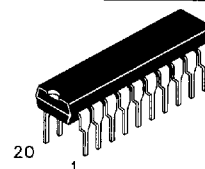


Octal D-Type Flip-Flops with Clock Enable

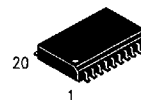
The DV74LS377 is an 8-bit register which uses advanced Low Power Schottky technology. This register consists of eight D-type flip-flops with buffered common clock and enable.

- AVG's LS operates over extended Vcc from 4.5 to 5.5 V
- AVG's LS and ALS both have guaranteed DC and AC specification over full temperature and Vcc range
- Switching specifications for ALS at 50 pF
- AVG's ALS has the lowest speed power product (4pJ per gate typical) of all logic series

DV74LS377
DV74ALS377

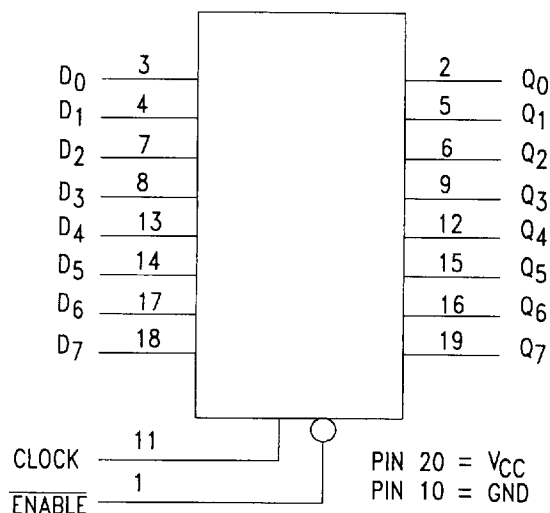


N Suffix
Plastic DIP
AVG-005 Case



D Suffix
Plastic SOP
AVG-006 Case

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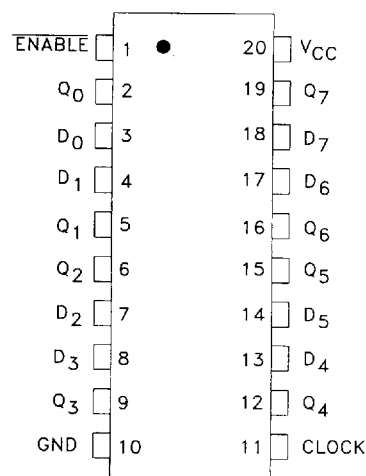
Pin Assignments:

DO-D7 Data Inputs
CP (Clock) Active High Going Edge Input
 $\bar{E}$ Enable (Active LOW) Input
Q0-Q7 Complemented Outputs

TRUTH TABLE			
Inputs			Outputs
$\bar{E}$	Clock	D _n	Q _n
H	↑	X	NC
L	↑	H	H
L	↑	L	L

H=HIGH Voltage Level
L=LOW Voltage Level
X=Immaterial
NC=No Change

PIN ASSIGNMENT



ABSOLUTE MAXIMUM RATINGS

Maximum ratings are those values beyond which damage to the device may occur.

Symbol	Parameter	LS377	ALS377	Unit
V _{CC}	Supply Voltage	+7.0	+7.0	V
V _{IN}	Input Voltage	-0.5 to +7.0	-0.5 to +7.0	V
T _{STG}	Storage Temperature Range	-65 to +150	-65 to +150	°C

GUARANTEED OPERATING CONDITIONS

Symbol	Parameter	LS377		LS377		Unit
		Min	Max	Min	Max	
V _{CC}	Supply Voltage	4.5	5.5	4.5	5.5	V
V _{IH}	High Level Input Voltage	2.0		2.0		V
V _{IL}	Low Level Input Voltage		0.8		0.8	V
I _{OH}	High Level Output Current		-0.4		-0.4	mA
I _{OL}	Low Level Output Current		8.0		8.0	mA
T _A	Operating Free Air Temperature Range	-10 to + 70		-10 to + 70		°C

