MC100LVEL32

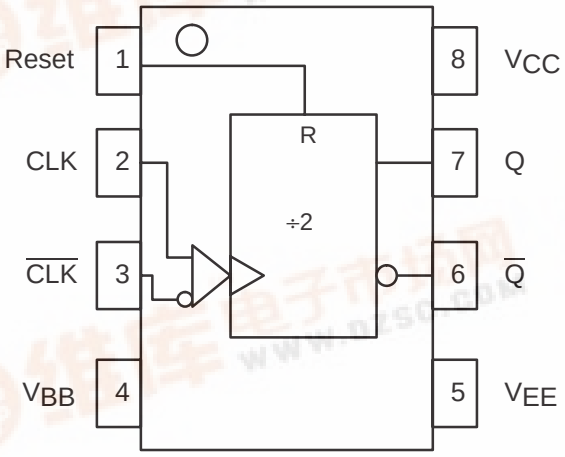
÷2 Divider

The MC100LVEL32 is an integrated ÷2 divider. The differential clock inputs and the V_{BB} allow a differential, single-ended or AC coupled interface to the device. If used, the V_{BB} output should be bypassed to ground with a 0.01µF capacitor. Also note that the V_{BB} is designed to be used as an input bias on the LVEL32 only, the V_{BB} output has limited current sink and source capability.The LVEL32 is functionally identical to the EL32, but operates from a low voltage supply.

The reset pin is asynchronous and is asserted on the rising edge. Upon power-up, the internal flip-flop will attain a random state; the reset allows for the synchronization of multiple EL32's in a system.

- 510ps Propagation Delay
- 3.0GHz Toggle Frequency
- High Bandwidth Output Transitions
- 75kΩ Internal Input Pulldown Resistors
- >1000V ESD Protection

LOGIC DIAGRAM AND PINOUT ASSIGNMENT

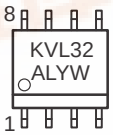


ON Semiconductor

http://onsemi.com

SO–8
D SUFFIX
CASE 751

MARKING DIAGRAM



A = Assembly Location
L = Wafer Lot
Y = Year
W = Work Week

*For additional information, see Application Note AND8002/D

PIN DESCRIPTION

PIN	FUNCTION
CLK Reset V_{BB} Q	Clock Inputs Asynch Reset Ref Voltage Output Data Ouputs

ORDERING INFORMATION

Device	Package	Shipping
MC100LVEL32D	SO–8	98 Units/Rail
MC100LVEL32DR2	SO–8	2500 Tape & Reel

Publication Order Number:

DC CHARACTERISTICS (V_{EE} = V_{EE}(min) to V_{EE}(max); V_{CC} = GND)

Symbol	Characteristic	–40°C			0°C			25°C			85°C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
I_{EE}	Power Supply Current		25			25			25			25		mA
V_{EE}	Power Supply Voltage		–3.0		–3.0	–3.3	–3.8	–3.0	–3.3	–3.8	–3.0	–3.3	–3.8	V
V_{BB}	Output Reference Voltage	–1.38		–1.26	–1.38		–1.26	–1.38		–1.26	–1.38		–1.26	V
I_{IH}	Input HIGH Current			150			150			150			150	μA

AC CHARACTERISTICS (V_{EE} = V_{EE}(min) to V_{EE}(max); V_{CC} = GND)

Symbol	Characteristic	–40°C			0°C			25°C			85°C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
f_{MAX}	Maximum Toggle Frequency		3.0			3.0			3.0			3.0		GHz
t_{PLH} t_{PHL}	Propagation Delay CLK to Q (Diff) CLK to Q (S.E.) Reset to Q	 350 300 340	 500 500 540	 530 580 540	 360 310 350	 500 500 540	 540 590 550	 370 320 350	 510 510 540	 550 600 550	 410 360 380	 540 540 550	 590 640 580	 ps
V_{PP}	Minimum Input Swing[1]	150			150			150			150			mV
t_r t_f	Output Rise/Fall Times Q (20% – 80%)		225			225			225			225		ps

