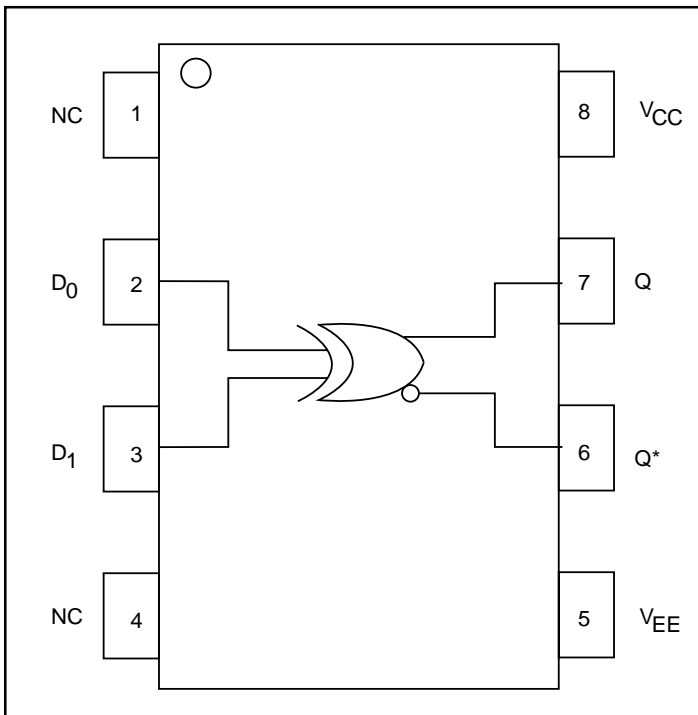


**HIGH-PERFORMANCE PRODUCTS**
**Description**

The SK10/100EL07 is a 2-Input XOR / XNOR gate. This device is fully compatible with MC10/100EL07. With propagation delay and output transition time significantly faster than the E107, the EL07 is ideally suited for those applications which require the ultimate in AC performance.

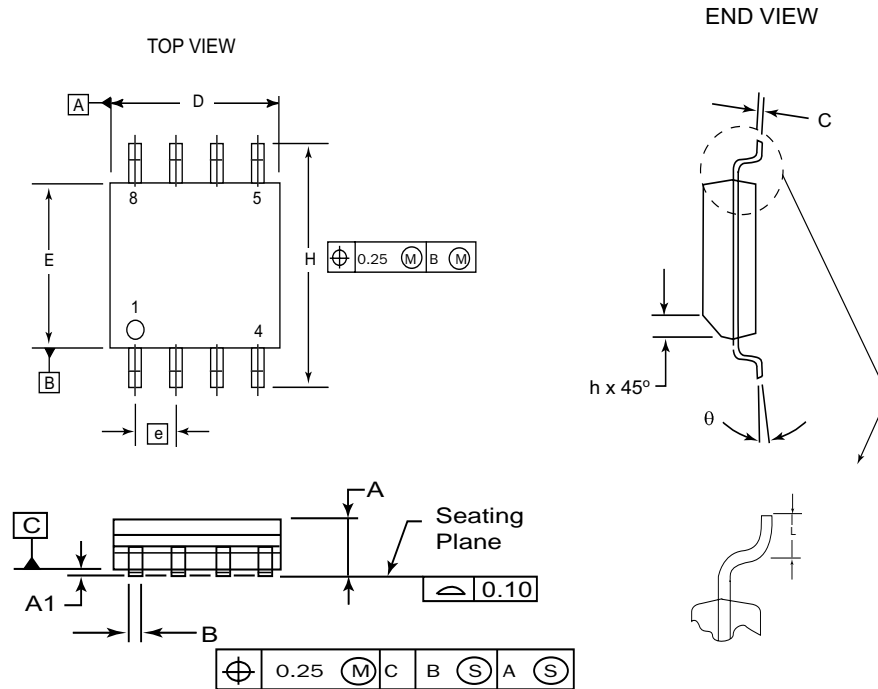
**Features**

- Extended Supply Voltage Range: ( $V_{EE} = -5.5V$  to  $-4.2V$ ,  $V_{CC} = 0V$ ) or ( $V_{CC} = +4.2V$  to  $+5.5V$ )
- High Bandwidth Output Transition
- 260ps Propagation Delay
- 75K $\Omega$  Internal Input Pulldown Resistors
- Fully Compatible with MC10/100EL07
- ESD Protection >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
$D_0, D_1$	Differential data Inputs
$Q, Q^*$	Differential data Outputs

