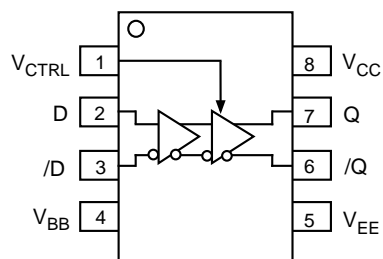


PACKAGE/ORDERING INFORMATION



8-Pin SOIC and 8-PinMSOP

Ordering Information⁽¹⁾

Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY100EL16VSKC	K8-1	Commercial	XLEL16VS	Sn-Pb
SY100EL16VSKCTR ⁽²⁾	K8-1	Commercial	XLEL16VS	Sn-Pb
SY100EL16VSZC	Z8-1	Commercial	XEL16VS	Sn-Pb
SY100EL16VSZCTR ⁽²⁾	Z8-1	Commercial	XEL16VS	Sn-Pb
SY100EL16VSKI	K8-1	Industrial	XLEL16VS	Sn-Pb
SY100EL16VSKITR ⁽²⁾	K8-1	Industrial	XLEL16VS	Sn-Pb
SY100EL16VSZI	Z8-1	Industrial	XEL16VS	Sn-Pb
SY100EL16VSZITR ⁽²⁾	Z8-1	Industrial	XEL16VS	Sn-Pb
SY100EL16VSKG ⁽³⁾	K8-1	Industrial	XLEL16VS with Pb-Free bar-line indicator	Pb-Free NiPdAu
SY100EL16VSKGTR ^(2, 3)	K8-1	Industrial	XLEL16VS with Pb-Free bar-line indicator	Pb-Free NiPdAu
SY100EL16VSZG ⁽³⁾	Z8-1	Industrial	XEL16VS with Pb-Free bar-line indicator	Pb-Free NiPdAu
SY100EL16VSZGTR ^(2, 3)	Z8-1	Industrial	XEL16VS 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.

DC ELECTRICAL CHARACTERISTICS⁽¹⁾V_{EE} = V_{EE} (Min.) to V_{EE} (Max.); V_{CC} = GND

Symbol	Parameter	T _A = -40°C			T _A = 0°C			T _A = +25°C			T _A = +85°C			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
I _{EE}	Power Supply Current	—	18	22	9	18	22	9	18	22	9	21	26	mA
V _{BB}	Output Reference Voltage	-1.38	—	-1.26	-1.38	—	-1.26	-1.38	—	-1.26	-1.38	—	-1.26	V
I _{IH}	Input HIGH Current -D, \bar{D} -V _{CTRL}	—	—	150 40	—	—	150 40	—	—	150 40	—	—	150 40	μA
V _{OL}	Output LOW Voltage ⁽²⁾ V _{CTRL} = V _{BB}	-1890	—	-1620	-1870	—	-1680	-1870	-1775	-1680	-1870	—	-1680	mV
V _{OL}	Output LOW Voltage ⁽²⁾ V _{CTRL} = V _{CC}	-1180	—	-975	-1135	—	-990	-1135	-1065	-990	-1135	—	-990	mV
V _{OH}	Output HIGH Voltage ⁽³⁾	-1085	—	-880	-1025	—	-880	-1025	-955	-880	-1025	—	-880	mV

NOTES:

1. Parametric values specified at: 100EL16VS Series: -3.0V to -5.5V.
2. If V_{CTRL} is an open circuit, use the V_{OH} (max. & min.) and V_{OL} (V_{CTRL} = V_{BB}: max only) limits.
3. V_{CC} ≤ V_{CTRL} ≤ V_{EE}.

