

## Product Overview

### MC10EL31: 5.0 V ECL D Flip-Flop with Set and Reset

For complete documentation, see the data sheet.

The MC10EL/100EL31 is a D flip-flop with set and reset. The device is functionally equivalent to the E131 device with higher performance capabilities. With propagation delays and output transition times significantly faster than the E131 the EL31 is ideally suited for those applications which require the ultimate in AC performance.

Both set and reset inputs are asynchronous, level triggered signals. Data enters the master portion of the flip-flop when clock is LOW and is transferred to the slave, and thus the outputs, upon a positive transition of the clock.

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:  $V_{CC} = 4.2 \text{ V to } 5.7 \text{ V}$  with  $V_{EE} = 0 \text{ V}$
- NECL Mode Operating Range:  $V_{CC} = 0 \text{ V}$  with  $V_{EE} = -4.2 \text{ V to } -5.7 \text{ V}$
- Internal Input Pulldown Resistors on D, CLK, S, and R
- 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
- Metastability 125 ps (see Application Note AN1504)

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)	$t_{ree}$ Typ (ns)	$t_r$ & $t_f$ Max (ps)	$f_{Toggle}$ Typ (MHz)	Package Type
MC10EL31DG	Pb-free	Active	D-Type	1	ECL	ECL	5	1	0.475	0.15	0.25	0.2	350	2800	SOIC-8
	Halide free														
MC10EL31DR2G	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](http://www.onsemi.com).

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