

HIGH-PERFORMANCE PRODUCTS

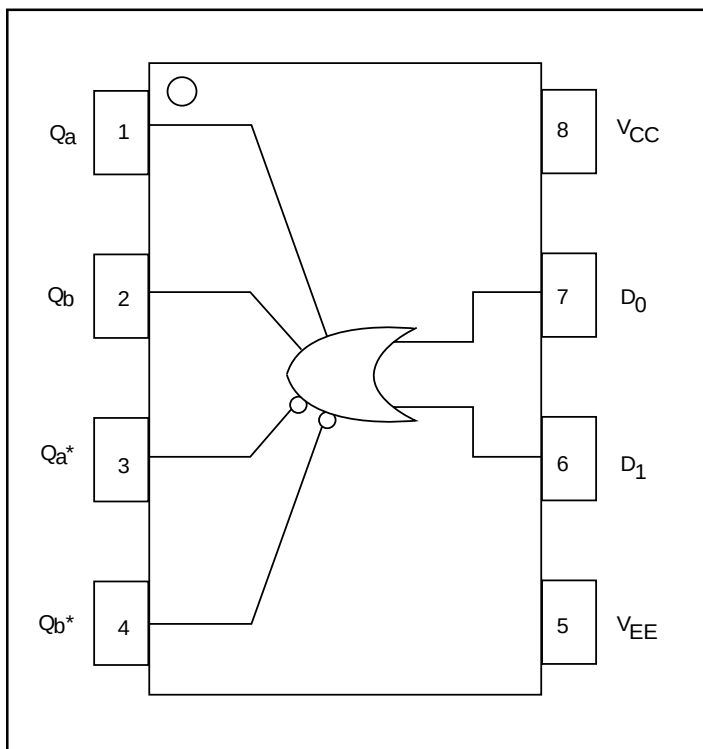
Description

The SK10/100EL12W is a low impedance driver buffer. With two pairs of OR/NOR outputs, the device is ideally suited for high drive applications such as memory addressing. The SK10/100EL12W is fully compatible with MC10/100EL12 and MC10/100LVEL12. With significantly fast propagation delay and output transition time, the EL12W is ideally suited for those applications which require the ultimate in AC performance.

Features

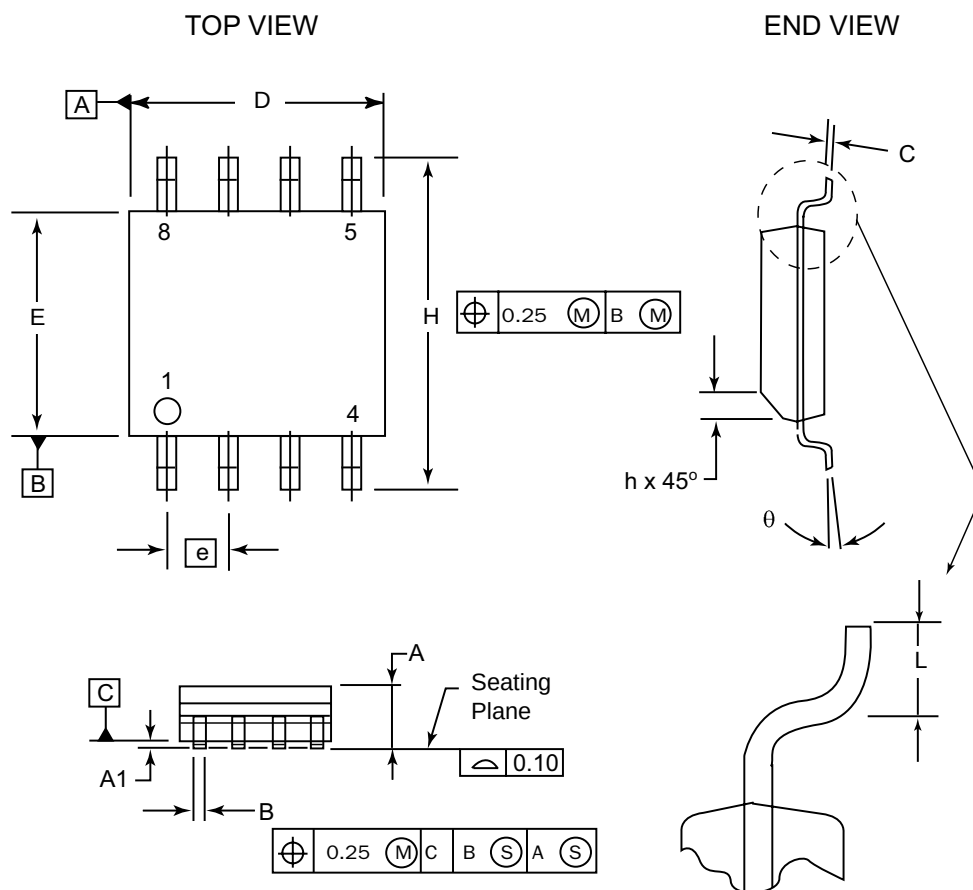
- Extended Supply Voltage Range: ($V_{EE} = -5.5V$ to $-3.0V$, $V_{CC} = 0V$) or ($V_{CC} = +3.0V$ to $+5.5V$, $V_{EE}=0V$)
- High Bandwidth Output Transition
- 445 ps Propagation Delay
- 75K Ω Internal Input Pulldown Resistors
- Fully Compatible with MC10/100EL12 and MC10/100LVEL12
- ESD Protection of >4000V
- Industrial Temperature Range: $-40^{\circ}C$ to $85^{\circ}C$
- Available in 8-Pin SOIC (150 mils) Package

