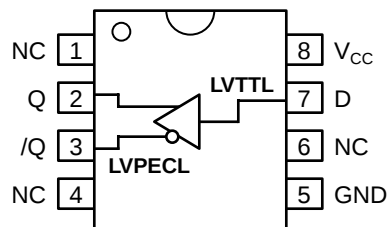


PACKAGE/ORDERING INFORMATION



(Available in 8-pin SOIC or
8-pin MSOP)

Ordering Information⁽¹⁾

Part Number	Package Type	Operating Range	Package Marking	Lead Finish
SY10EPT20VZC	Z8-1	Commercial	HEP20	Sn-Pb
SY10EPT20VZCTR ⁽²⁾	Z8-1	Commercial	HEP20	Sn-Pb
SY100EPT20VZC	Z8-1	Commercial	XEP20	Sn-Pb
SY100EPT20VZCTR ⁽²⁾	Z8-1	Commercial	XEP20	Sn-Pb
SY10EPT20VKC	K8-1	Commercial	HP20	Sn-Pb
SY10EPT20VKCTR ⁽²⁾	K8-1	Commercial	HP20	Sn-Pb
SY100EPT20VKC	K8-1	Commercial	XP20	Sn-Pb
SY100EPT20VKCTR ⁽²⁾	K8-1	Commercial	XP20	Sn-Pb
SY10EPT20VZI	Z8-1	Industrial	HEP20	Sn-Pb
SY10EPT20VZITR ⁽²⁾	Z8-1	Industrial	HEP20	Sn-Pb
SY100EPT20VZI	Z8-1	Industrial	XEP20	Sn-Pb
SY100EPT20VZITR ⁽²⁾	Z8-1	Industrial	XEP20	Sn-Pb
SY10EPT20VKI	K8-1	Industrial	HP20	Sn-Pb
SY10EPT20VKITR ⁽²⁾	K8-1	Industrial	HP20	Sn-Pb
SY100EPT20VKI	K8-1	Industrial	XP20	Sn-Pb
SY100EPT20VKITR ⁽²⁾	K8-1	Industrial	XP20	Sn-Pb
SY10EPT20VZG ⁽³⁾	Z8-1	Industrial	HEP20 with Pb-Free bar-line indicator	NiPdAu Pb-Free
SY10EPT20VZGTR ^(2, 3)	Z8-1	Industrial	HEP20 with Pb-Free bar-line indicator	NiPdAu Pb-Free
SY100EPT20VZG ⁽³⁾	Z8-1	Industrial	XEP20 with Pb-Free bar-line indicator	NiPdAu Pb-Free
SY100EPT20VZGTR ^(2, 3)	Z8-1	Industrial	XEP20 with Pb-Free bar-line indicator	NiPdAu Pb-Free
SY10EPT20VKG ⁽³⁾	K8-1	Industrial	HP20 with Pb-Free bar-line indicator	NiPdAu Pb-Free
SY10EPT20VKGTR ^(2, 3)	K8-1	Industrial	HP20 with Pb-Free bar-line indicator	NiPdAu Pb-Free
SY100EPT20VKG ⁽³⁾	K8-1	Industrial	XP20 with Pb-Free bar-line indicator	NiPdAu Pb-Free
SY100EPT20VKGTR ^(2, 3)	K8-1	Industrial	XP20 with Pb-Free bar-line indicator	NiPdAu Pb-Free

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.

ABSOLUTE MAXIMUM RATINGS⁽¹⁾

Symbol	Parameter	Value	Unit
V _{CC}	Power Supply Voltage	-0.5 to +7.0	V
V _{IN}	TTL Input Voltage	-0.5 to V _{CC}	V
I _{IN}	TTL Input Current	-30 to +5.0	mA
I _{OUT}	PECL Output Current —Continuous —Surge	50 100	mA
T _{LEAD}	Lead Temperature (Soldering, 20sec.)	+260	°C
T _{store}	Storage Temperature	-65 to +150	°C
T _A	Operating Temperature	-40 to +85	°C

TRUTH TABLE

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

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 rating conditions for extended periods may affect device reliability.

