



3.3V CMOS Bus Interface 8-Bit Latches

QS54/74FCT3373

FEATURES/BENEFITS

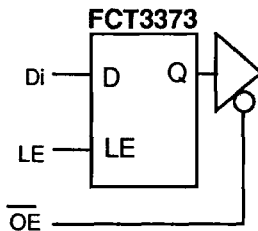
- Pin and function compatible to the 74F373, 74FCT373 and 74FCT373T
- CMOS power levels: <7.5 mW static
- Available in DIP, ZIP, SOIC, QSOP, LCC, HQSOP
- Fastest CMOS logic family available
- Standard through C, speed grades
- TTL-compatible input and output levels
- Ground bounce controlled outputs
- Undershoot clamp diodes on all inputs
- JEDEC spec compatible
- Military product compliant to MIL-STD-883
- I_{OL} = 24 mA Com.

DESCRIPTION

The QSFACT3373 is 8-bit high-speed CMOS TTL-compatible buffered latches with three-state outputs that are ideal for driving high capacitance loads such as memory and address buses. All inputs have clamp diodes for undershoot noise suppression and all outputs have ground bounce suppression (see QSI Application Note AN-001).

5

FUNCTIONAL BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Supply Voltage to Ground..... -0.5V to +4.6V
 DC Output Voltage V_O -0.5V to $V_{CC}+0.5V$
 DC Input Voltage V_I -0.5V to $V_{CC}+0.5V$
 AC Input Voltage (for a pulse width ≤ 20 ns)..... -3.0V
 DC Input Diode Current with $V_I < 0$ -20 mA
 DC Output Diode Current with $V_O < 0$ -60 mA
 DC Output Current Max. sink current/pin..... 60 mA
 Maximum Power Dissipation..... 0.5 watts
 T_{STG} Storage Temperature..... -65° to +165°C

DC ELECTRICAL CHARACTERISTICS OVER OPERATING RANGE

Commercial $T_A=0^\circ C$ to $70^\circ C$, $V_{CC}=3.3V \pm 0.3V$

Symbol	Parameter	Test Conditions		Min	Typ (1)	Max	Unit
V_{ih}	Input High Voltage	Logic HIGH for All Inputs		2.0	-	$V_{CC}-0.5$	Volts
V_{il}	Input LOW Voltage	Logic LOW for All Inputs		-0.5	-	0.8	
ΔV_t	Input Hysterisis	$V_{th} - V_{tl}$ for All Inputs		-	0.2	-	
$ I_{ih} $ $ I_{il} $	Input Current Input HIGH or LOW	$V_{CC} = MAX$	$0 \leq V_{in} < V_{CC}$	-	-	5	μA
$ I_{oz} $	Off State Output Current (Hi-Z)	$V_{CC} = MAX, 0 \leq V_{in} \leq V_{CC}$		-	-	5	
I_{os}	Short Circuit Current	$V_{CC} = MAX, V_o = GND (2,3)$		-60	-	-225	mA
V_{ic}	Input Clamp Voltage	$V_{CC} = MIN, I_{in} = 18 mA (3)$		-	-0.7	-1.2	Volts
V_{oh}	Output HIGH Voltage	$V_{CC} = MIN$	$I_{oh} = 100\mu A$	$V_{CC}-0.2$	-	-	Volts
			$I_{oh} = 8mA$	$V_{CC}-0.6$	-	-	
V_{ol}	Output LOW Voltage	$V_{CC} = MIN$	$I_{ol} = 100\mu A$	-	-	0.2	
			$I_{ol} = 16mA$	-	-	0.4	
			$I_{ol} = 24mA$	-	-	0.5	

Notes:

1. Typical values indicate $V_{CC}=3.3V$ and $T_A=25^\circ C$.
2. Not more than one output should be shorted and the duration is ≤ 1 second.
3. These parameters are guaranteed by design but not tested.