1. Minimum input swing for which AC parameters are guaranteed.

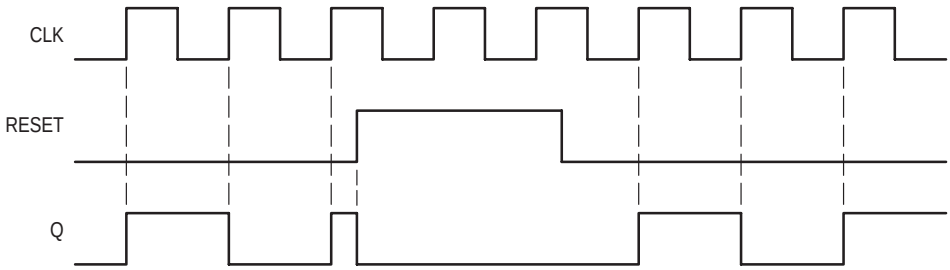
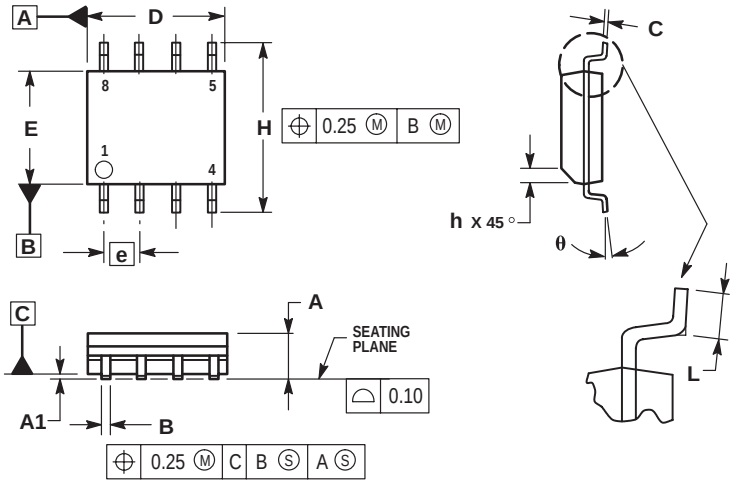


Figure 1. Timing Diagram

PACKAGE DIMENSIONS

SO–8
D SUFFIX
PLASTIC SOIC PACKAGE
CASE 751–06
ISSUE T



NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. DIMENSIONS ARE IN MILLIMETER.
3. DIMENSION D AND E DO NOT INCLUDE MOLD PROTRUSION.
4. MAXIMUM MOLD PROTRUSION 0.15 PER SIDE.
5. DIMENSION B DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.127 TOTAL IN EXCESS OF THE B DIMENSION AT MAXIMUM MATERIAL CONDITION.

	MILLIMETERS	
DIM	MIN	MAX
A	1.35	1.75
A1	0.10	0.25
B	0.35	0.49
C	0.19	0.25
D	4.80	5.00
E	3.80	4.00
e	1.27 BSC	
H	5.80	6.20
h	0.25	0.50
L	0.40	1.25
θ	0°	7°

PUBLICATION ORDERING INFORMATION

NORTH AMERICA Literature Fulfillment:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303–675–2175 or 800–344–3860 Toll Free USA/Canada
Fax: 303–675–2176 or 800–344–3867 Toll Free USA/Canada
Email: ONlit@hibbertco.com
Fax Response Line: 303–675–2167 or 800–344–3810 Toll Free USA/Canada

N. American Technical Support: 800–282–9855 Toll Free USA/Canada

EUROPE: LDC for ON Semiconductor – European Support
German Phone: (+1) 303–308–7140 (M–F 1:00pm to 5:00pm Munich Time)
Email: ONlit–german@hibbertco.com
French Phone: (+1) 303–308–7141 (M–F 1:00pm to 5:00pm Toulouse Time)
Email: ONlit–french@hibbertco.com
English Phone: (+1) 303–308–7142 (M–F 12:00pm to 5:00pm UK Time)
Email: ONlit@hibbertco.com

EUROPEAN TOLL–FREE ACCESS*: 00–800–4422–3781
*Available from Germany, France, Italy, England, Ireland

CENTRAL/SOUTH AMERICA:
Spanish Phone: 303–308–7143 (Mon–Fri 8:00am to 5:00pm MST)
Email: ONlit–spanish@hibbertco.com

ASIA/PACIFIC: LDC for ON Semiconductor – Asia Support
Phone: 303–675–2121 (Tue–Fri 9:00am to 1:00pm, Hong Kong Time)
Toll Free from Hong Kong & Singapore:
001–800–4422–3781
Email: ONlit–asia@hibbertco.com

JAPAN: ON Semiconductor, Japan Customer Focus Center
4–32–1 Nishi–Gotanda, Shinagawa–ku, Tokyo, Japan 141–8549
Phone: 81–3–5740–2745
Email: r14525@onsemi.com

ON Semiconductor Website: http://onsemi.com

For additional information, please contact your local
Sales Representative.