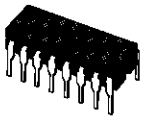
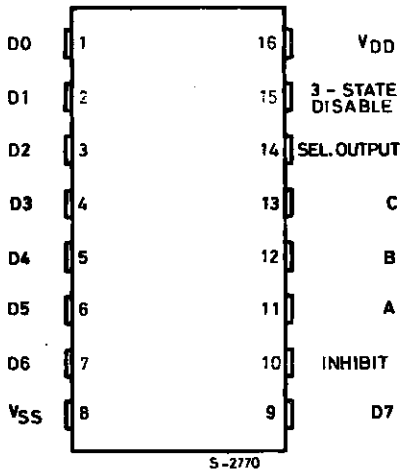
CC4512

8–CHANNEL DATA SELECTOR

- 3-STATE OUTPUT
- STANDARDIZED SYMMETRICAL OUTPUT CHARACTERISTICS
- QUIESCENT CURRENT SPECIFIED TO 20V FOR HCC DEVICE
- 5V, 10V, AND 15V PARAMETRIC RATINGS
- INPUT CURRENT OF 100nA AT 18V AND 25°C FOR HCC DEVICE
- 100% TESTED FOR QUIESCENT CURRENT
- MEETS ALL REQUIREMENTS OF JEDEC TENTATIVE STANDARD No. 13A, "STANDARD SPECIFICATIONS FOR DESCRIPTION OF "B" SERIES CMOS DEVICES"



PIN CONNECTIONS

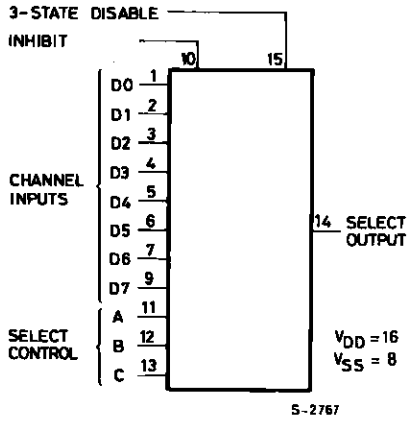


DESCRIPTION

CC4512 (intermediate temperature range) are monolithic integrated circuit, available in 16-lead dual in-line plastic or ceramic package and plastic micro package.

The **CC4512** is an 8-channel data selector featuring a three-state output that can interface directly with, and drive, data lines of bus-oriented systems.

FUNCTIONAL DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{DD}*	Supply Voltage :	– 0.5 to +20	V 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) Dissipation per Output Transistor for T_{op} = Full Package-temperature Range	200 100	mW 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 ddamage to the device. This is a stress rating only and functionnal operation of the device at these or any other conditions above those indicated in the operationale sections of this specification is not implied. Exposure to absolute maximum rating conditions for external periods may affect device reliability.
* All voltage values are refered to V_{SS} pin voltage.

RECOMMENDED OPERATING CONDITIONS

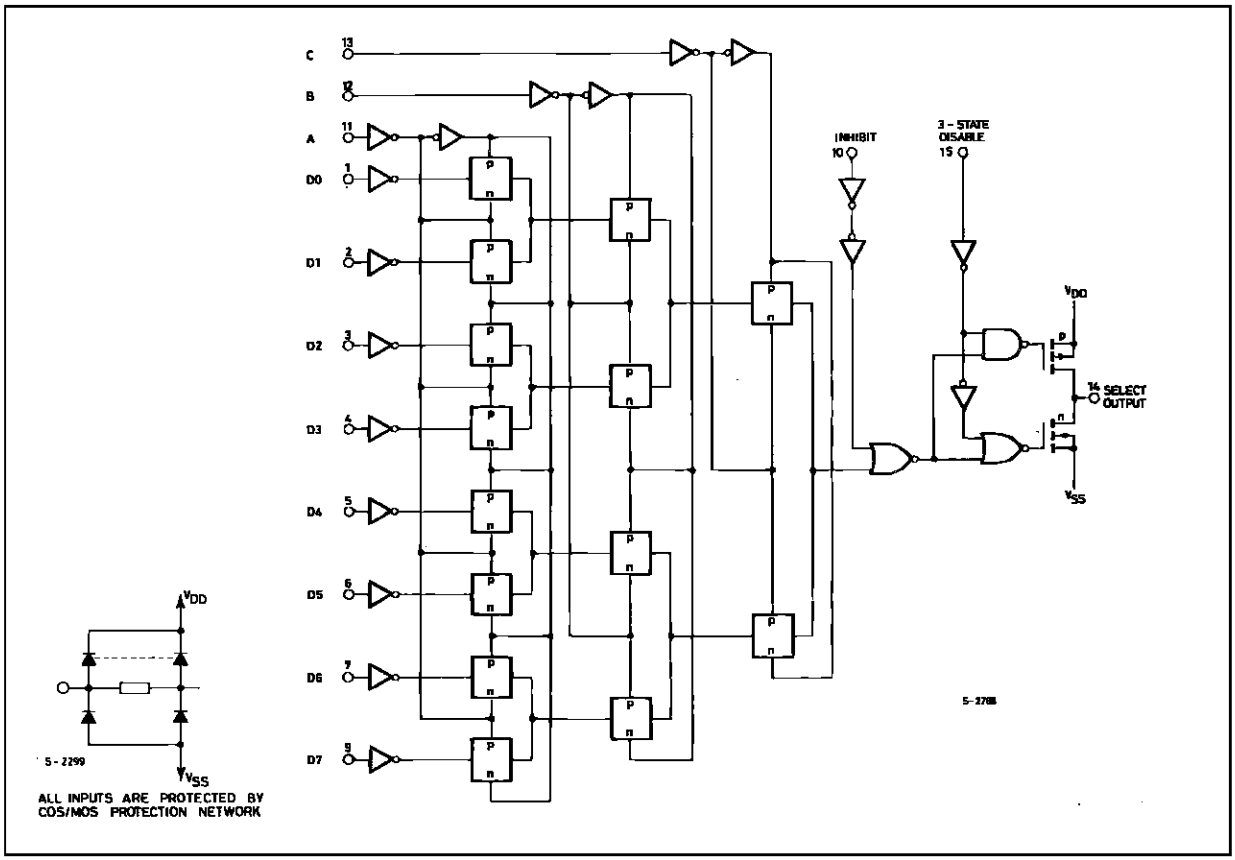
Symbol	Parameter	Value	Unit
V_{DD}	Supply Voltage :	3 to + 18	V
V_I	Input Voltage	0 to V_{DD}	V
T_{op}	Operating Temperature :	– 55 to + 125	°C

