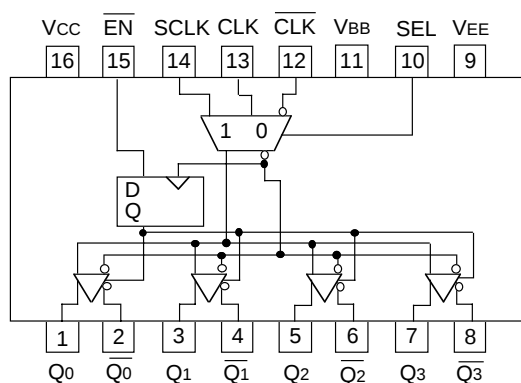


PACKAGE/ORDERING INFORMATION**Ordering Information⁽¹⁾**

Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY100EL15LZC	Z16-2	Commercial	SY100EL15LZC	Sn-Pb
SY100EL15LZCTR ⁽²⁾	Z16-2	Commercial	SY100EL15LZC	Sn-Pb
SY100EL15LZI	Z16-2	Industrial	SY100EL15LZI	Sn-Pb
SY100EL15LZITR ⁽²⁾	Z16-2	Industrial	SY100EL15LZI	Sn-Pb
SY100EL15LZG ⁽³⁾	Z16-2	Industrial	SY100EL15LZG with Pb-Free bar-line indicator	Pb-Free NiPdAu
SY100EL15LZGTR ^(2, 3)	Z16-2	Industrial	SY100EL15LZG with Pb-Free bar-line indicator	Pb-Free NiPdAu

Notes:

1. Contact factory for die availability. Dice are guaranteed at $T_A = 25^\circ\text{C}$, DC Electricals only.
2. Tape and Reel.
3. Pb-Free package is recommended for new designs.

**16-Pin SOIC (Z16-2)**

ABSOLUTE MAXIMUM RATINGS⁽¹⁾

Symbol	Rating	Value	Unit
V _{EE}	Power Supply (V _{CC} = 0V)	–8.0 to 0	VDC
V _{IN}	Input Voltage (V _{CC} = 0V)	0 to –6.0	VDC
I _{OUT}	Output Current –Continuous –Surge	50 100	mA
T _{LEAD}	Lead Temperature (soldering, 20sec.)	+260	°C
T _A	Operating Temperature Range	–40 to +85	°C

Notes:

1. Absolute maximum rating, beyond which, device life may be impaired, unless otherwise specified on an individual data sheet.
2. Parametric values specified at: 3 volt Power Supply Range 100EL15L Series –3.0V to –3.8V

DC ELECTRICAL CHARACTERISTICSV_{EE} = 3.3V ±10%; V_{CC} = GND⁽¹⁾

Symbol	Parameter	T _A = –40°C		T _A = 0°C		T _A = +25°C			T _A = +85°C		Unit
		Min.	Max.	Min.	Max.	Min.	Typ.	Max.	Min.	Max.	
V _{OH}	Output HIGH Voltage ⁽²⁾	–1085	–880	–1025	–880	–1025	–955	–880	–1025	–880	mV
V _{OL}	Output LOW Voltage ⁽²⁾	–1830	–1555	–1810	–1620	–1810	–1705	–1620	–1810	–1620	mV
V _{OHA}	Output HIGH Voltage ⁽³⁾	–1095	—	–1035	—	–1035	—	—	–1035	—	mV
V _{OLA}	Output LOW Voltage ⁽³⁾	—	–1555	—	–1610	—	—	–1610	—	–1610	mV
V _{IH}	Input HIGH Voltage	–1165	–880	–1165	–880	–1165	—	–880	–1165	–880	mV
V _{IL}	Input LOW Voltage	–1810	–1475	–1810	–1475	–1810	—	–1475	–1810	–1475	mV
I _{IH}	Input High Current	—	150	—	150	—	—	150	—	150	μA
I _{IL}	Input LOW Current ⁽⁴⁾ CLK	0.5 –300	— —	0.5 –300	— —	0.5 –300	— —	— —	0.5 –300	— —	μA
I _{EE}	Power Supply Current	—	35	—	35	—	25	35	—	38	mA
V _{BB}	Output Reference Voltage	–1.38	–1.26	–1.38	–1.26	–1.38	—	–1.26	–1.38	–1.26	V

Notes:

