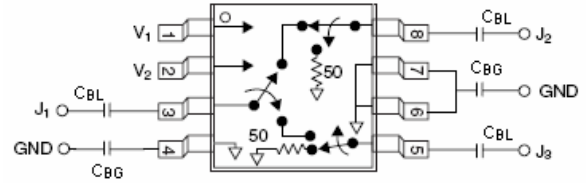


➤ **Features ver2.06**

- High Isolation
- Absorbability Switch
- Operation Frequency may extend to 4GHz
- MSOP-8 Low cost packaging.

➤ **Description**

K128 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.

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

No need to connect to C_{BG} when negative voltage operation.

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

Characteristic		Frequency	Min.	Typ.	Max.	Unit
Insertion Loss		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 +8dBm					
	0/+3V	0.9-4.0GHz	+27	+38		dBm
	0/+5V	0.9-4.0GHz	+42	+46		dBm
Switch characteristic	Rise or Fall (10/90% or 90/10% RF)			100		ns
	On or Off (50% CTL to 90/10% RF)			100		ns
1dB 压缩点	0/+3V	0.9-4.0GHz	+17	+21		dBm
	0/+5V	0.9-4.0GHz	+24	+27		dBm
Control Voltage	$V_{LOW}=0-0.2V@20\mu A \text{ Max.}$ $V_{HIGH}=+3V@100\mu A \text{ Max. to } +5V@200\mu A \text{ Max.}$					

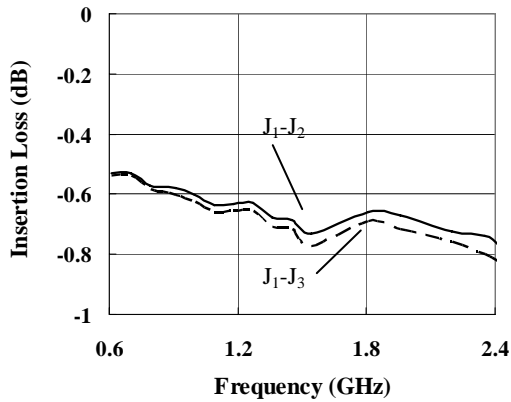
1. All measurements in a 50-Ω system, unless otherwise specified.
2. Insertion Loss changes 0.3dB at 85°C.

➤ **Typical Performance Curves**

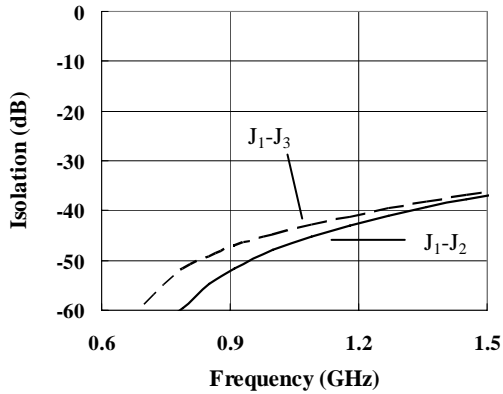
(0, +5V)

$C_{BG}=56pF$,
Operation Frequency 800MHz-1.2GHz

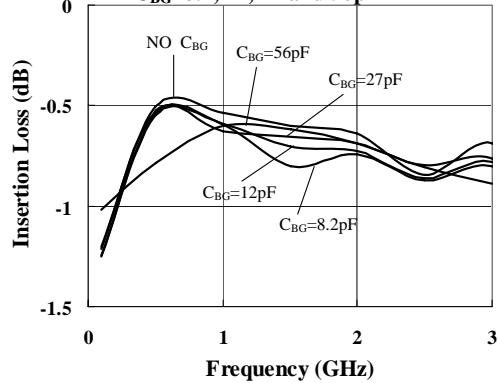
Insertion Loss vs. Frequency



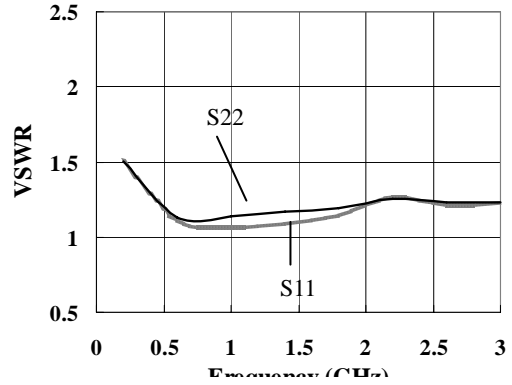
Isolation vs. Frequency



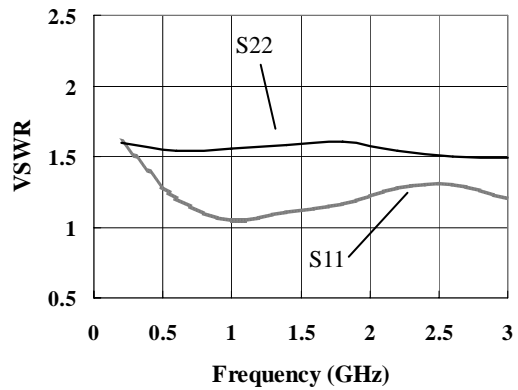
Insertion Loss VS Frequency
 $C_{BG}=8.2, 12, 27$ and $56pF$



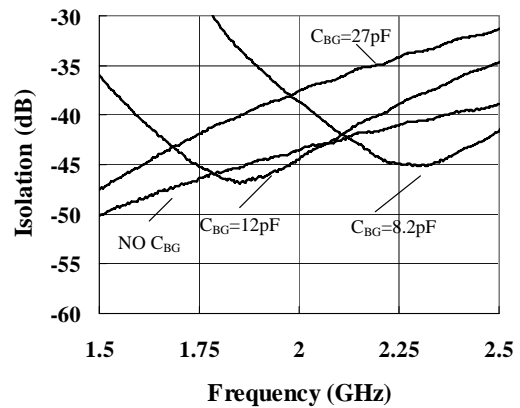
VSWR vs. Frequency
Insertion Loss State



VSWR vs Frequency
Isolated State



Isolation vs. Frequency 1.5-2.5GHz
 $C_{BG}=8.2, 12$ and $27pF$



➤ **Relation of CBG and Operation Frequency**

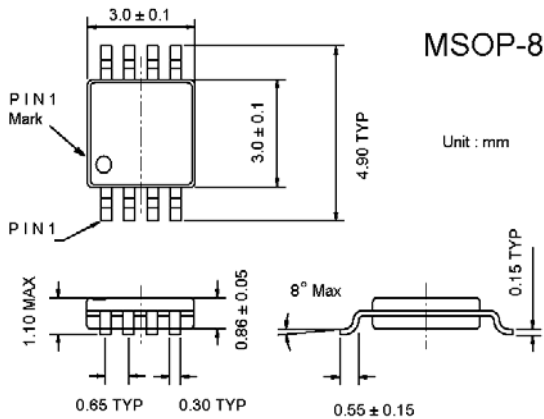
C _{BG} (pF)	Operation Frequency(GHz)
8.2	2.1-2.5
12	1.6-2.1
27	1.0-1.7
56	0.7-1.1
100	0.5-0.9

➤ **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**

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.