

- Positive Control Voltage
(0/+3V~0/+5V)
- High Isolation
- Non-Reflective switch
- Operation to 6GHz
- MSOP-8 Plastic Package



➤ Description

K122 is a GaAs MMIC SPDT switch in a low-cost SOIC-8 plastic package. The switch makes features with high isolation and low insertion loss, It can be controlled with positive voltages. The switch is used in many various telecommunication applications include mobile telephone GSM, WCDMA, PCS, WLAN base station.

DC blocking Capacitors (C_{BL}) must be supplied for positive operation.

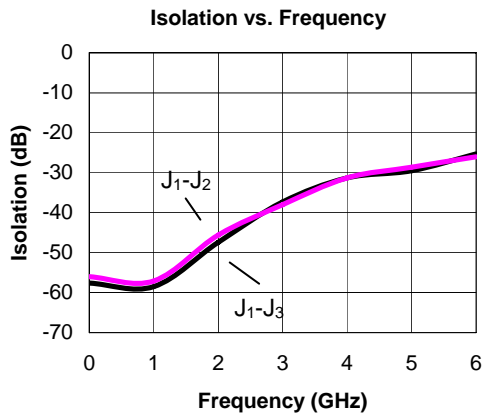
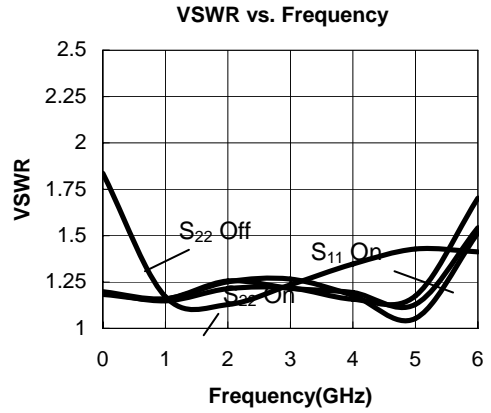
$C_{BL} \geq 56\text{pF}$ for operation $>500\text{MHz}$.

➤ Typical Electrical Specification at 25°C

Parameter ¹		Frequency	Min.	Typ.	Max.	Units.
Insertion Loss ²		DC-2.0GHz		0.8	1.05	dB
		DC-3.0GHz		0.9	1.15	dB
		DC-4.0GHz		1.0	1.25	dB
Isolation		DC-2.0GHz	42	45		dB
		DC-3.0GHz	35	40		dB
		DC-4.0GHz	30	35		dB
VSWR (ON)		DC-2.0GHz		1.3:1	1.5:1	
		DC-4.0GHz		1.3:1	1.6:1	
VSWR (OFF)		0.5-4.0GHz		1.35:1	1.7:1	
IP ₃	Two-tone, input power +5dBm	0.9-4.0GHz				dBm
	0/+3V					
Trise, Tfall	10%-90% or 90%-10 %RF	0.9-4.0GHz				dBm
Ton, Toff	50%CTL to 90/10% RF			30		ns
P ₋₁	0/+3V	0.9-4.0GHz		50		ns
	0/+5V	0.9-4.0GHz				
Control Voltages	V _{LOW} =0-0.2V@20 μ A Max.					
	V _{HIGH} =+3V@100 μ A Max. to +5V@200 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)

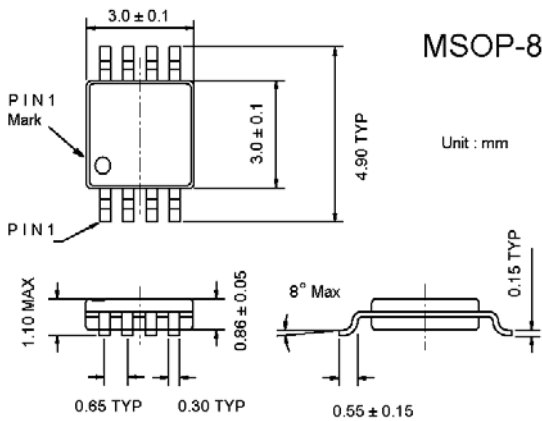


➤ Truth Table

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}=+3 to +5V.

➤ MSOP-8 Outline Dimension



➤ Absolute Maximum Ratings

Characteristic	Value
Maximum Input Power	1W, >500MHz 0/+8V
Control Voltage	-0.2V, +8V
Operating Temperature	-40°C to 85°C
Storage Temperature	-65°C to 50°C
θ_{JC}	25°C/W

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