signetics

**ADVANCE INFORMATION
TO BE ANNOUNCED**

10136F, 10137F: −30 to +85°C, CERDIP

DIGITAL 10,000 SERIES ECL

DESCRIPTION

The 10136 and 10137 are high speed synchronous counters that can count up, count down, preset, or stop count at rates exceeding 100 MHz.

The 10136 is a 16-state (Hexadecimal) counter and the 10137 is a 10-state (Decade) counter.

The flexibility of these devices allows the designer to use one basic counter design for all applications. The synchronous count feature makes these MSI parts suitable for either computers or instrumentation.

The carry input enables the counter, and prevents it from changing state when the clock goes high. The inputs S1 and S2 control the state of the counter: stop count, increment (count up), decrement (count down), and preset (program) count. The other inputs are clock, and the four D inputs for presetting the counter.

The outputs include four Q's and a carry out which goes low on the terminal count. When an output is not needed, it can be left open to conserve system power.

The counter changes state only on the positive-going edge of the clock. Any other input may change at any time except during the positive transition of the clock. The next state of the counter is determined by the configuration of the inputs only during the positive transition of the clock.
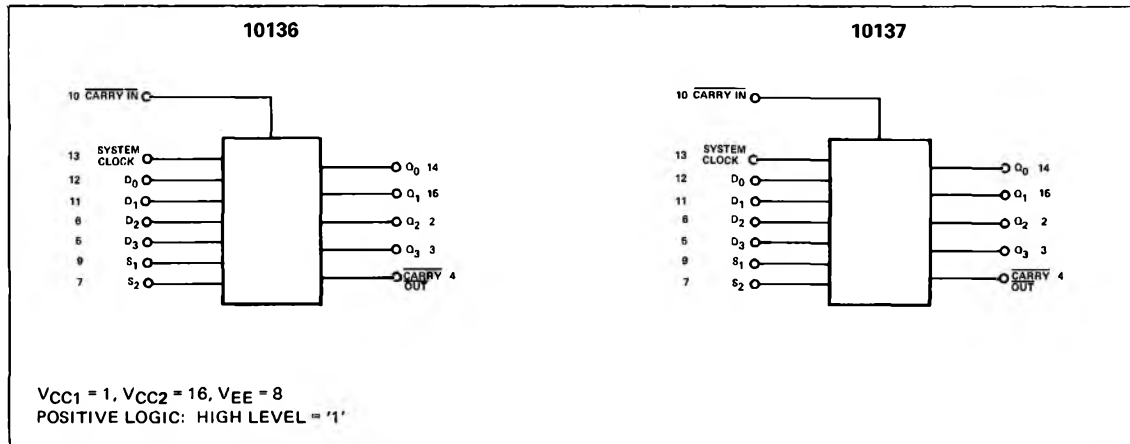
APPLICATIONS

Either the binary counter (10136) or the decade counter (10137) can be useful in high speed central processors and peripheral controllers, mini-computers, high speed digital communication equipment, and instrumentation.

When used as a prescaler, it is possible to extend the input frequency of the 10136, 37 to over 200 MHz with the 10231.

FUNCTION SELECT TABLE

S1	S2	OPERATING MODE
L	L	Preset (Program)
L	H	Increment (Count Up)
H	L	Decrement (Count Down)
H	H	Hold (Stop Count)

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

PACKAGE TYPE
- F: 16-Pin CERDIP

BLOCK DIAGRAMS

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