AC ELECTRICAL CHARACTERISTICS⁽¹⁾V_{EE} = V_{EE} (Min.) to V_{EE} (Max.); V_{CC} = GND

Symbol	Parameter	T _A = -40°C			T _A = 0°C			T _A = +25°C			T _A = +85°C			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
t _{PLH}	Propagation Delay to Output D (Diff)	175	—	325	175	—	325	175	—	325	205	—	355	ps
t _{PHL}	Propagation Delay to Output \bar{D} (SE)	125	250	425	125	250	375	125	250	375	155	280	405	ps
t _{skew}	Duty Cycle Skew ⁽²⁾ (Diff)	—	5	—	—	5	20	—	5	20	—	5	20	ps
V _{PP}	Minimum Input Swing ⁽³⁾	150	—	—	150	—	—	150	—	—	150	—	—	mV
V _{CMR}	Common Mode Range ⁽⁴⁾	-1.3	—	-0.4	-1.4	—	-0.4	-1.4	—	-0.4	-1.4	—	-0.4	V
t _r t _f	Output Rise/Fall Times Q (20% to 80%)	—	160	260	—	160	260	—	160	260	—	160	260	ps

NOTES:

1. Parametric values specified at: 100EL16VS Series: -3.0V to -5.5V.
2. Duty cycle skew is the difference between a t_{PLH} and t_{PHL} propagation delay through a device.
3. Minimum input swing for which AC parameters are guaranteed. The device has a DC gain of ≈40 when output has a full swing.
4. The CMR range is referenced to the most positive side of the differential input signal. Normal operation is obtained if the HIGH level falls within the specified range and the peak-to-peak voltage lies between V_{PP} min. and 1V. The lower end of the 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)|.

