

## Product Overview

### MC100EL91: Triple LVPECL/PECL Input to -5.0 V ECL Output Translator

For complete documentation, see the data sheet.

The MC100EL91 is a triple PECL input to ECL output translator. The device receives standard or low voltage differential PECL signals, determined by the  $V_{CC}$  supply level, and translates them to differential -5 V ECL output signals. (For translation to -3.3 V ECL output, see MC100LVEL91.)

To accomplish the level translation, the EL91 requires three power rails. The  $V_{CC}$  supply should be connected to the positive supply, and the  $V_{EE}$  pin should be connected to the negative power supply. The GND pins are connected to the system ground plane. Both  $V_{EE}$  and  $V_{CC}$  should be bypassed to ground via 0.01  $\mu$ F capacitors. Under open input conditions, the Dbar input will be biased at  $V_{CC}/2$  and the D input will be pulled to GND. This condition will force the Q output to a low, ensuring stability. The  $V_{BB}$  pin, an internally generated voltage supply, is available to this device only. For single-ended input conditions, the unused differential input is connected to  $V_{BB}$  as a switching reference voltage.  $V_{BB}$  may also rebias AC coupled inputs. When used, decouple  $V_{BB}$  and  $V_{CC}$  via a 0.01  $\mu$ F capacitor and limit current sourcing or sinking to 0.5 mA. When not used,  $V_{BB}$  should be left open.

### Features

- 670 ps Typical Propagation Delay
- ESD Protection: >2 KV HBM, >200 V MM
- The 100 Series Contains Temperature Compensation
- Operating Range:  $V_{CC} = 4.75$  V to 5.25 V;  
 $V_{EE} = -4.2$  V to -5.5 V; GND= 0 V
- Internal Input Pulldown Resistors
- Q Output will Default LOW with Inputs Open or at  $V_{EE}$
- Flammability Rating: UL-94 code V-0 @ 1/8",  
Oxygen Index 28 to 34
- Transistor Count = 282 devices
- Pb-Free Packages are Available

### Part Electrical Specifications

Product	Compliance	Status	Channels	Input Level	Output Level	$V_{CC}$ Typ (V)	$f_{Max}$ Typ (MHz)	$t_{pd}$ Typ (ns)	$t_r$ & $t_f$ Max (ps)	Package Type
MC100EL91DWG	Pb-free	Active	3	ECL	ECL	5	700	0.67	530	SOIC-20W
	Halide free									
MC100EL91DWR2G	Pb-free Halide free	Active	3	ECL	ECL	5	700	0.67	530	SOIC-20W

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