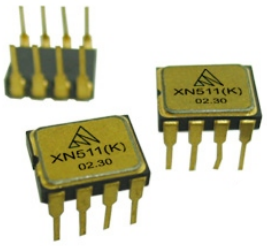
XN511(K)

GaAs SPST Anolog Switches



Features

- ●Passive switch
- ●Fast switching speed ctyp 5nS
- ●High isolation:60dB/60MHz
- ●Standard package:DS-8
- ●Operating temperature range:-40℃～+85℃

Specifications(measured in a 50Ω system , T_A=25℃)

Parameter	Symbol	Unit	Typical	Guaranteed	
				Min	Max
Frequency range	f_L～f_H	MHz	DC-200	DC	200
On/Off Time	t_{on}	ns	5	–	20
On-resistance	R_{on}	Ω	8	–	15
Isolation *	Iso	dB	64	60	–
Insertion loss*	IL	dB	1. 3	–	1. 5
Control voltage	V_C	V	3. 5**	3. 0	4. 0
			5. 0***	4. 5	5. 5

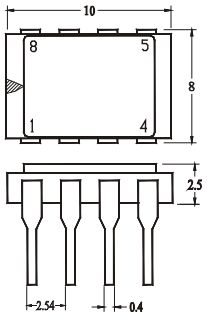
＊ Taken at f=60MHz; **XN511(K)A; *** XN511(K)B

Absolute Maximum Ratings

Negative Voltage : -7V
Storage Temp:+125℃

Truth table

Control Input	Signal path state
High	ON
Low	OFF



DS-8

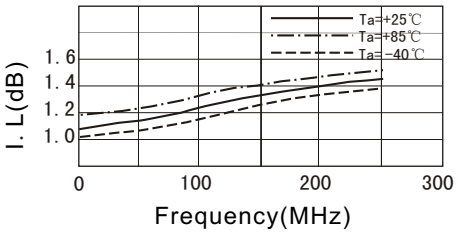
1 : GND
2 : Input
3 : GND
4 : Control
5 : GND
6 : output
7 : GND
8 : Tuning

Application notes

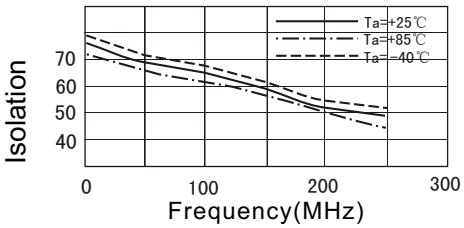
1. ESD sensitive device observe handling precoution
2. Precaution should be taken to avoid the video transients during switching period
3. The device should be properly grounded to insure the isolation performance

Typical Performance

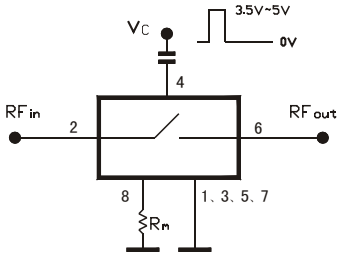
Insertion Loss VS. Frequency



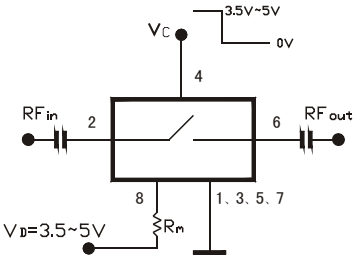
Isolation VS. Frequency



Application Circuit



TTL and CMOS input compatible when control port (Pin4) connect a capacitance. The capacitance is between 1000pf-10000pf depends upon TTL cycle . Logic1(+3V～+5V):on; Logic 0(0V):off.



TTL and CMOS input compatible as below application. Logic1 (+3V～+5V):on; Logic0 (0V): Off. DC voltage should be equal to control level(TTL OR CMOS)