COUNTER-LATCH-DECODER

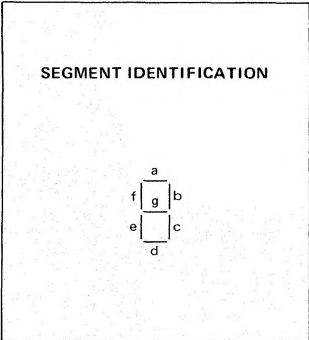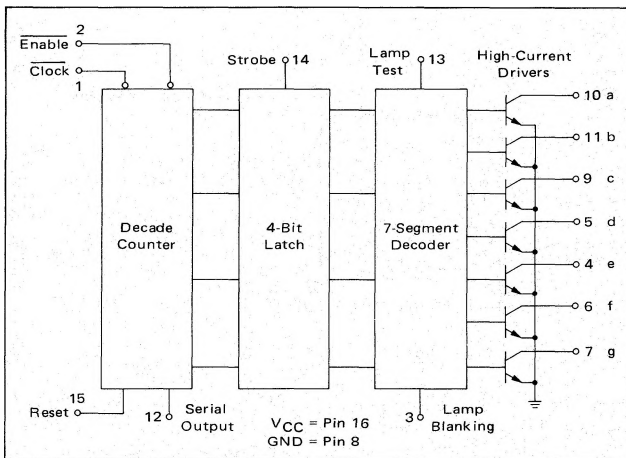# MC4350L*
MC4050L, P*

ADVANCE INFORMATION/NEW PRODUCT

This device is a monolithic MSI integrated circuit combining the functions of an NBCD counter, four-bit latch, and a seven-segment decoder/driver. The counter advances on the negative edge of the $\overline{\text{Clock}}$, subject to control by the $\overline{\text{Enable}}$ input. The Serial Output is high driving the ninth count, allowing synchronous or asynchronous counter operation when used in conjunction with the $\overline{\text{Enable}}$ input and some external gating. The counter Reset places the counter in a non-NBCD state, turning off the output driver transistors when transferred through the latch and decoded. This feature gives automatic suppression of leading zeros in the display. The latch section admits information while the Strobe is high and latches the data on the negative edge of the strobe. The seven-segment decoder/ driver provides up to 40 mA drive capability for displays which require current sinking in the active mode. A lamp blanking input is provided for intensity modulation. A lamp test feature is also available.

SEGMENT IDENTIFICATION

Total Power Dissipation = 450 mW typ/package
Maximum Toggle Frequency = 35 MHz typ

FUNCTIONAL TRUTH TABLE

FUNCTION	$\overline{C}$	$\overline{E}$	R	S	LT	LB	S_{out}	a	b	c	d	e	f	g
	INPUT						OUTPUT							
Lamp Test	X	X	X	X	1	X	—	0	0	0	0	0	0	0
Lamp Blanking	X	X	X	X	0	1	—	1	1	1	1	1	1	1
Reset	X	X	1	1	0	0	0	1	1	1	1	1	1	1
$\overline{\text{Enable}}$	P	1	0	1	0	0	0	1	1	1	1	1	1	1
State Sequence 1	P1	0	0	1	0	0	0	0	1	0	0	1	1	1	1
2	P2	0	0	1	0	0	0	0	0	0	1	0	0	1	0
3	P3	0	0	1	0	0	0	0	0	0	0	0	1	1	0
4	P4	0	0	1	0	0	0	1	0	0	1	1	0	0
5	P5	0	0	1	0	0	0	0	0	1	0	0	1	0	0
6	P6	0	0	1	0	0	0	0	0	1	0	0	0	0	0
7	P7	0	0	1	0	0	0	0	0	0	0	1	1	1	1
8	P8	0	0	1	0	0	0	0	0	0	0	0	0	0	0
9	P9	0	0	1	0	0	0	1	0	0	0	0	1	0	0
0	P10	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1	P11	0	0	1	0	0	0	0	0	1	0	0	1	1	1
Latch	P	0	0	0	0	0	0	0	1	0	0	1	1	1

P = any number of pulses may be applied
P_n = n pulses on the Clock input
X = Don't care

3.0 V
0 V

*L suffix = 16-pin dual in-line ceramic package (Case 620).
 P suffix = 16-pin dual in-line plastic package (Case 612).