DC ELECTRICAL CHARACTERISTICS over full operating conditions

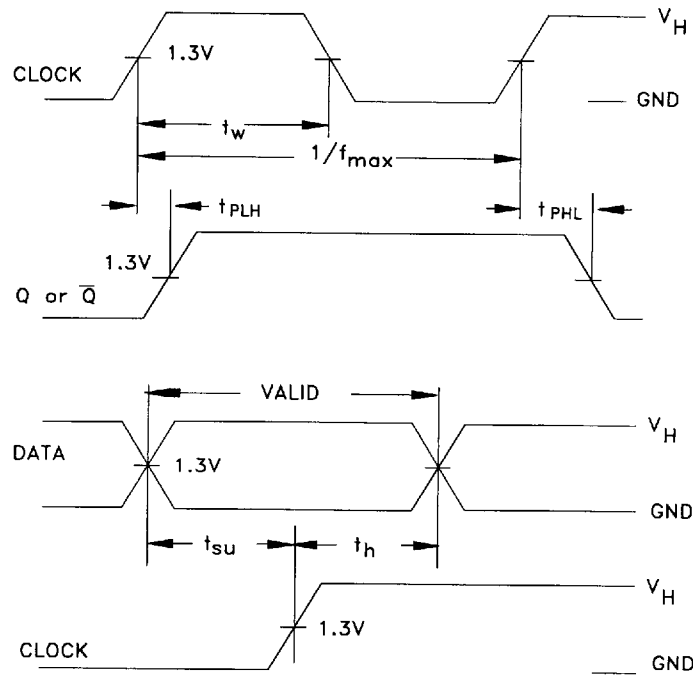
Symbol	Parameter	Condition	LS377			ALS377			Unit
			Min	Typ	Max	Min	Typ	Max	
V _{IK}	Input Clamp Voltage	V _{CC} = min, I _{IN} = -18 mA			-1.5		-0.65	-1.5	V
V _{OH}	High Level Output Voltage	V _{CC} = min, I _{OH} =max	V _{CC} -2	3.5		V _{CC} -2			V
V _{OL}	Low Level Output Voltage	V _{CC} =min I _{OL} = 4 mA		0.25	0.4		0.25	0.4	V
		I _{OL} = 8 mA		0.35	0.5		0.35	0.5	V
I _{IH}	High Level Input Current	V _{CC} =max, V _{IN} = 2.7V			20			20	μA
		V _{CC} =max, V _{IN} = 7.0V			0.1			0.1	mA
I _{IL}	Low Level Input Current	V _{CC} =max, V _{IN} =0.4V			-0.4			0.1	mA
I _O	Output Short Circuit Current	V _{CC} =max, V _{OUT} = 2.25V	-20		-110	-30		-112	mA
I _{CC}	Supply Current	V _{CC} =max (Inputs open, GND to all data and enable inputs; measured after momentary GND, then 4.5V is applied to clock)			28			17	mA

Symbol	Parameter	LS377 C _L =15 pF		LS377 C _L =50 pF		Unit
		Min	Max	Min	Max	
f _{MAX}	Maximum Clock Frequency	30		35		MHz
t _{PLH}	Propagation Delay Time Clock to Output		27		22	ns
t _{PHL}	Propagation Delay Time Clock to Output		27		22	ns

AC SETUP REQUIREMENTS over full operating conditions

Symbol	Parameter		LS377		ALS377		Unit
			Min	Max	Min	Max	
t _w	Any Pulse Width		20		15		ns
t _s	Data Setup Time		20		15		ns
t _s	Enable Setup Time	Inactive - State	10		8		ns
t _s		Active - State	25		20		ns
t _h	Any Hold Time		5.0		0		ns

SWITCHING CHARACTERISTICS over full operating conditions



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