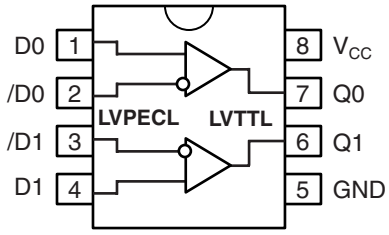
PACKAGE/ORDERING INFORMATION



8-pin SOIC (Z8-1)
8-pin MSOP (K8-1)

Ordering Information[1]

Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY100EPT23LZC	Z8-1	Commercial	XEP23L	Sn-Pb
SY100EPT23LZCTR[2]	Z8-1	Commercial	XEP23L	Sn-Pb
SY100EPT23LKC	K8-1	Commercial	XP23	Sn-Pb
SY100EPT23LKCTR[2]	K8-1	Commercial	XP23	Sn-Pb
SY100EPT23LZI	Z8-1	Industrial	XEP23L	Sn-Pb
SY100EPT23LZITR[2]	Z8-1	Industrial	XEP23L	Sn-Pb
SY100EPT23LKI	K8-1	Industrial	XP23	Sn-Pb
SY100EPT23LKITR[2]	K8-1	Industrial	XP23	Sn-Pb
SY100EPT23LZG[3]	Z8-1	Industrial	XEP23L with Pb-Free bar-line indicator	Pb-Free NiPdAu
SY100EPT23LZGTR[2, 3]	Z8-1	Industrial	XEP23L with Pb-Free bar-line indicator	Pb-Free NiPdAu
SY100EPT23LKG[3]	K8-1	Industrial	XP23 with Pb-Free bar-line indicator	Pb-Free NiPdAu
SY100EPT23LKGTR[2, 3]	K8-1	Industrial	XP23 with Pb-Free bar-line indicator	Pb-Free NiPdAu

Notes:

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

ABSOLUTE MAXIMUM RATINGS(1)

Symbol	Paramter	Value	Unit
V_{CC}	Power Supply Voltage	–0.5 to +3.8	V
V_{IN}	PECL Input Voltage	0V to V_{CC} +0.5	V
V_{OUT}	Voltage Applied to Output at HIGH State	–0.5 to V_{CC}	V
I_{OUT}	Current Applied to Output at LOW State	Twice the Rated I_{OL}	mA
T_{Lead}	Lead Temperature (soldering, 20 sec.)	+260	°C
T_{store}	Storage Temperature	–65 to +150	°C
T_A	Operating Temperature	–40 to +85	°C
θ_{JA}	(Still-air) SOIC (Still-air) MSOP	160 200	°C/W °C/W
θ_{JC}	SOIC MSOP	39 39	°C/W °C/W

Note:

1. Permanent device damage may occur if absolute maximum ratings are exceeded. This is a stress rating only and functional operation is not implied at conditions other than those detailed in the operational sections of this data sheet. Exposure to absolute maximum ratlng conditions for extended periods may affect device reliability.

TRUTH TABLE

D	/D	Q
L	H	L
H	L	H
Open	Open	L

LVTTL DC ELECTRICAL CHARACTERISTICS

V_{CC} = 3.3V, GND = 0V.

Symbol	Parameter	T_A = –40°C		T_A = 0°C		T_A = +25°C		T_A = +85°C		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.		
V_{OH}	Output HIGH Voltage(2)	2.3	—	2.3	—	2.3	—	2.3	—	V	I_{OH} = –3.0mA
V_{OL}	Output LOW Voltage	—	0.5	—	0.5	—	0.5	—	0.5	V	I_{OL} = 24mA
I_{OS}	Output Short Circuit Current	–80	–240	–80	–240	–80	–240	–80	–240	mA	V_{OUT} = 0V

LVPECL DC ELECTRICAL CHARACTERISTICS

V_{CC} = 3.3V, GND = 0V.