Functional Block Diagram



PIN Names

Pin	Function
D_0, D_1	Data Inputs
Q_a, Q_a^*, Q_b, Q_b^*	Differential data Outputs

8 Pin SOIC Package


DIM	MILLIMETERS	
	MIN	MAX
A	1.35	1.75
A1	0.10	0.25
B	0.35	0.49
C	0.19	0.25
D	4.80	5.00
E	3.80	4.00
e	1.27 BSC	
H	5.80	6.20
h	0.25	0.50
L	0.40	1.25
θ	0°	7°

NOTES:

1. Dimensions are in millimeters.
2. Dimensions D and E do not include mold protrusion.
3. Maximum mold protrusion 0.15 per side.
4. Dimension B does not include Dambar protrusion. Allowable Dambar protrusion shall be 0.127 total in excess of the B dimension at maximum material condition.

HIGH-PERFORMANCE PRODUCTS
Absolute Maximum Ratings*

Symbol	Parameter	Value	Unit
V_{EE}	Power Supply ($V_{CC} = 0V$)	-6.0 to 0	V
V_{CC}	Power Supply ($V_{EE} = 0V$)	+6.0 to 0	V
V_I	Input Voltage ($V_{CC} = 0V$, V_I not more negative than V_{EE})	-6.0 to 0	V
V_I	Input Voltage ($V_{EE} = 0V$, V_I not more positive than V_{CC})	+6.0 to 0	V
I_{OUT}	Output Current Continuous Surge	50 100	mA mA
T_A	Operating Temperature Range	-40 to +85	°C
T_{STORE}	Storage Temperature Range	-65 to +150	°C
θ_{JA} for SOIC	Thermal Resistance (Junction-to-Ambient) Still Air 500 lfpm	153.7 130	°C/W °C/W
θ_{JC} for SOIC	Thermal Resistance (Junction-to-Case)	41.2	°C/W
T_{SOL}	Solder Temperature (<2 to 3 seconds: 245°C desired)	265	°C

* Maximum Ratings are those values beyond which damage to the device may occur.

DC Characteristics
SK10/100EL12W DC Electrical Characteristics (Notes 1, 2)

($V_{CC} - V_{EE} = 3.0$ to $5.5V$; V_{OUT} loaded with 50Ω to $V_{CC} - 2.0V$)

Symbol	Characteristic	TA = -40°C			TA = 0°C			TA = +25°C			TA = +85°C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
I_{IH}	Input High Current D0, D1			250			250			250			250	μA
I_{EE}	Power Supply Current 10EL 100EL			13 22			13 22			13 22			13 22	mA mA
$V_{CC} - V_{EE}$	Power Supply Voltage	3.0		5.5	3.0		5.5	3.0		5.5	3.0		5.5	V

