

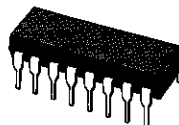


上海双岭电子有限公司

CC4529

DUAL 4-CHANNEL OR SINGLE 8-CHANNEL ANALOG DATA SELECTOR

- DATA PATHS ARE BIDIRECTIONAL
- 10 MHz OPERATION (typical)
- 3-STATE OUTPUTS
- "ON" RESISTANCE 125 W TYPICAL @ 15V
- SUPPLY VOLTAGE RANGE = 3Vdc TO 18Vdc



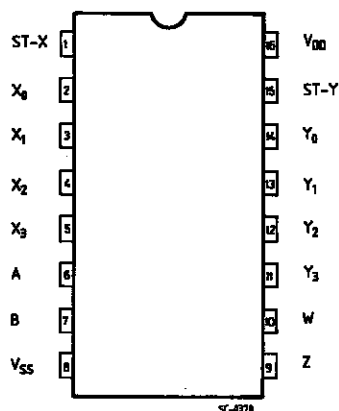
DESCRIPTION

The CC4529 (extended temperature range) and CC4529 (intermediate temperature range) are monolithic integrated circuits available in 16-lead dual in line plastic or ceramic package and plastic micropackage.

The CC4529 is a DUAL 4-CHANNEL or 8-CHANNEL device. One of the two possible functions can be selected by a proper input coding. For the single 8-bit mode Z and W output must be tied together.

CC4529 is suitable for digital as well as analogue applications, including 1 of 4 and 1 of 8 data selector functions. Dual binary to 1 of 4 or single binary to 1 of 8 decoder applications can be implemented because the device allow analogue and bidirectional operation.

PIN CONNECTIONS



ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Unit
V _{DD} *	Supply Voltage:	-0.5 to +20	V
V _i	Input Voltage	-0.5 to V _{DD} + 0.5	V
I _I	DC Input Current (any one input)	± 10	mA
P _{tot}	Total Power Dissipation (per package)	200	mW
	Dissipation per Output Transistor for Top = Full Package Temperature Range	100	mW
T _{op}	Operating Temperature:	-55 to +125	°C
T _{stg}	Storage Temperature	-65 to +150	°C

Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for external periods may affect device reliability.

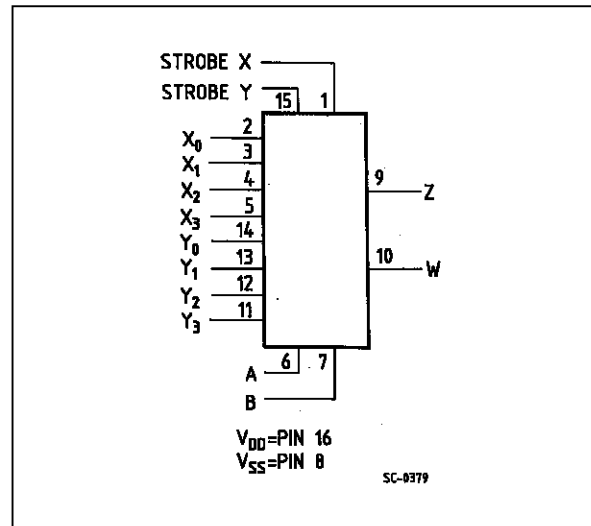
* All voltage values are referred to V_{SS} pin voltage.

TRUTH TABLE

ST _X	ST _Y	B	A	Z	W	MODE
1	1	0	0	X0	Y0	Dual 4-Channel Mode 2 Outputs
1	1	0	1	X1	Y1	
1	1	1	0	X2	Y2	
1	1	1	1	X3	Y3	
1	0	0	0	X0		Single 8-Channel Mode 1 Output (Z and W tied together)
1	0	0	1	X1		
1	0	1	0	X2		
1	0	1	1	X3		
0	1	0	0	Y0		
0	1	0	1	Y1		
0	1	1	0	Y2		
0	1	1	1	Y3		
0	0	X	X			High Impedance

