

54LS/74LS379 011546
QUAD PARALLEL REGISTER
 (With Enable)

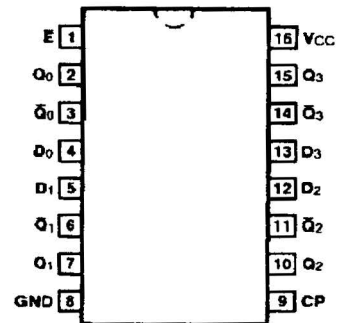
DESCRIPTION — The '379 is a 4-bit register with buffered common Enable. This device is similar to the '175 but features the common Enable rather than common Master Reset.

- EDGE-TRIGGERED D-TYPE INPUTS
- BUFFERED POSITIVE EDGE-TRIGGERED CLOCK
- BUFFERED COMMON ENABLE INPUT
- TRUE AND COMPLEMENT OUTPUTS

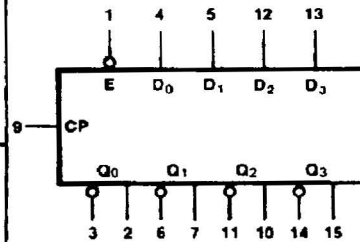
ORDERING CODE: See Section 9

PKGS	PIN OUT	COMMERCIAL GRADE	MILITARY GRADE	PKG TYPE
		V _{CC} = +5.0 V ±5%, T _A = 0°C to +70°C	V _{CC} = +5.0 V ±10%, T _A = -55°C to +125°C	
Plastic DIP (P)	A	74LS379PC		9B
Ceramic DIP (D)	A	74LS379DC	54LS379DM	6B
Flatpak (F)	A	74LS379FC	54LS379FM	4L

CONNECTION DIAGRAM
PINOUT A



LOGIC SYMBOL






V_{CC} = Pin 16
 GND = Pin 8

INPUT LOADING/FAN-OUT: See Section 3 for U.L. definitions

PIN NAMES	DESCRIPTION	54/74LS (U.L.) HIGH/LOW
\bar{E}	Enable Input (Active LOW)	0.5/0.25
D ₀ — D ₃	Data Inputs	0.5/0.25
CP	Clock Pulse Input (Active Rising Edge)	0.5/0.25
Q ₀ — Q ₃	Flip-flop Outputs	10/5.0 (2.5)
\bar{Q}_0 — \bar{Q}_3	Complement Outputs	10/5.0 (2.5)

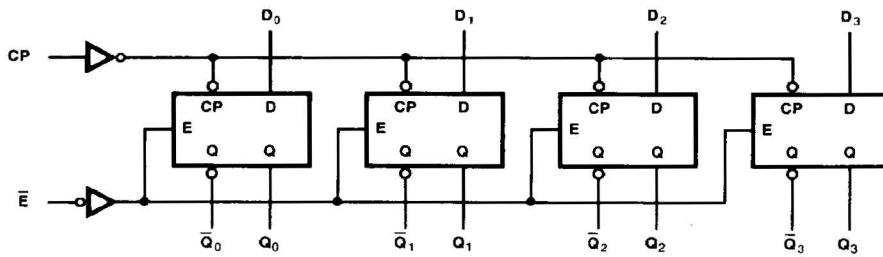
FUNCTIONAL DESCRIPTION — The '379 consists of four edge-triggered D-type flip-flops with individual D inputs and Q and \bar{Q} outputs. The Clock (CP) and Enable (\bar{E}) inputs are common to all flip-flops. When the \bar{E} input is HIGH, the register will retain the present data independent of the CP input. The D_n and \bar{E} inputs can change when the clock is in either state, provided that the recommended setup and hold times are observed.

TRUTH TABLE

INPUTS			OUTPUTS	
\bar{E}	CP	D_n	Q_n	\bar{Q}_n
H		X	No Change	No Change
L		H	H	L
L		L	L	H

H = HIGH Voltage Level
 L = LOW Voltage Level
 X = Immaterial

LOGIC DIAGRAM



DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)						
SYMBOL	PARAMETER	54/74LS		UNITS	CONDITIONS	
		Min	Max			
I _{CC}	Power Supply Current	18		mA	V _{CC} = Max	
AC CHARACTERISTICS: V _{CC} = +5.0 V, T _A = +25°C (See Section 3 for waveforms and load configurations)						
SYMBOL	PARAMETER	54/74LS		UNITS	CONDITIONS	
		C _L = 15 pF				
		Min	Max			
f _{max}	Maximum Clock Frequency	30		MHz	Figs. 3-1, 3-8	
t _{PLH}	Propagation Delay	27		ns		
t _{PHL}	CP to Q _n	27				
AC OPERATING REQUIREMENTS: V _{CC} = +5.0 V, T _A = +25°C						
SYMBOL	PARAMETER	54/74LS		UNITS	CONDITIONS	
		Min	Max			
t _s (H) t _s (L)	Setup Time HIGH or LOW D _n to CP	20		ns	Fig. 3-6	
t _h (H) t _h (L)	Hold Time HIGH or LOW D _n to CP	5.0 5.0				
t _s (H) t _s (L)	Setup Time HIGH or LOW \bar{E} to CP	25 25		ns		
t _h (H) t _h (L)	Hold Time HIGH or LOW \bar{E} to CP	5.0 5.0				
t _w (L)	CP Pulse Width LOW	17		ns		Fig. 3-8