DC ELECTRICAL CHARACTERISTICS

V_{CC} = +3.3V ±10% or +5.0V ±10%

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.	Typ.	Max.	Min.	Max.		
I _{CC}	Power Supply Current	—	20	—	20	—	—	20	—	20	mA	—

TTL DC ELECTRICAL CHARACTERISTICS

V_{CC} = +3.3V ±10% or +5.0V ±10%

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.	Typ.	Max.	Min.	Max.		
V _{IH}	Input HIGH Voltage	2.0	—	2.0	—	2.0	—	—	2.0	—	V	—
V _{IL}	Input LOW Voltage	—	0.8	—	0.8	—	—	0.8	—	0.8	V	—
I _{IH}	Input HIGH Current	—	20 100	—	20 100	—	—	20 100	—	20 100	μA	V _{IN} = 2.7V V _{IN} = V _{CC}
I _{IL}	Input LOW Current	—	-0.2	—	-0.2	—	—	-0.2	—	-0.2	mA	V _{IN} = 0.5V
V _{IK}	Input Clamp Voltage	—	-1.2	—	-1.2	—	—	-1.2	—	-1.2	V	I _{IN} = -18mA

PECL DC ELECTRICAL CHARACTERISTICS

V_{CC} = +3.3V ±10% or +5.0V ±10%

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.	Typ.	Max.	Min.	Max.		
V _{OH}	Output HIGH Voltage ⁽¹⁾ 10EPT 100EPT	3920 3915	4110 4120	3980 3975	4160 4120	4020 3975	— —	4190 4120	4090 3975	4280 4120	mV	
V _{OL}	Output LOW Voltage ⁽¹⁾ 10EPT 100EPT	3050 3170	3350 3445	3050 3190	3370 3380	3050 3190	— —	3370 3380	3050 3190	3405 3380	mV	

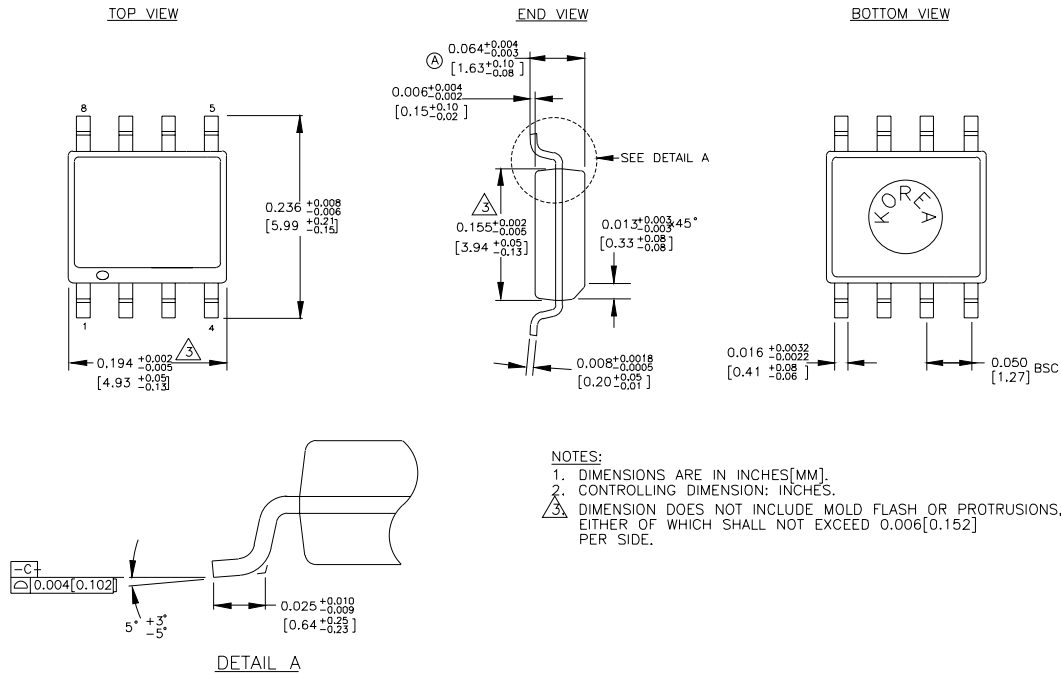
Note 1. These values are for V_{CC} = 5.0V. Level Specifications will vary 1:1 with V_{CC}.

