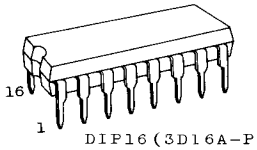
TC4539BP/TC4539BF DUAL 4-CHANNEL DATA SELECTOR/MULTIPLEXER

TC4539BP/BF contains two circuits of data selectors which select data according to common address inputs A and B.

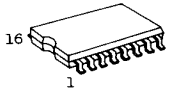
Four channel data X0 through X3 are selected to be output Z according to inputs A and B and four channel data Y0 through Y3 are selected by the same A and B to generate output W.

When input St (ST') is set at "H", the output becomes "L" regardless other inputs.

This can be widely applied in composition of signals, parallel to serial conversion and selection of signals.



DIP16(3D16A-P)

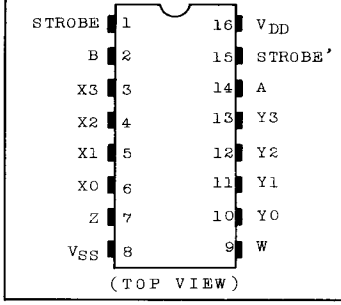


MFP16(F16GC-P)

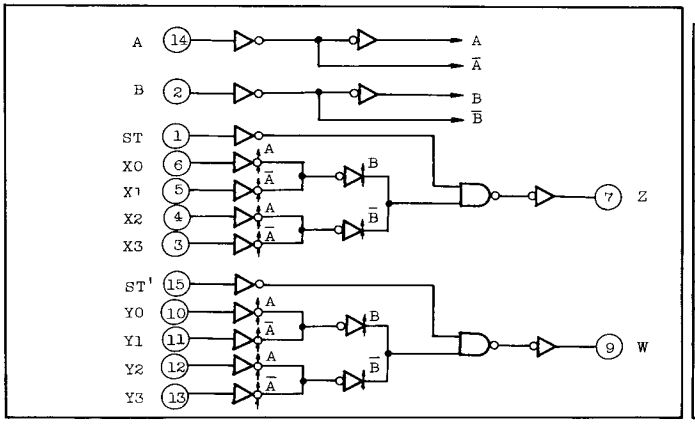
ABSOLUTE MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
DC Supply Voltage	V_{DD}	$V_{SS} - 0.5 \sim V_{SS} + 20$	V
Input Voltage	V_{IN}	$V_{SS} - 0.5 \sim V_{DD} + 0.5$	V
Output Voltage	V_{OUT}	$V_{SS} - 0.5 \sim V_{DD} + 0.5$	V
DC Input Current	I_{IN}	±10	mA
Power Dissipation	P_D	300(DIP)/180(MFP)	mW
Operating Temperature Range	T_A	-40 ~ 85	°C
Storage Temperature Range	T_{stg}	-65 ~ 150	°C
Lead Temp./Time	T_{sol}	260°C · 10 sec	

PIN ASSIGNMENT



LOGIC DIAGRAM



TRUTH TABLE

A	B	ST ST'	X0 Y0	X1 Y1	X2 Y2	X3 Y3	Z W
*	*	H	*	*	*	*	L
L	L	L	L	*	*	*	L
L	L	L	H	*	*	*	H
H	L	L	*	L	*	*	L
H	L	L	*	H	*	*	H
L	H	L	*	*	L	*	L
L	H	L	*	*	H	*	H
H	H	L	*	*	*	L	L
H	H	L	*	*	*	H	H

* : DON'T CARE

RECOMMENDED OPERATING CONDITIONS (V_{SS}=0V)

CHARACTERISTIC	SYMBOL		MIN.	TYP.	MAX.	UNITS
DC Supply Voltage	V_{DD}		3	-	18	V
Input Voltage	V_{IN}		0	-	V_{DD}	V

STATIC ELECTRICAL CHARACTERISTICS (V_{SS}=0V)

