

**2:1 MULTIPLEXER****SY10EL58  
SY100EL58****FEATURES**

- 230ps propagation delay
- High bandwidth output transitions
- Internal 75K $\Omega$  input pull-down resistors
- Available in 8-pin SOIC package

**DESCRIPTION**

The SY10/100EL58 are 2:1 multiplexers. These devices are functionally equivalent to the E158 devices, with higher performance capabilities. With propagation delays and output transition times significantly faster than the E158, the EL58 is ideally suited for those applications which require the ultimate in AC performance.

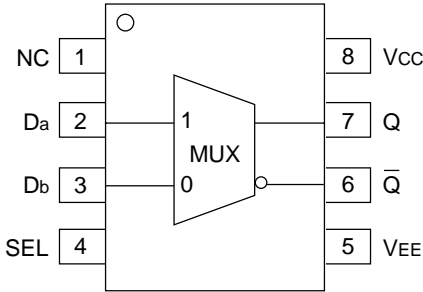
**TRUTH TABLE**

SEL	Data
H	a
L	b

**PIN NAMES**

Pin	Function
Da, Db	Data Inputs
Q	Data Outputs
SEL	Select Input

**PACKAGE/ORDERING INFORMATION**



**8-Pin SOIC (Z8-1)**

**Ordering Information<sup>(1)</sup>**

Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY10EL58ZC	Z8-1	Commercial	HEL58	Sn-Pb
SY10EL58ZCTR <sup>(2)</sup>	Z8-1	Commercial	HEL58	Sn-Pb
SY100EL58ZC	Z8-1	Commercial	XEL58	Sn-Pb
SY100EL58ZCTR <sup>(2)</sup>	Z8-1	Commercial	XEL58	Sn-Pb
SY10EL58ZI	Z8-1	Industrial	HEL58	Sn-Pb
SY10EL58ZITR <sup>(2)</sup>	Z8-1	Industrial	HEL58	Sn-Pb
SY100EL58ZI	Z8-1	Industrial	XEL58	Sn-Pb
SY100EL58ZITR <sup>(2)</sup>	Z8-1	Industrial	XEL58	Sn-Pb
SY10EL58ZG <sup>(3)</sup>	Z8-1	Industrial	HEL58 with Pb-Free bar-line indicator	Pb-Free NiPdAu
SY10EL58ZGTR <sup>(2, 3)</sup>	Z8-1	Industrial	HEL58 with Pb-Free bar-line indicator	Pb-Free NiPdAu
SY100EL58ZG <sup>(3)</sup>	Z8-1	Industrial	XEL58 with Pb-Free bar-line indicator	Pb-Free NiPdAu
SY100EL58ZGTR <sup>(2, 3)</sup>	Z8-1	Industrial	XEL58 with Pb-Free bar-line indicator	Pb-Free NiPdAu

**Notes:**

1. Contact factory for die availability. Dice are guaranteed at T<sub>A</sub> = 25°C, DC Electricals only.
2. Tape and Reel.
3. Pb-Free package is recommended for new designs.

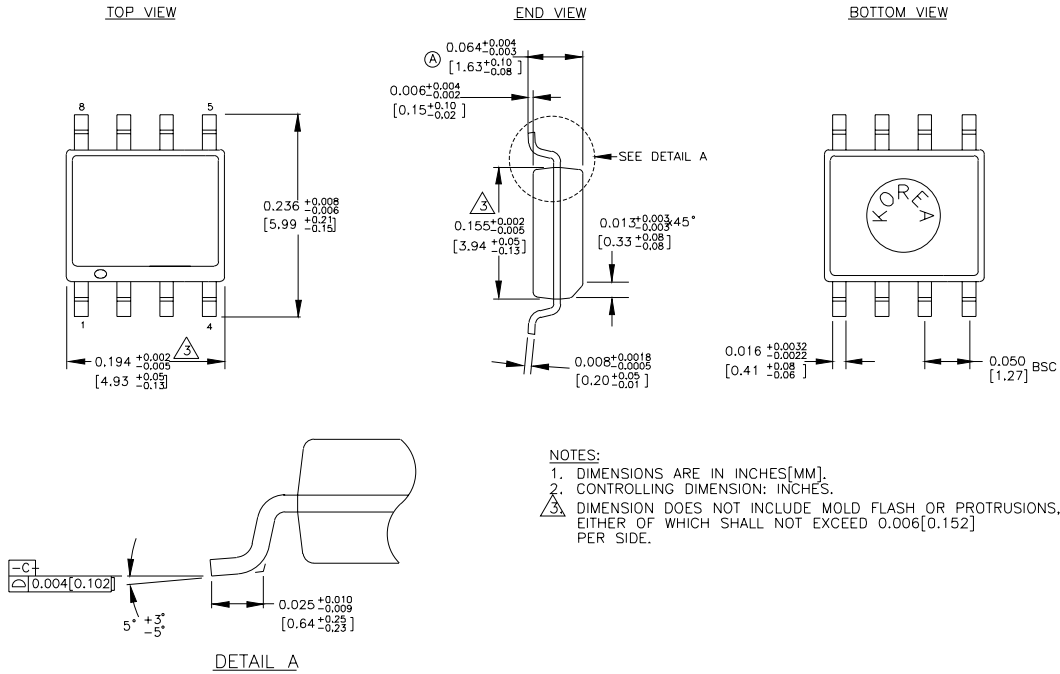
**DC ELECTRICAL CHARACTERISTICS**V<sub>EE</sub> = V<sub>EE</sub> (Min.) to V<sub>EE</sub> (Max.); V<sub>CC</sub> = GND

Symbol	Parameter	T <sub>A</sub> = -40°C			T <sub>A</sub> = 0°C			T <sub>A</sub> = +25°C			T <sub>A</sub> = +85°C			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
I <sub>EE</sub>	Power Supply Current	—	14	17	11	14	17	11	14	17	11	14	17	mA
	10EL	—	14	17	11	14	17	11	14	17	11	14	17	
	100EL	—	14	17	11	14	17	11	14	17	13	16	19	
V <sub>EE</sub>	Power Supply Voltage	—	—	—	—	—	—	—	—	—	—	—	—	V
	10EL	-4.75	-5.2	-5.5	-4.75	-5.2	-5.5	-4.75	-5.2	-5.5	-4.75	-5.2	-5.5	
	100EL	-4.20	-4.5	-5.5	-4.20	-4.5	-5.5	-4.20	-4.5	-5.5	-4.20	-4.5	-5.5	
I <sub>IH</sub>	Input HIGH Current	—	—	150	—	—	150	—	—	150	—	—	150	μA

**AC ELECTRICAL CHARACTERISTICS**V<sub>EE</sub> = V<sub>EE</sub> (Min.) to V<sub>EE</sub> (Max.); V<sub>CC</sub> = GND

Symbol	Parameter	T <sub>A</sub> = -40°C			T <sub>A</sub> = 0°C			T <sub>A</sub> = +25°C			T <sub>A</sub> = +85°C			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
t <sub>PD</sub>	Propagation Delay to Output D	60	220	380	110	220	330	120	230	340	140	250	360	ps
		90	250	410	140	250	360	150	260	370	170	280	390	
t <sub>r</sub> t <sub>f</sub>	Output Rise/Fall Times Q (20% to 80%)	100	225	350	100	225	350	100	225	350	100	225	350	ps

**8-PIN SOIC .150" WIDE (Z8-1)**



Rev. 03

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