Signetics

**ADVANCE INFORMATION
TO BE ANNOUNCED**

10141F: −30 to +85°C, CERDIP

DIGITAL 10,000 SERIES ECL

DESCRIPTION

The 10141 is a four bit universal shift register. The register performs shift left or right, serial/parallel in and serial/parallel out with no external gating. This device is useful for counting, temporary storage, and shifting in high speed digital communication systems, instrumentation, peripheral controllers and computers.

Inputs S1 and S2 control the four possible operations of the register without interfering with the clock. The flip-flops shift information on the positive edge of the clock. The four operations are: stop shift, shift left, shift right, and parallel entry of data. The other six inputs are all data type inputs: four for parallel data entry, one for shifting in from the left (DL), and one for shifting in from the right (DR). When the register is used for serial output only, the unused emitter-follower outputs can be left open.

The 10141 is capable of 200 MHz shift rate operation (typical).

BLOCK DIAGRAM

$V_{CC1} = 1$, $V_{CC2} = 16$, $V_{EE} = 8$
POSITIVE LOGIC: HIGH LEVEL = '1'
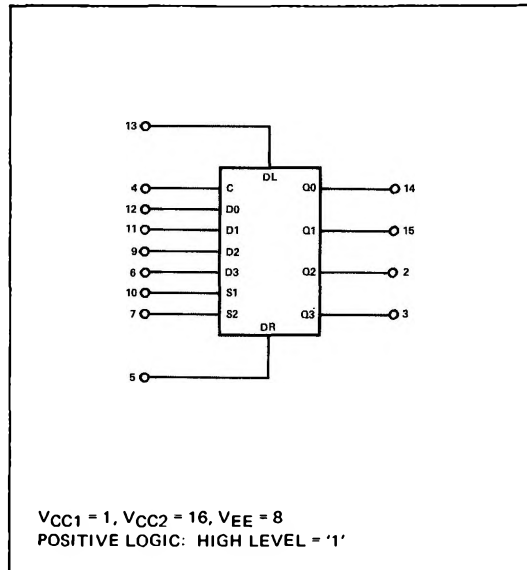
TRUTH TABLE

PULSE	INPUTS								OUTPUTS*			
	S1	S2	D3	D2	D1	D0	DR	DL	Q3	Q2	Q1	Q0
0	L	L	L	H	H	L	X	X	—	—	—	—
1	L	L	L	H	H	L	X	X	L	H	H	L
2	L	L	H	L	L	H	X	X	H	L	L	H
3	L	L	H	H	L	L	X	X	H	H	L	L
4	L	H	X	X	X	X	L	X	L	H	H	L
5	L	H	X	X	X	X	H	X	H	L	H	H
6	L	H	X	X	X	X	L	X	L	H	L	H
7	L	H	X	X	X	X	L	X	L	L	H	L
8	H	L	X	X	X	X	X	L	L	H	L	L
9	H	L	X	X	X	X	X	H	H	L	L	H
10	H	L	X	X	X	X	X	H	L	L	H	H
11	H	L	X	X	X	X	X	L	L	H	H	L
12	H	L	X	X	X	X	X	L	H	H	L	L
13	H	H	X	X	X	X	X	X	H	H	L	L
14	H	H	X	X	X	X	X	X	H	H	L	L

*Outputs as exist after pulse appears at "C" Input with input conditions as shown.

(Pulse = Positive transition of clock input)

X = Don't Care

FUNCTION TABLE

FUNCTION TABLE		
SELECT		
S1	S2	OPERATING MODE
L	L	Parallel Entry
L	H	Shift Right
H	L	Shift Left
H	H	Stop Shift

TEMPERATURE RANGE
● −30 to +85°C Operating Ambient

PACKAGE TYPE
● F: 16-Pin CERDIP