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_{CC}	Power Supply Current	—	—	30	—	—	30	—	—	30	—	—	30	mA
I_{IH}	Input HIGH Current	—	—	150	—	—	150	—	—	150	—	—	150	µA
I_{IL}	Input LOW Current	0.5	—	—	0.5	—	—	0.5	—	—	0.5	—	—	µA
V_{CMR}	Common Mode Range	1.5	—	3.3	1.5	—	3.3	1.5	—	3.3	1.5	—	3.3	V
V_{PP}	Minimum Peak-to-Peak Input(1)	200	—	—	200	—	—	200	—	—	200	—	—	mV
V_{IH}	Input HIGH Voltage(2)	2070	—	2420	2130	—	2460	2135	—	2490	2130	—	2565	mV
V_{IL}	Input LOW Voltage(2)	1350	—	1825	1350	—	1825	1350	—	1825	1350	—	1825	mV

Notes:

1. 200mV input guarantees full logic at output.
2. These values are for V_{CC} = 3.3V. Level Specifications will vary 1:1 with V_{CC}.

AC ELECTRICAL CHARACTERISTICS

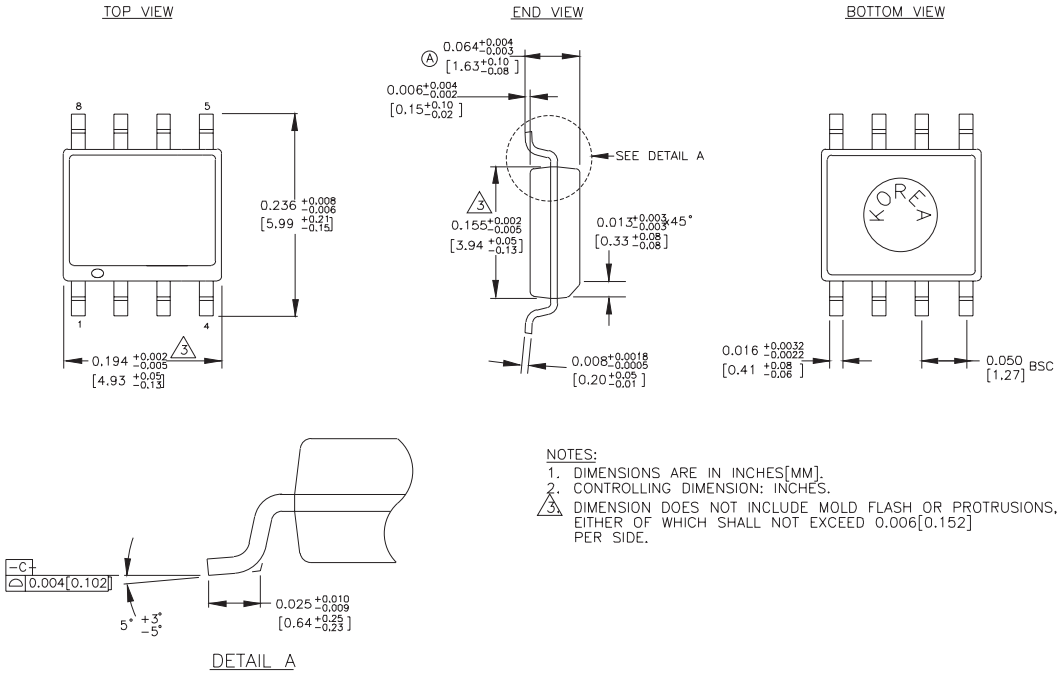
V_{CC} = 3.0V to 3.6V, GND = 0V.

Symbol	Parameter	T_A = –40°C		T_A = 0°C		T_A = +25°C		T_A = +85°C		Unit	Condition
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.		
t_{PD}	Propagation Delay	1.5	2.5	1.5	2.5	1.5	2.5	1.5	2.5	ns	C_L = 20pF
t_{skpp}	Part-to-Part Skew(1,4)	—	0.5	—	0.5	—	0.5	—	0.5	ns	C_L = 20pF
t_{skew++}	Within-Device Skew(2,4)	—	0.3	—	0.3	—	0.3	—	0.3	ns	C_L = 20pF
t_{skew--}	Within-Device Skew(3,4)	—	0.3	—	0.3	—	0.3	—	0.3	ns	C_L = 20pF
t_r t_f	Output Rise/Fall Time 1.0V to 2.0V	0.5	1.0	0.5	1.0	0.5	1.0	0.5	1.0	ns	C_L = 20pF
f_{MAX}	Maximum Input Frequency(5,6)	275	—	275	—	275	—	275	—	MHz	C_L = 20pF

