

Four-way analog switch

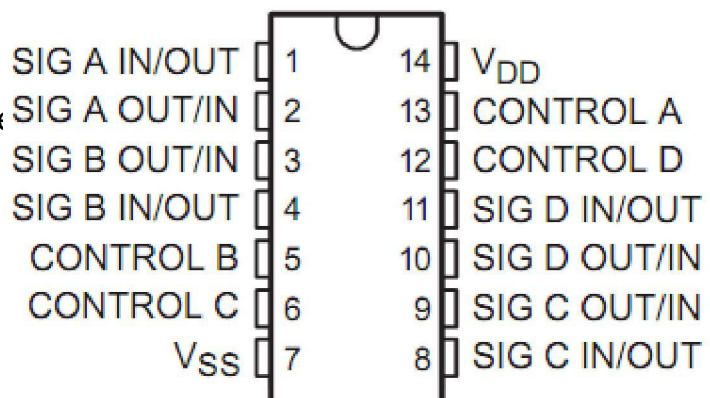
An Overview of the

CD4066 is a four-way analog switch, mainly used as analog or digital signal multiple channel transmission, with a relatively low conduction impedance, which is basically unchanged in the whole input signal range. The CD4066 consists of four independent two-way switches, each with a control signal, and the p and n devices in the switch switch simultaneously under the control signal. This structure eliminates the change of the switching transistors threshold voltage with the input signal and hence the conduction impedance over the lower range of the operating signal range. Compared with the single-channel switch, the input signal peak voltage range is equal to the power supply voltage, and the conduction impedance is relatively stable in the input signal range. When the supply voltage of the analog switch is a dual power supply, such as $+5V$, $-5V$, both for ground $0V$, the input $+5V \sim -5V$ signal voltage symmetric to $0V$ can be transmitted. At this time, the control signal $C=1$ which is $+5V$, $C=0$ is $-5V$, or the signal voltage of positive polarity can only be transmitted.

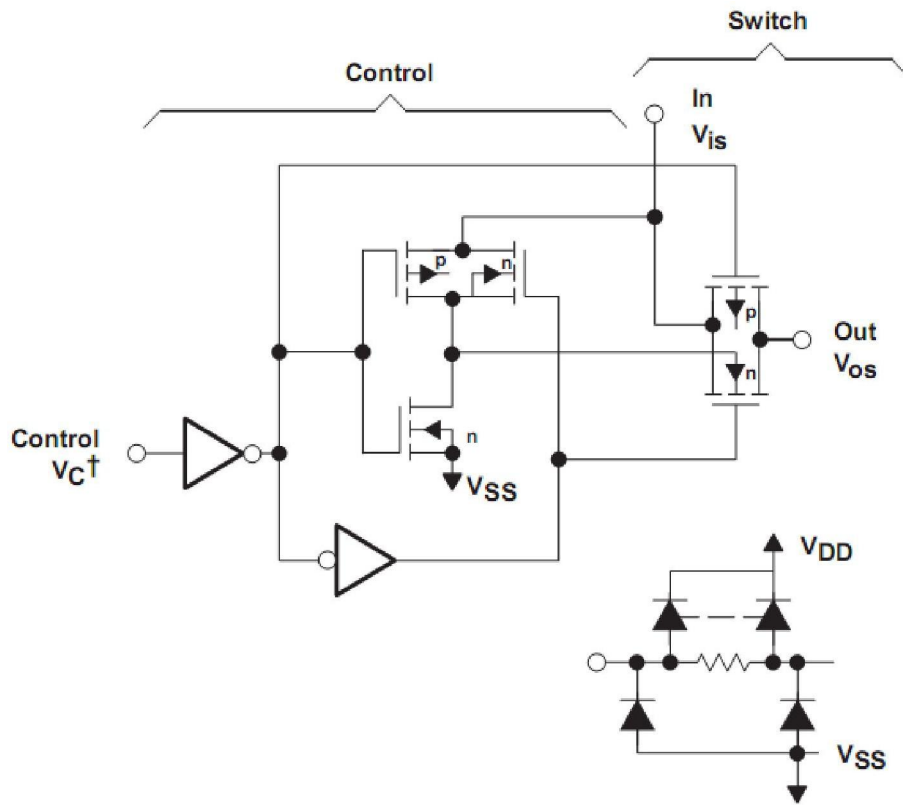
Features:

- ☆ Low static power consumption
- ☆ high-pass state impedance
- ☆ with extremely low leakage current
- No crosstalk between ☆ channels

Pin arrangement



Logic diagram:



Recommended working conditions:

Supply voltage range	3V~15V
Input voltage range	0V~VDD
Operating temperature range	0°C ~ 70°C

Limit value:

Supply voltage range	-0.5V~18V
Input voltage range	-0.5V~VDD+0.5V
Storage temperature range	- 65°C ~ 150°C
Welding	260°C

temperature (10 seconds)	
Package dissipation power	
Common double-column package	700MW
Small shape package	500MW

DC electric gas characteristics:

Symbol	Parameters	Conditions	+25°C			Unit:	
			Minimum:	Typical:	Maximum:		
IDD	Static current	VDD=5V		0.01	0.25	uA	
		VDD=10V		0.01	0.5		
		VDD=15V		0.01	1		
Signal Input and Outputs							
RON	Open-state resistance	RL=10KΩ returned to (VDD - VSS) / 2, VIS=VSS to VDD					Ω
		VDD = 5V		520	1050		
		VDD = 10V		240	400		
		VDD = 15V		180	240		
ΔRON	Open-state resistance difference of any channel	RL=10KΩ, VC=VDD					Ω
		VDD = 5V		15			
		VDD = 10V		10			
		VDD = 15V		5			
IIS	Input / output turn-off electric leakage	VC = 0 V, Vis = 15 V, Vos = 0 V; 15 V		±0.1	±50	nA	
Control Input							
VI LC	Input a low-level voltage	Vis = VSS, VOS = VDD Vis = VDD, VOS = VSS					V
		VDD = 5V		2.25	1.5		
		VDD = 10V		4.5	3		
		VDD = 15V		6.75	4		
VI HC	Input a high-level voltage	VDD = 5V	3.5	2.75		V	
		VDD = 10V	7	5.5			
		VDD = 15V	11	8.25			
IIN	Input-in current	VDD - VSS=15V VDD ≥ VIS ≥ VSS VDD ≥ VC ≥ VSS	-10 ⁻⁵	-0.1		uA	

AC electrical characteristics

Sym bol	Parameters	Con ditio ns	Minimu m:	Typi cal:	Max imu m:	Unit :
tPH L tPL H	Signal input / output transmissi on delay	VC=VDD,CL=50PF,RL=200K				
		VDD=5V		35	65	nS
		VDD=10V		25	45	
		VDD=15V		15	35	
CIS	Signal input capacitor			8		PF
COS	Signal output capacitor	VDD=10V		8		PF
CIOS	Feedback capacitor	VC=0V		0.5		PF
CIN	Control of the input capacitor			5	7.5	PF

Typical parameter characteristics