AC ELECTRICAL CHARACTERISTICS⁽¹⁾ $V_{CC} = +3.3V \pm 10\%$ or $+5.0V \pm 10\%$, $R_L = 50\Omega$ to $V_{CC} - 2V$

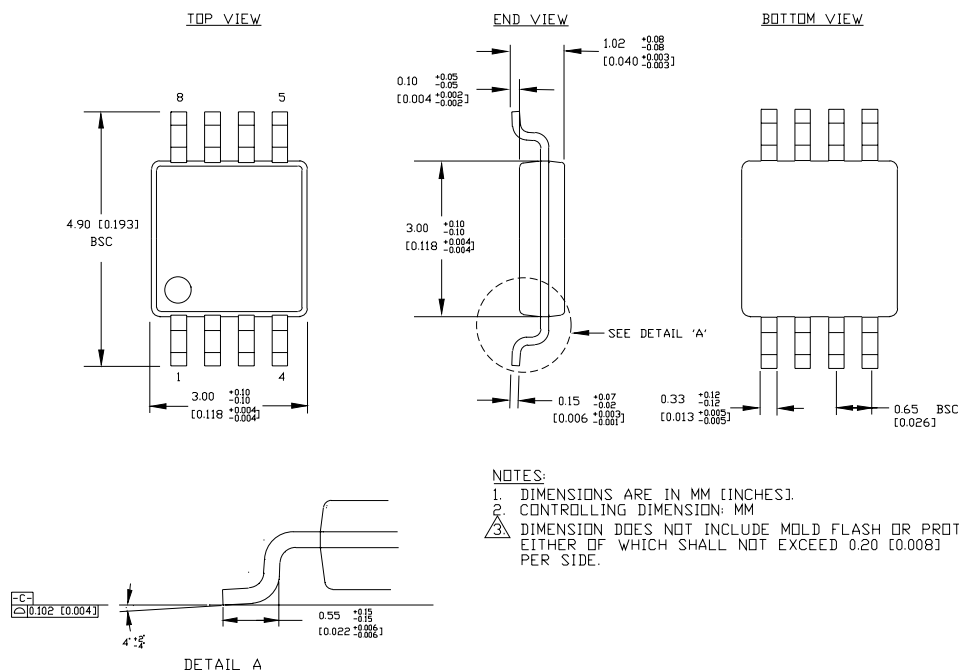
Symbol	Parameter	$T_A = -40^\circ\text{C}$		$T_A = 0^\circ\text{C}$		$T_A = +25^\circ\text{C}$			$T_A = +85^\circ\text{C}$		Unit
		Min.	Max.	Min.	Max.	Min.	Typ.	Max.	Min.	Max.	
t_{PD}	Propagation Delay ⁽¹⁾	100	600	100	600	100	—	600	100	600	ps
t_{SKEW}	Part-to-Part Skew ⁽²⁾	—	500	—	500	—	—	500	—	500	ps
f_{MAX}	Maximum Input Frequency	850	—	850	—	850	—	—	850	—	MHz
t_{JITTER}	Random Jitter (R_J) ⁽³⁾	—	2	—	2	—	0.9	2	—	2	ps _{RMS}
t_r t_f	Output Rise/Fall Time (20% to 80%)	200	500	200	500	200	—	500	200	500	ps

Note 1. Input Rise Time < 1.0ns.**Note 2.** Guaranteed by design. Not tested in production.**Note 3.** R_J is measured with a K28.7 101010 pattern.

8 LEAD PLASTIC SOIC (Z8-1)



Rev. 03

8 LEAD MSOP (K8-1)

Rev. 01

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