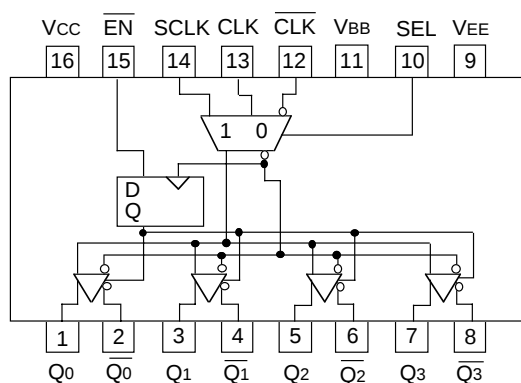


PACKAGE/ORDERING INFORMATION**Ordering Information⁽¹⁾**

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:

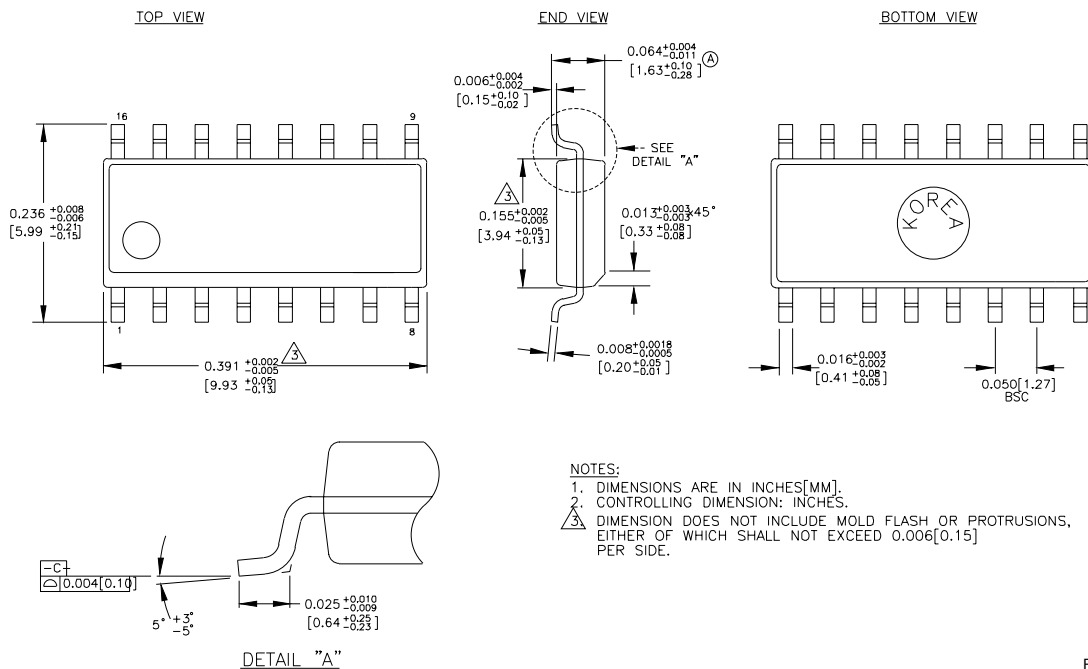
1. This table replaces the three traditionally seen in ECL 100K data books. Outputs are terminated through a 50Ω resistor to –2.0V.
2. V_{IN} = V_{IH}(Max) or V_{IL}(Min).
3. V_{IN} = V_{IH}(Min) or V_{IL}(Max).
4. V_{IN} = V_{IL}(Max).

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:

1. Skews are specified for identical LOW-to-HIGH or HIGH-to-LOW transitions.
2. 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

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