TRUTH TABLE

Sel. Cont.			Inh.	3-State Disable	Sel. Output
A	B	C			
0	0	0	0	0	D0
1	0	0	0	0	D1
0	1	0	0	0	D2
1	1	0	0	0	D3
0	0	1	0	0	D4
1	0	1	0	0	D5
0	1	1	0	0	D6
1	1	1	0	0	D7
X	X	X	1	0	0
X	X	X	X	1	High Z

1 = High Level 0 = Low Level X = Don't Care

LOGIC DIAGRAMS



STATIC ELECTRICAL CHARACTERISTICS (over recommended operating conditions)

Symbol	Parameter		Test Conditions				Value							Unit
			V_I (V)	V_O (V)	$\|I_O\|$ (μA)	V_{DD} (V)	T_{Low}*		25°C			T_{High}*		
							Min.	Max.	Min.	Typ.	Max.	Min.	Max.	
I_L	Quiescent Current	HCC Types	0/ 5			5		5		0.04	5		150	μA
			0/10			10		10		0.04	10		300	
			0/15			15		20		0.04	20		600	
			0/18			18		100		0.08	100		3000	
V_{OH}	Output High Voltage		0/ 5		< 1	5	4.95		4.95			4.95		V
			0/10		< 1	10	9.95		9.95			9.95		
			0/15		< 1	15	14.95		14.95			14.95		
V_{OL}	Output Low Voltage		5/0		< 1	5		0.05			0.05		0.05	V
			10/0		< 1	10		0.05			0.05		0.05	
			15/0		< 1	15		0.05			0.05		0.05	
V_{IH}	Input High Voltage			0.5/4.5	< 1	5	3.5		3.5			3.5		V
				1/9	< 1	10	7		7			7		
				1.5/13.5	< 1	15	11		11			11		
V_{IL}	Input Low Voltage			4.5/0.5	< 1	5		1.5			1.5		1.5	V
				9/1	< 1	10		3			3		3	
				13.5/1.5	< 1	15		4			4		4	
I_{OH}	Output Drive Current		0/ 5	2.5		5	– 2		– 1.6	– 3.2		– 1.15		mA
			0/ 5	4.6		5	– 0.64		– 0.51	– 1		– 0.36		
			0/10	9.5		10	– 1.6		– 1.3	– 2.6		– 0.9		
			0/15	13.5		15	– 4.2		– 3.4	– 6.8		– 2.4		
I_{OL}	Output Sink Current		0/ 5	0.4		5	0.64		0.51	1		0.36		mA
			0/10	0.5		10	1.6		1.3	2.6		0.9		
			0/15	1.5		15	4.2		3.4	6.8		2.4		
I_{IH}, I_{IL}	Input Leakage Current		0/18	Any Input		18		± 0.1		$\pm 10^{-5}$	± 0.1		± 1	μA
$I_{O\ max}$	3-State Output Leakage Current		0/18	0/18		18		± 0.4		$\pm 10^{-4}$	± 0.4		± 12	μA
C_I	Input Capacitance			Any Input						5	7.5			pF

DYNAMIC ELECTRICAL CHARACTERISTICS (T_{amb} = 25°C, C_L = 50pF, R_L = 200kΩ, typical temperature coefficient for all V_{DD} values is 0.3%/°C, all input rise and fall time = 20ns)

Symbol	Parameter	Test Conditions		Value			Unit
			V_{DD} (V)	Min.	Typ.	Max.	
t_{PHL}, t_{PLH}	Propagation Delay Time Inhibit to Output		5		140	280	ns
			10		70	140	
			15		50	100	
t_{PHL}, t_{PLH}	Propagation Delay Time "A" Select to Output		5		200	400	ns
			10		85	170	
			15		60	120	
t_{PHL}, t_{PLH}	Propagation Delay Time Data to Output		5		180	360	ns
			10		75	150	
			15		55	110	
t_{PZL}, t_{PLZ} t_{PHZ}, t_{PZH}	3-state Disable Delay Time		5		60	120	ns
			10		30	60	
			15		20	40	
t_{THL}, t_{TLH}	Transition Time		5		100	200	ns
			10		50	100	
			15		40	80	