CHARACTERISTIC	SYMBOL	TEST CONDITIONS	V_{DD} (V)	-40°C MIN.	-40°C MAX.	25°C MIN.	25°C TYP.	25°C MAX.	85°C MIN.	85°C MAX.	UNITS
High-Level Output Voltage	V_{OH}	$\|I_{OUT}\|$<1μA, $V_{IN}=V_{SS}$, V_{DD}	5	4.95	-	4.95	5.00	-	4.95	-	V
			10	9.95	-	9.95	10.00	-	9.95	-	
			15	14.95	-	14.95	15.00	-	14.95	-	
Low-Level Output Voltage	V_{OL}	$\|I_{OUT}\|$<1μA, $V_{IN}=V_{SS}$, V_{DD}	5	-	0.05	-	0.00	0.05	-	0.05	
			10	-	0.05	-	0.00	0.05	-	0.05	
			15	-	0.05	-	0.00	0.05	-	0.05	
Output High Current	I_{OH}	V_{OH}=4.6V	5	-0.61	-	-0.51	-1.0	-	-0.42	-	mA
		V_{OH}=2.5V	5	-2.5	-	-2.1	-4.0	-	-1.7	-	
		V_{OH}=9.5V	10	-1.5	-	-1.3	-2.2	-	-1.1	-	
		V_{OH}=13.5V	15	-4.0	-	-3.4	-9.0	-	-2.8	-	
		$V_{IN}=V_{SS}$, V_{DD}									
Output Low Current	I_{OL}	V_{OL}=0.4V	5	0.61	-	0.51	1.5	-	0.42	-	
		V_{OL}=0.5V	10	1.5	-	1.3	3.8	-	1.1	-	
		V_{OL}=1.5V	15	4.0	-	3.4	15.0	-	2.8	-	
		$V_{IN}=V_{SS}$, V_{DD}									
Input High Voltage	V_{IH}	V_{OUT}=0.5V, 4.5V	5	3.5	-	3.5	2.75	-	3.5	-	V
		V_{OUT}=1.0V, 9.0V	10	7.0	-	7.0	5.5	-	7.0	-	
		V_{OUT}=1.5V,13.5V	15	11.0	-	11.0	8.25	-	11.0	-	
		$\|I_{OUT}\|$<1μA									
Input Low Voltage	V_{IL}	V_{OUT}=0.5V, 4.5V	5	-	1.5	-	2.25	1.5	-	1.5	
		V_{OUT}=1.0V, 9.0V	10	-	3.0	-	5.5	3.0	-	3.0	
		VOUT=1.5V,13.5V	15	-	4.0	-	8.25	4.0	-	4.0	
		$\|I_{OUT}\|$<1μA									
Input Current "H" Level	I_{IH}	V_{IH}=18V	18	-	0.1	-	10^{-5}	0.1	-	1.0	μA
Input Current "L" Level	I_{IL}	V_{IL}=0V	18	-	-0.1	-	-10^{-5}	-0.1	-	-1.0	
Quiescent Device Current	I_{DD}	$V_{IN}=V_{SS}$, V_{DD}	5	-	5	-	0.001	5	-	150	μA
			10	-	10	-	0.002	10	-	300	
		*	15	-	20	-	0.004	20	-	600	

* All valid input combinations.

DYNAMIC ELECTRICAL CHARACTERISTICS (Ta=25°C, V_{SS}=0V, C_L=50pF)

CHARACTERISTIC	SYMBOL	TEST CONDITION	V_{DD}(V)	MIN.	TYP.	MAX.	UNITS
Output Transition Time (Low to High)	t_{TLH}		5	-	80	200	ns
			10	-	50	100	
			15	-	40	80	
Output Transition Time (High to Low)	t_{THL}		5	-	80	200	
			10	-	50	100	
			15	-	40	80	
Propagation Delay Time (A - Z, W)	t_{pLH} t_{pHL}		5	-	150	450	
			10	-	60	220	
			15	-	40	170	
Propagation Delay Time (Xn, Yn - Z, W)	t_{pLH} t_{pHL}		5	-	130	420	
			10	-	60	180	
			15	-	40	140	
Propagation Delay Time (STROBE - Z, W)	t_{pLH} t_{pHL}		5	-	85	290	
			10	-	40	150	
			15	-	30	120	
Input Capacitance	C_{IN}			-	5	7.5	pF

WAVEFORM FOR MEASUREMENT OF DYNAMIC CHARACTERISTICS