X = Don't care

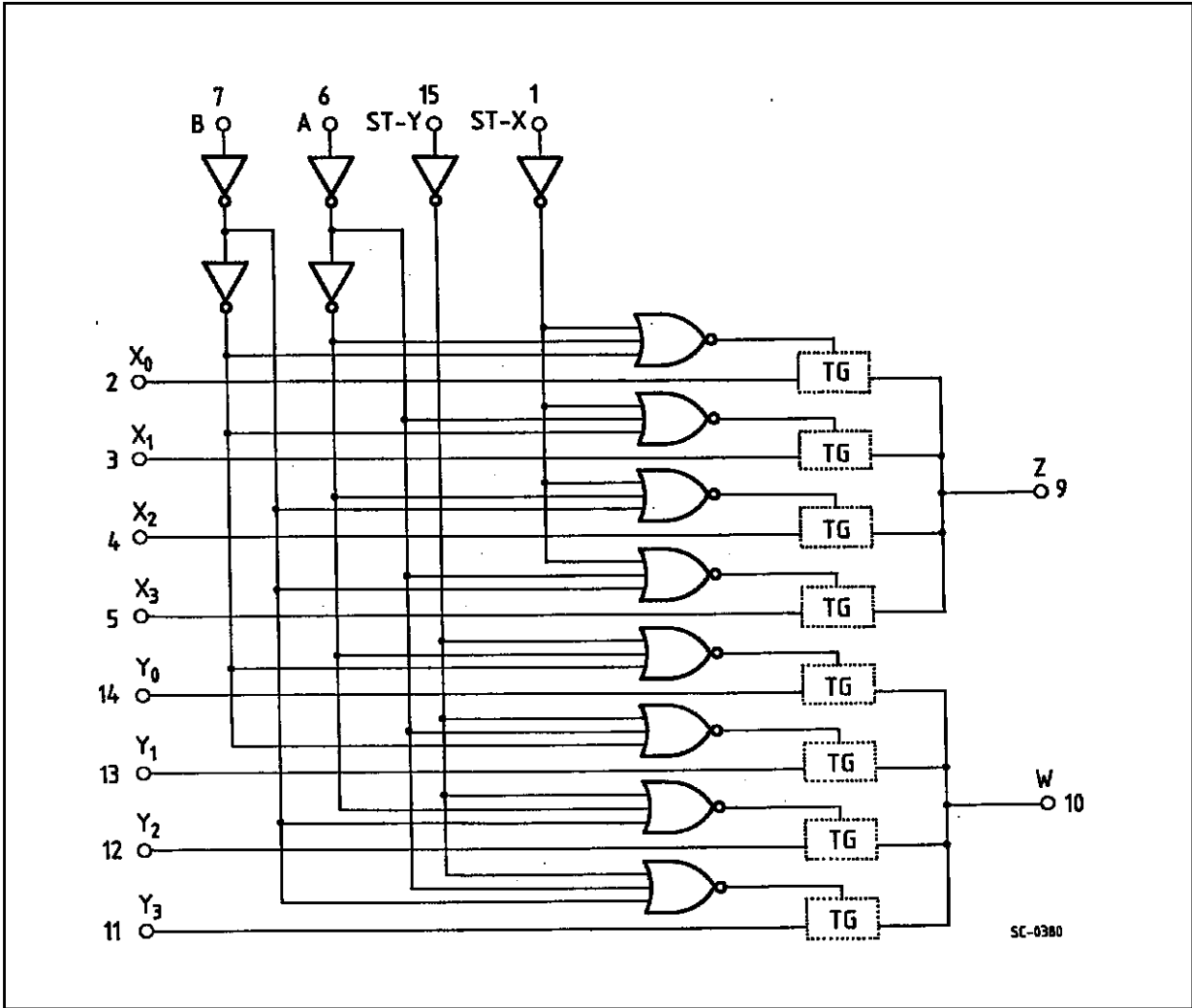
FUNCTIONAL DIAGRAM



RECOMMENDED OPERATING CONDITIONS

Symbol	Parameter	Value	Unit
V _{DD}	Supply Voltage:	3 to 18	V
V _I	Input Voltage	0 to V _{DD}	V
T _{op}	Operating Temperature:	-55 to +125	°C

BLOCK DIAGRAM



STATIC ELECTRICAL CHARACTERISTICS (over recommended operating conditions)