## 8 Pin SOIC Package



DIM	MILLIMETERS	
	MIN	MAX
A	1.35	1.75
A1	0.10	0.25
B	0.33	0.51
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	1.27
$\theta$	0°	8°

**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**
**DC Characteristics**
**SK10/100EL07 DC Electrical Characteristics (Notes 1, 2)**

 ( $V_{CC} - V_{EE} = 4.2V$  to  $5.5V$ ;  $V_{OUT}$  Loaded  $50\Omega$  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 D <sub>0</sub> D <sub>1</sub>			250 150			250 150			250 150			250 150	$\mu A$ $\mu A$
$I_{EE}$	Power Supply Current 10EL 100EL			14 20			14 20			14 20			14 20	mA mA
$V_{CC} - V_{EE}$	Power Supply Voltage	4.2		5.5	4.2		5.5	4.2		5.5	4.2		5.5	V

**AC Characteristics**
**SK10/100EL07 AC Electrical Characteristics**

 ( $V_{CC} - V_{EE} = 4.2V$  to  $5.5V$ ;  $V_{OUT}$  Loaded  $50\Omega$  to  $V_{CC} - 2.0V$ )

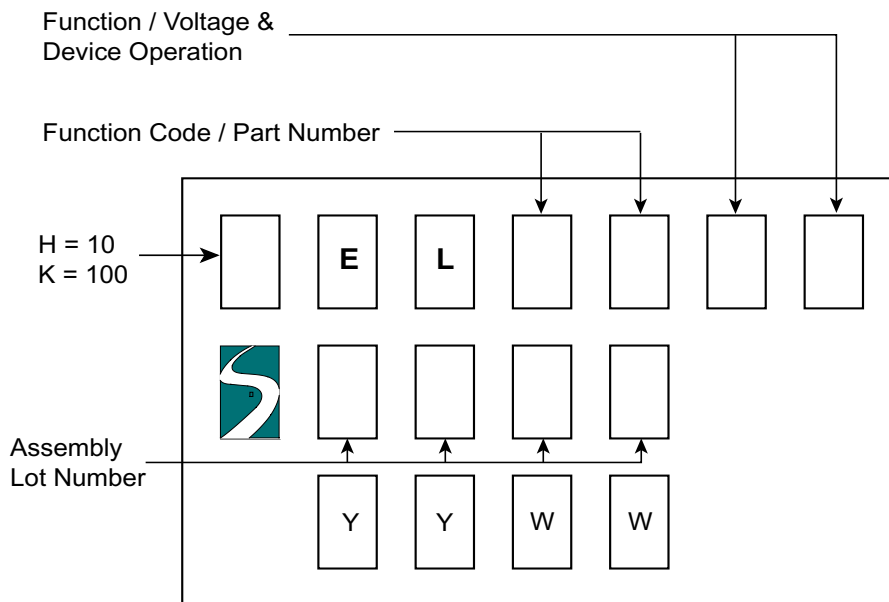
Symbol	Characteristic	TA = -40°C			TA = 0°C			TA = +25°C			TA = +85°C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
$t_{PLH}$ $t_{PHL}$	Propagation Delay Q, Q* (Diff)	160		395	160		380	165		375	165		370	ps
$t_r$ $t_f$	Output Rise/Fall Times (20% – 80%) Q, Q*	135		275	135		285	135		285	135		290	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 than 500 lfpm is maintained. Outputs are terminated through a  $50\Omega$  resistor to  $V_{CC} - 2.0V$ .
- 100K circuits are designed to meet the DC specification shown in the table where transverse airflow greater than 500 lfpm is maintained.
- For standard ECL DC specifications, refer to the ECL Logic Family Standard DC Specifications Data Sheet.
- For part ordering description, see HPP Part Ordering Information Data Sheet.

**HIGH-PERFORMANCE PRODUCTS**
**Ordering Information**

Ordering Code	Package ID	Temperature Range
SK10EL07D	8-SOIC	Industrial
SK10EL07DT	8-SOIC	Industrial
SK100EL07D	8-SOIC	Industrial
SK100EL07DT	8-SOIC	Industrial
SK10EL07U	Die	
SK100EL07U	Die	

**Marking Information**
**8 PIN SOIC PACKAGE**


YY: Last two digits of the Year  
 WW: Working Week

**Contact Information**

Division Headquarters  
 10021 Willow Creek Road  
 San Diego, CA 92131  
 Phone: (858) 695-1808  
 FAX: (858) 695-2633

**Semtech Corporation**  
**High-Performance Products Division**

Marketing Group  
 1111 Comstock Street  
 Santa Clara, CA 95054  
 Phone: (408) 566-8776  
 FAX: (408) 727-8994