Notes:

1. Device-to-Device Skew considering HIGH-to-HIGH transitions at common V_{CC} level.
2. Within-Device Skew considering HIGH-to-HIGH transitions at common V_{CC} level.
3. Within-Device Skew considering LOW-to-LOW transitions at common V_{CC} level.
4. All skew parameters are guaranteed but not tested.
5. Frequency at which guaranteed for functionality. V_{OH} and V_{OL} levels are guaranteed at DC only.
6. The f_{MAX} value is specified as the minimum guaranteed maximum frequency. Actual operational maximum frequency may be greater.

8-PIN PLASTIC SOIC (Z8-1)



NOTES:
1. DIMENSIONS ARE IN INCHES[MM].
2. CONTROLLING DIMENSION: INCHES.
3. DIMENSION DOES NOT INCLUDE MOLD FLASH OR PROTRUSIONS, EITHER OF WHICH SHALL NOT EXCEED 0.006[0.152] PER SIDE.

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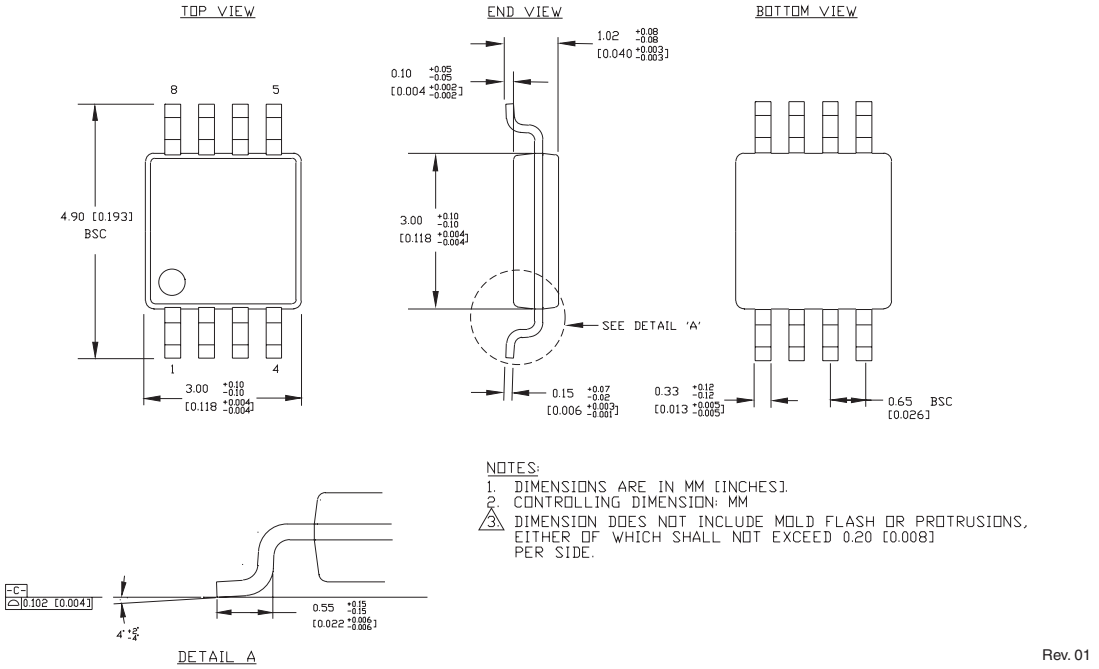
8-PIN MSOP (K8-1)



NOTES:
1. DIMENSIONS ARE IN MM [INCHES].
2. CONTROLLING DIMENSION: MM
3. DIMENSION DOES NOT INCLUDE MOLD FLASH OR PROTRUSIONS, EITHER OF WHICH SHALL NOT EXCEED 0.20 [0.008] PER SIDE.

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