HIGH-PERFORMANCE PRODUCTS
AC Characteristics
SK10/100EL12W AC Electrical Characteristics (Notes 1, 2)

($V_{CC} - V_{EE} = 3.0$ to $5.5V$; V_{OUT} loaded with 50Ω to $V_{CC} - 2.0V$)

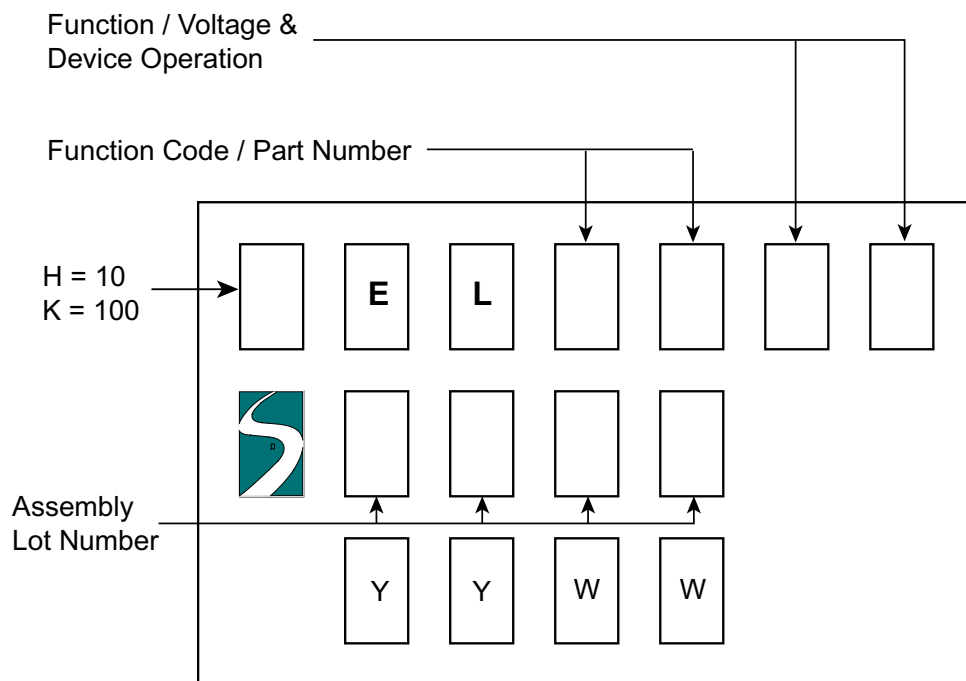
Symbol	Characteristic	TA = -40°C			TA = 0°C			TA = +25°C			TA = +85°C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
t _{PLH} t _{PHL}	Input to Output Delay Q _a , Q _a *, Q _b , Q _b *(Diff)	348	389	430	349	386	423	343	383	422	317	371	425	ps
t _r , t _f	Output Rise/Fall Times (20% to 80%) Q _a , Q _a *, Q _b , Q _b *	228	334	441	231	342	452	233	346	458	238	355	472	ps

Notes:

- 10EL circuits are designed to meet the DC specifications shown in the table after thermal equilibrium has been established. The circuit is in a test socket or mounted on a printed circuit board and transverse airflow greater than 500 lfm is maintained. Outputs are terminated through a 50Ω resistor to -2.0V except where otherwise specified on the individual data sheets.
- 100K circuits are designed to meet the DC specifications shown in the table where transverse airflow greater than 500 lfm is maintained.
- For standard ECL DC specifications, refer to the ECL Logic Family Standard DC Specifications Data Sheet.
- For part ordering descriptions, see HPP Part Ordering Information Data Sheet.

Ordering Information

Ordering Code	Package ID	Temperature Range
SK10EL12WD	8-SOIC	Industrial
SK10EL12WDT	8-SOIC	Industrial
SK100EL12WD	8-SOIC	Industrial
SK100EL12WDT	8-SOIC	Industrial
SK10EL12WU	Die	
SK100EL12WU	Die	

HIGH-PERFORMANCE PRODUCTS
Marking Information
8 PIN SOIC PACKAGE

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