

Description

The GD74F373 contains of eight latches with 3-State outputs for bus organized system application. The flip-flops appear transparent to the data when Latch Enable (G) is High. When G is Low, the data that meets the setup times is latched. Data appear on the bus when the Output Control ($\overline{OC}$) is Low. When $\overline{OC}$ is High the bus output is in the high impedance state.

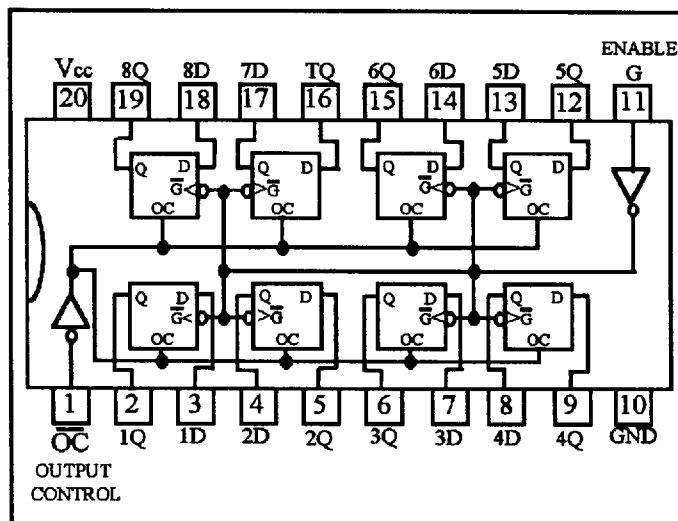
Features

- 8 latches in a single package
- 3-STATE Bus driving outputs

Function Table (Each Latch)

Inputs			Outputs
$\overline{OC}$	ENABLE G	D	
L	H	H	H
L	H	L	L
L	L	X	Qo(No Change)
H	X	X	Z

Pin Configuration



Absolute Maximum Ratings

Storage Temperature	-65 °C ~ 150 °C
Ambient Temperature Under Bias.....	-55 °C ~ 125 °C
Junction Temperature Under Bias	-0.5 °C ~ 175 °C
Vcc Voltage	-0.5 V ~ 7.0 V
Input Voltage	-0.5 V ~ 7.0 V
Input Current	-30 mA ~ 5.0 mA
Output Voltage	-0.5 V ~ 5.5 V

Note : Absolute Maximum ratings are values beyond which the device maybe damaged or have its useful life impaired. Functional operation under these conditions is not implied.

Recommended Operating Conditions

Free Air Ambient Temperature..... : $0^{\circ}\text{C} \sim 70^{\circ}\text{C}$

Supply Voltage : $4.5\text{ V} \sim 5.5\text{ V}$

DC Electrical Characteristics over recommended operating free-air temperature range

SYMBOL	PARAMETER	Min	Typ	Max	UNIT	V _{CC}	CONDITION	TEST CIRCUIT
V _{IH}	Input High Voltage	2.0			V		-----	
V _{IL}	Input Low Voltage			0.8	V		-----	
V _{CD}	Input Clamp Diode Voltage			-1.2	V	Min	I _{IN} = -18mA	See FIG. 18
V _{OH}	Output High Voltage	2.5			V	4.5	I _{OH} = -1 mA	See FIG. 19
		2.4				4.5	I _{OH} = -3 mA	
		2.7				4.75	I _{OH} = -1 mA	
		2.7				4.75	I _{OH} = -3 mA	
V _{OL}	Output Low Voltage			0.5	V	Min	I _{OL} = 24 mA	
I _I	Input High Current Breakdown Test			7.0	μA	Max	V _{IN} = 7.0 V	See FIG. 20
I _{IH}	Input High Current			5.0	μA	Max	V _{IN} = 2.7 V	
I _{IL}	Input Low Current			-0.6	μA	Max	V _{IN} = 0.5 V	
I _{ILK}	Input Leakage Circuit Current			1.9	μA	0.0	V _{IN} = 4.75 V All Other pins grounded	See FIG. 21
I _{OLK}	Output Leakage Circuit Current			3.75	μA	0.0	V _{OUT} = 150mV All Other pins grounded	See FIG. 22
I _{OZH}	3-State Output Off Current (High)			50	μA	Max	V _{OUT} = 2.7 V	See FIG. 23
I _{OZL}	3-State Output Off Current (Low)			-50	μA	Max	V _{OUT} = 0.5 V	
I _{OS}	Output Short Circuit Current	-60		-150	mA	Max	V _{OUT} = 0 V	See FIG. 24
I _{CCZ}	Supply Current		38	55	mA	Max	V _{OUT} = High Z	See FIG. 25

* For I_{OS}, Not more than one output should be shorted at a time, and duration should not exceed one second.

AC Characteristics

SYMBOL	PARAMETER	TEST CONDITION						UNIT
		T _A = 25 °C			T _A = 0 ~ 70°C			
		V _{CC} = 5.0 V			V _{CC} = 5 V±10 %			
		C _L = 50 pF			C _L = 50pF			
		Min	Typ	Max	Min	Typ	Max	
t _{PLH}	Propagation Delay	3.0	5.3	7.0	3.0	--	8.0	ns
t _{PHL}	D to Q	2.0	3.7	5.0	2.0	--	6.0	ns
t _{PLH}	Propagation Delay	5.0	9.0	11.5	5.0	--	13.0	ns
t _{PHL}	G to Q	3.0	5.2	7.0	3.0	--	8.0	ns
t _{PZH}	Output Enable	2.0	5.0	11.0	2.0	--	12.0	ns
t _{PZL}	Time	2.0	5.6	7.5	2.0	--	8.5	ns
t _{PHZ}	Output Disable	1.5	4.5	6.5	1.5	--	7.5	ns
t _{PLZ}	Time	1.5	3.8	5.0	1.5	--	6.0	ns

RECOMMENDED OPERATING CONDITIONS

SYMBOL	ITEM	VALUE	UNIT
t _{S(H)} t _{S(L)}	Setup Time , High or Low D to G	2.0 (T _a = 25 °C, V _{CC} = 5V) 2.0 (T _a = 25 °C, V _{CC} = 5V)	ns
t _{H(H)} t _{H(L)}	Hold Time, High or Low D to G	3.0 (T _a = 25 °C, V _{CC} = 5V) 3.0 (T _a = 25 °C, V _{CC} = 5V)	ns
t _{W(H)}	G Pulse Width, G= High	6.0 (T _a = 25 °C, V _{CC} = 5V)	ns

