

## Product Overview

### MC100EP451: 3.3 V / 5.0 V ECL 6-Bit Differential Register with Master Reset

For complete documentation, see the data sheet.

The MC10/100EP451 is a 6-bit fully differential register with common clock and single ended Master Reset (MR). It is ideal for very high frequency applications where a registered data path is necessary. All inputs have a 75k-ohm pulldown resistor internally. Differential inputs have an override clamp. Unused differential register inputs can be left open and will default LOW. When the differential inputs are forced to EE + 1.2 V, the clamp will override and force the output to a default state. When in the default state, and since the flip-flop is edge triggered, the output reaches a determined, but not predicted, valid state. The positive transition of CLK (pin 4) will latch the registers. Master Reset (MR) HIGH will asynchronously reset all registers forcing Q outputs to go LOW. The 100 Series contains temperature compensation.

### Features

- 450 ps Typical Propagation Delay
- Maximum Frequency > 3.0 GHz Typical
- Asynchronous Master Reset
- 20 ps Skew Within Device, 35 ps Skew Device-To-Device
- PECL Mode Operating Range: VCC = 3.0 V to 5.5 V with VEE = 0 V
- NECL Mode Operating Range: VCC = 0 V with VEE = -3.0 V to -5.5 V
- Open Input Default State
- Safety Clamp on Inputs
- Pb-Free Packages are Available

### Applications

- High Performance Logic for test systems

### Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Type	Bits	Input Level	Output Level	V <sub>CC</sub> Typ (V)	t <sub> jitter</sub> Typ (ps)	t <sub>pd</sub> Typ (ns)	t <sub>su</sub> Min (ns)	t <sub>h</sub> Min (ns)	t <sub>rec</sub> Typ (ns)	t <sub>R</sub> & t <sub>F</sub> Max (ps)	f <sub>Toggle</sub> Typ (MHz)	Package Type
MC100EP451FAG		Pb-free Halide free	Active	Register	6	CM L ECL	ECL	3.3 5	0.2	0.45	0.08	0.08	0.15	250	3000	LQFP-32
MC100EP451FAR2G		Pb-free Halide free	Active	Register	6	ECL CM L	ECL	3.3 5	0.2	0.45	0.08	0.08	0.15	250	3000	LQFP-32
MC100EP451MNG		Pb-free Halide free	Active	Register	6	CM L ECL	ECL	5 3.3	0.2	0.45	0.08	0.08	0.15	250	3000	QFN-32
MC100EP451MNR4G		Pb-free Halide free	Active	Register	6	ECL CM L	ECL	3.3 5	0.2	0.45	0.08	0.08	0.15	250	3000	QFN-32

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