

Product Overview

MC10EL51: 5.0 V ECL Differential Clock/Data D Flip-Flop

For complete documentation, see the data sheet.

The MC10EL/100EL51 is a differential clock D flip-flop with reset. The device is functionally similar to the E151 device with higher performance capabilities. With propagation delays and output transition times significantly faster than the E151 the EL51 is ideally suited for those applications which require the ultimate in AC performance.

The reset input is an asynchronous, level triggered signal. Data enters the master portion of the flip-flop when the clock is LOW and is transferred to the slave, and thus the outputs, upon a positive transition of the clock. The differential clock inputs of the EL51 allow the device to be used as a negative edge triggered flip-flop.

The differential input employs clamp circuitry to maintain stability under open input (pulled down to V_{EE}) conditions.

The 100 Series contains temperature compensation.

Features

- 475ps Propagation Delay
 - 2.8GHz Toggle Frequency
 - ESD Protection: > 1 KV HBM, > 100 V MM
 - PECL Mode Operating Range: V_{CC} = 4.2 V to 5.7 V with V_{EE} = 0 V
 - NECL Mode Operating Range: V_{CC} = 0 V with V_{EE} = -4.2 V to -5.7 V
 - Internal Input Pulldown Resistors on D, R, and CLK
 - Meets or Exceeds JEDEC Spec EIA/JESD78 IC Latchup Test
 - Moisture Sensitivity Level 1
For Additional Information, see Application Note AND8003/D
 - Flammability Rating: UL-94 code V-0 @ 1/8", Oxygen Index 28 to 34
 - Transistor Count = 73 devices
- For more features, see the data sheet

Part Electrical Specifications

| Product | Compliance | Status | Type | Bits | Input Level | Output Level | V_{CC} Typ (V) | t_{jitter} Typ (ps) | t_{pd} Typ (ns) | t_{su} Min (ns) | t_h Min (ns) | t_{rec} Typ (ns) | t_R & t_F Max (ps) | f_{Toggle} Typ (MHz) | Package Type |
|------------|------------------------|--------|--------|------|-------------|--------------|------------------|-----------------------|-------------------|-------------------|----------------|--------------------|------------------------|------------------------|--------------|
| MC10EL51DG | Pb-free Halide free | Active | D-Type | 1 | ECL | ECL | 5 | 1 | 0.475 | 0.15 | 0.25 | 0.2 | 350 | 2800 | SOIC-8 |

For more information please contact your local sales support at www.onsemi.com.

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