Product Preview

÷2 Divider

MC100LVEL32

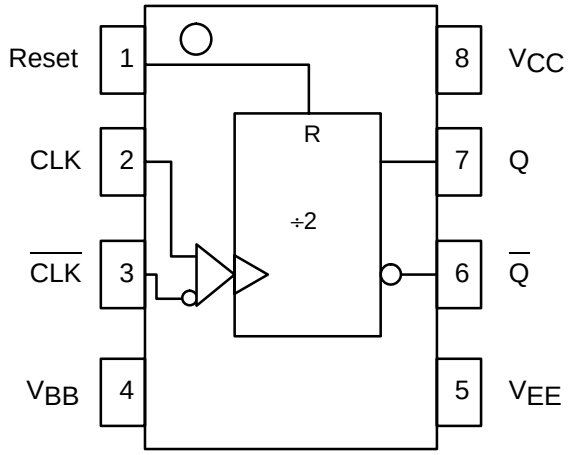
The MC100LVEL32 is an integrated ÷2 divider. The differential clock inputs and the V_{BB} allow a differential, single-ended or AC coupled interface to the device. If used, the V_{BB} output should be bypassed to ground with a 0.01µF capacitor. Also note that the V_{BB} is designed to be used as an input 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

D SUFFIX
PLASTIC SOIC PACKAGE
CASE 751-05

LOGIC DIAGRAM AND PINOUT ASSIGNMENT



PIN DESCRIPTION

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

This document contains information on a product under development. Motorola reserves the right to change or discontinue this product without notice.

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

		–40°C			0°C			25°C			85°C			
Symbol	**Characteristic**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Unit**
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)

		–40°C			0°C			25°C			85°C			
Symbol	**Characteristic**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Unit**
f_{MAX}	Maximum Toggle Frequency		3.0			3.0			3.0			3.0		GHz
t_{PLH} t_{PHL}	Propagation Delay CLK to Q Reset to Q		 500 540			 500 540			 510 540			 540 550		 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.

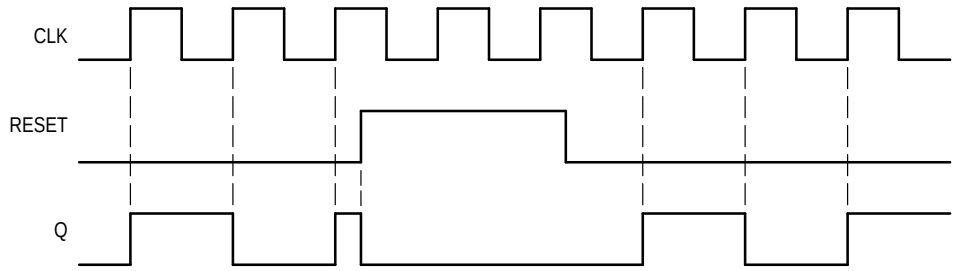
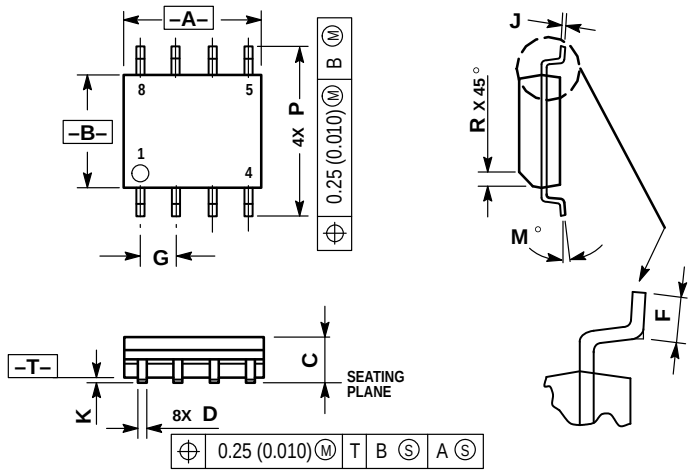


Figure 1. Timing Diagram

OUTLINE DIMENSIONS

D SUFFIX
PLASTIC SOIC PACKAGE
CASE 751–05
ISSUE P



NOTES:
1. DIMENSIONS A AND B ARE DATUMS AND T IS A DATUM SURFACE.
2. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
3. DIMENSIONS ARE IN MILLIMETER.
4. DIMENSION A AND B DO NOT INCLUDE MOLD PROTRUSION.
5. MAXIMUM MOLD PROTRUSION 0.15 PER SIDE.
6. DIMENSION D DOES NOT INCLUDE MOLD PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.127 TOTAL IN EXCESS OF THE D DIMENSION AT MAXIMUM MATERIAL CONDITION.

	MILLIMETERS	
DIM	MIN	MAX
A	4.80	5.00
B	3.80	4.00
C	1.35	1.75
D	0.35	0.49
F	0.40	1.25
G	1.27 BSC	
J	0.18	0.25
K	0.10	0.25
M	0 °	7 °
P	5.80	6.20
R	0.25	0.50

How to reach us:
USA/EUROPE/Locations Not Listed: Motorola Literature Distribution;
P.O. Box 20912; Phoenix, Arizona 85036. 1–800–441–2447 or 602–303–5454

MFAX: RMFAX0@email.sps.mot.com – TOUCHTONE 602–244–6609
INTERNET: http://Design–NET.com

JAPAN: Nippon Motorola Ltd.; Tatsumi–SPD–JLDC, 6F Seibu–Butsuryu–Center, 3–14–2 Tatsumi Koto–Ku, Tokyo 135, Japan. 03–81–3521–8315

ASIA/PACIFIC: Motorola Semiconductors H.K. Ltd.; 8B Tai Ping Industrial Park, 51 Ting Kok Road, Tai Po, N.T., Hong Kong. 852–26629298