APPLICATION IMPLEMENTATION

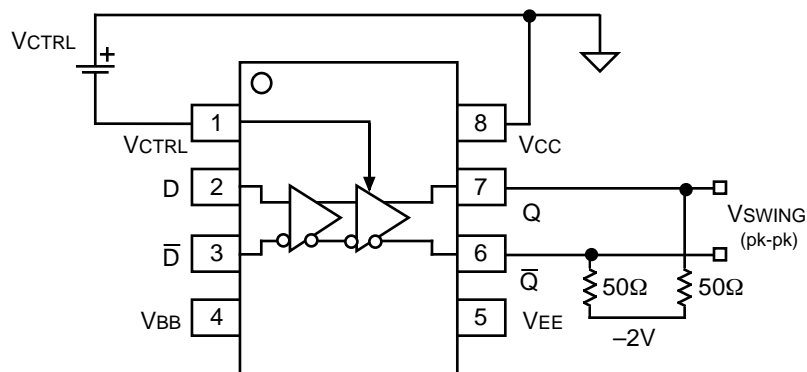


Figure 2. Voltage Source Implementation

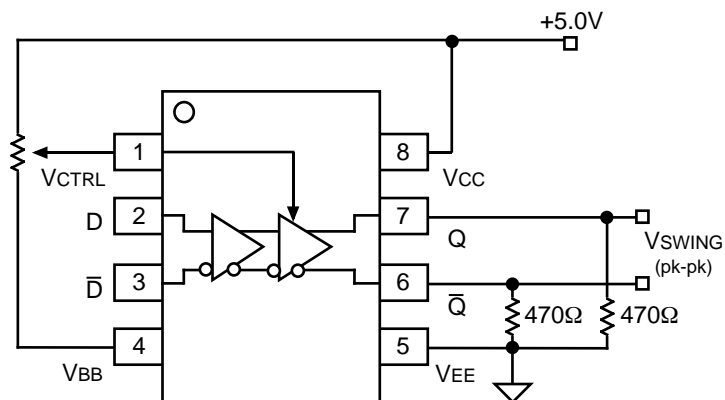
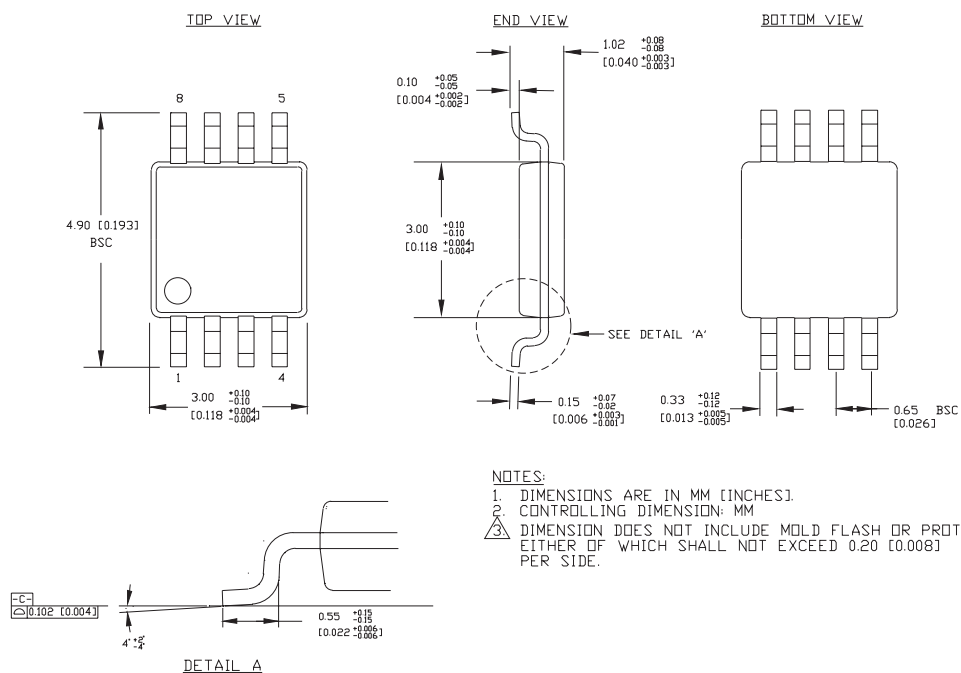
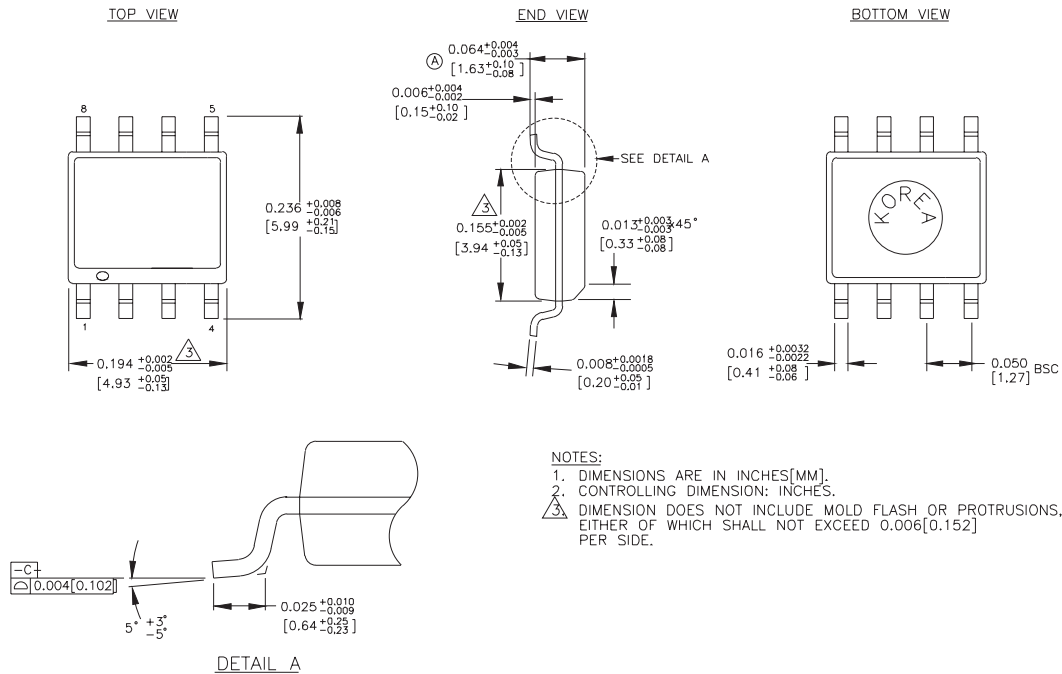


Figure 3. Alternative Implementation

8-PIN MSOP (K8-1)



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



Rev. 03

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