Symbol	Parameter		Test Conditions			Value						Unit			
			V _{IS} (V)	V _{SS} (V)	V _{DD} (V)	T _{LOW} *		25 °C			T _{HIGH} *				
						Min.	Max.	Min.	Typ.	Max.	Min.		Max.		
I _L	Quiescent Current	Types			5		5		0.04	5		150	μA		
					10		10		0.04	10		300			
					15		20		0.04	20		600			
					18		100		0.08	100		3000			
SWITCH															
ON	Resistance	Types	0 ≤ V _I ≤ V _{DD}	0	5		880		470	1050		1200	Ω		
					10		310		180	400		580			
					15		220		125	280		400			
		Types			0 ≤ V _I ≤ V _{DD}	0	5		880		470	1050			1200
							10		330		180	400			520
							15		230		125	280			360
ΔON	Resistance ΔR _{ON} (Between any 2 channels)			0	5				10			Ω			
					10				10						
					15				5						
OFF Channel Leakage Current	Any Channel OFF	Types		0	18		100		±0.1	100		1000	nA		
	All Channel OFF (common OUT/IN)	Types			18		100		±0.1	100		1000	nA		
	Any Channel OFF	Types			15		300		±0.1	300		1000	nA		
	All Channel OFF (common OUT/IN)	Types			15		300		±0.1	300		1000	nA		
CONTROL (Address or Inhibit)															
V _{IL}	Input Low Voltage		= V _{DD} thru 1KΩ	R _L =1KΩ to V _{SS} I _{IS} < 2μA (On All OFF Channels)	5		1.5			1.5		1.5	V		
					10		3			3		3			
					15		4			4		4			
V _{IH}	Input High Voltage				5	3.5		3.5			3.5	V			
					10	7		7			7				
					15	11		11			11				
I _{IH} , I _{IL}	Input Leakage Current	Types	V _I = 0/18V		18		±0.1		±10 ⁻³	±0.1		±1	μA		
C _I	Input Capacitance		Any Input						5	7.5		pF			

* T_{LOW} = -55 °C for HCC device; -40 °C for HCF device.

* T_{HIGH} = +125 °C for HCC device; +85 °C for HCF device.

The Noise Margin for both "1" and "0" level is: 1V min. with V_{DD} = 5V, 2V min. with V_{DD} = 10V, 2.5V min. with V_{DD} = 15V

DYNAMIC ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, $C_L = 50\text{ pF}$, $R_L = 200\text{ K}\Omega$, typical temperature coefficient for all V_{DD} values is $03\text{ } \%/^{\circ}\text{C}$, all input rise and fall times = 20 ns)

Symbol	Parameter	Test Conditions		Value			Unit
		V_{SS} (V)	V_{DD} (V)	Min.	Typ.	Max.	
t_{PLH} t_{PHL}	V_{in} to V_{out} Propagation Delay Time ($C_L = 50\text{ pF}$, $R_L = 1\text{ K}\Omega$)	0	5		20	40	ns
			10		10	20	
			15		8	15	
t_{PLH} t_{PHL}	Propagation Delay Time, Control to Output, $V_{in} = V_{DD}$ or V_{SS} ($V_{in} \leq 10\text{ Vdc}$, $C_L = 50\text{ pF}$, $R_L = 1\text{ K}\Omega$)	0	5		200	400	ns
			10		80	160	
			15		50	120	
	Crosstalk, Control to Output ($C_L = 50\text{ pF}$, $R_L = 1\text{ K}\Omega$, $R_{out} = 10\text{ K}\Omega$)	0	5		5		mV
			10		5		
			15		5		
	Maximum Control Input Pulse Frequency ($C_L = 50\text{ pF}$, $R_L = 1\text{ K}\Omega$)	0	5		5		MHz
			10		10		
			15		12		
	Sine Wave (Distortion) ($V_{in} = 1.77\text{ Vdc RMS}$ Centred @ 0.0 Vdc , $R_L = 10\text{ K}\Omega$, $f = 1\text{ KHz}$)	-5	5		0.36		%
BW	Bandwidth (-3 dB) ($V_{in} = 1.77\text{ Vdc RMS}$ Centred @ 0.0 Vdc) ($R_L = 1\text{ K}\Omega$) ($R_L = 10\text{ K}\Omega$) ($R_L = 100\text{ K}\Omega$) ($R_L = 1\text{ M}\Omega$)	-5	5		35 28 27 26		MHz
	Feedthrough and Crosstalk $\left(-20 \text{ Log}_{10} \frac{V_{out}}{V_{in}} = -50\text{ dB}\right)$ ($R_L = 1\text{ K}\Omega$) ($R_L = 10\text{ K}\Omega$) ($R_L = 100\text{ K}\Omega$) ($R_L = 1\text{ M}\Omega$)	-5	5		850 100 12 1.5		KHz