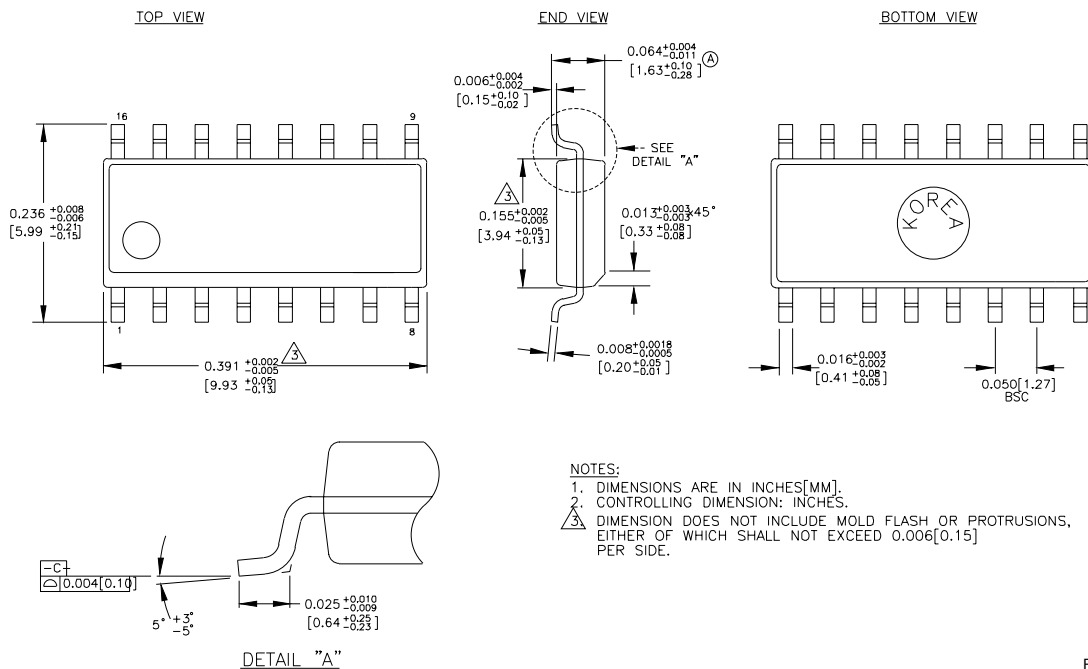
1. This table replaces the three traditionally seen in ECL 100K data books. Outputs are terminated through a 50Ω resistor to –2.0V.
2. V_{IN} = V_{IH}(Max) or V_{IL}(Min).
3. V_{IN} = V_{IH}(Min) or V_{IL}(Max).
4. V_{IN} = V_{IL}(Max).

AC ELECTRICAL CHARACTERISTICSV_{EE} = 3.3V ±10%; V_{CC} = GND⁽¹⁾

Symbol	Parameter	T _A = -40°C		T _A = 0°C		T _A = +25°C			T _A = +85°C		Unit
		Min.	Max.	Min.	Max.	Min.	Typ.	Max.	Min.	Max.	
t _{PD}	Propagation Delay CLK to Q (Diff) CLK to Q (SE) SCLK to Q	460 410 410	660 710 710	470 420 420	670 720 720	470 420 420	— — —	670 720 720	500 450 470	700 750 750	ps
t _{skew}	Part-to-Part Skew ⁽¹⁾ Within-Device Skew	— —	200 50	— —	200 50	— —	— —	200 50	— —	200 50	ps
t _S	Setup Time $\overline{EN}$	150	—	150	—	150	—	—	150	—	ps
t _H	Hold Time $\overline{EN}$	400	—	400	—	400	—	—	400	—	ps
V _{PP}	Minimum Input Swing CLK	250	—	250	—	250	—	—	250	—	mV
V _{CMR}	Common Mode Range ⁽²⁾ V _{PP} < 500mV V _{PP} ≥ 500mV	-2.0 -1.8	-0.4 -0.4	-2.1 -1.9	-0.4 -0.4	-2.1 -1.9	— —	-0.4 -0.4	-2.1 -1.9	-0.4 -0.4	mV
t _r t _f	Output Rise/Fall Times _Q (20% – 80%)	375	625	325	575	325	—	575	325	575	ps

Notes:

- Skews are specified for identical LOW-to-HIGH or HIGH-to-LOW transitions.
- V_{CMR} is referenced to the most positive side of the differential input signal. Normal operation is obtained when the input signals are within the V_{CMR} range and the input swing is greater than V_{PP}(Min.) and <1V. The lower end of the V_{CMR} range varies 1:1 with V_{EE}. The numbers in the spec table assume a nominal V_{EE} = -3.3V. Note for PECL operation, the V_{CMR}(Min) will be fixed at 3.3V - |V_{CMR}(Min)|.

16-PIN SOIC .150" WIDE (Z16-2)

Rev. 02

MICREL, INC. 2180 FORTUNE DRIVE SAN JOSE, CA 95131 USATEL + 1 (408) 944-0800 FAX + 1 (408) 474-1000 WEB <http://www.micrel.com>

The information furnished by Micrel in this datasheet is believed to be accurate and reliable. However, no responsibility is assumed by Micrel for its use. Micrel reserves the right to change circuitry and specifications at any time without notification to the customer.

Micrel Products are not designed or authorized for use as components in life support appliances, devices or systems where malfunction of a product can reasonably be expected to result in personal injury. Life support devices or systems are devices or systems that (a) are intended for surgical implant into the body or (b) support or sustain life, and whose failure to perform can be reasonably expected to result in a significant injury to the user. A Purchaser's use or sale of Micrel Products for use in life support appliances, devices or systems is at Purchaser's own risk and Purchaser agrees to fully indemnify Micrel for any damages resulting from such use or sale.

© 2006 Micrel, Incorporated.