

HIGH-PERFORMANCE PRODUCTS

Description

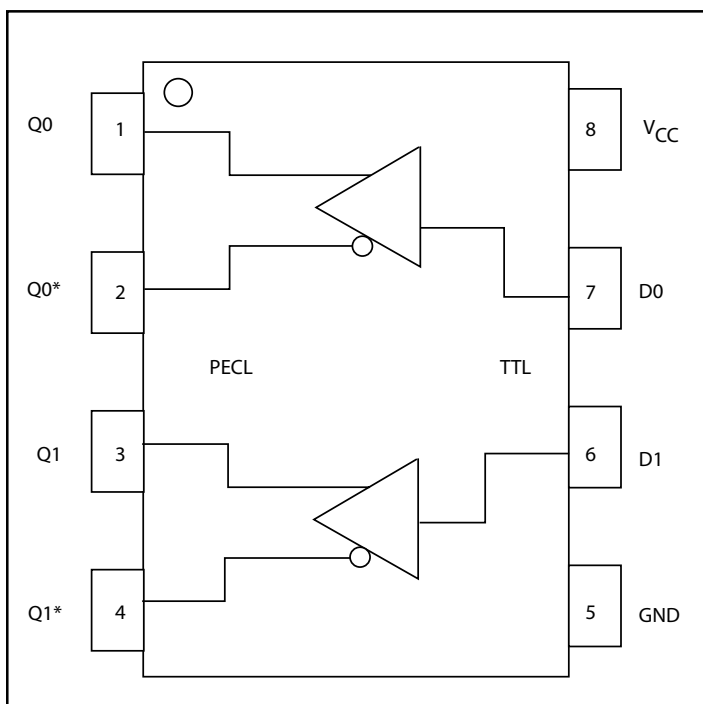
The SK10/100ELT22W is a dual LVTTTL to LVPECL and TTL/CMOS to PECL translator. Because PECL /LVPECL levels are used, only $V_{CC} = 3.0$ to $5.5V$ and ground are required.

This device is fully compatible with MC10/100ELT22 and MC10/100LVELT22. Its small outline, 8-lead SOIC and MSOP packages, low skew, and single gate design make the ELT22W ideal for applications which require the translation of clock and data signals.

Features

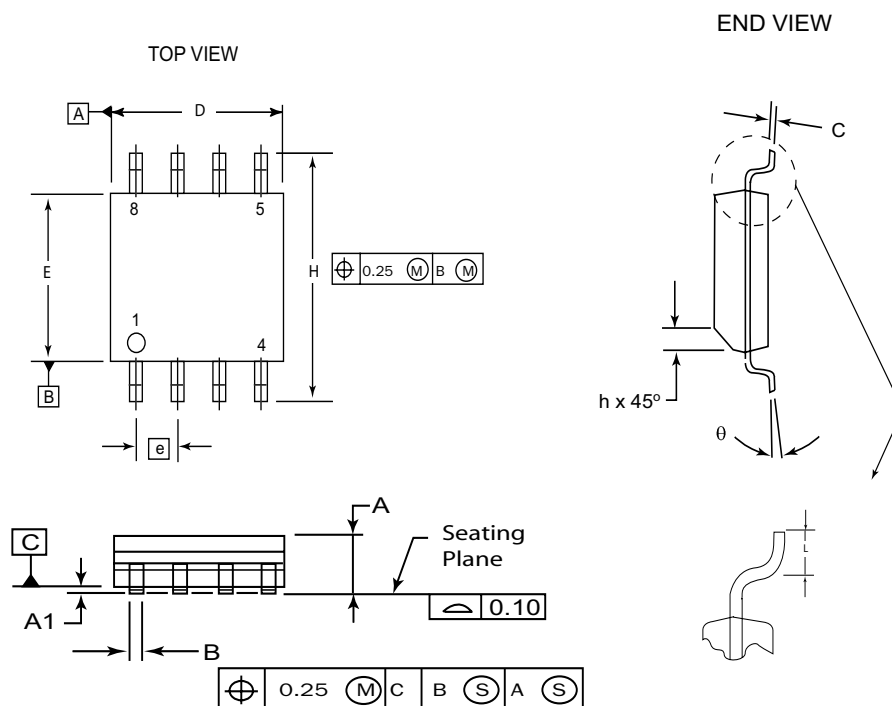
- Extended Supply Voltage Range: ($V_{CC} = +3.0V$ to $+5.5V$)
- High Bandwidth Output Transition
- 650 ps Typical Propagation Delay
- <300 ps Output-to-Output Skew
- Fully Compatible with MC100ELT22 and MC100LVELT22
- ESD Protection of >4000V
- Specified Over Industrial Temperature Range: $-40^{\circ}C$ to $85^{\circ}C$
- Available in 8-Pin SOIC (150 mils) and MSOP (3mm x 3mm) Packages

Functional Block Diagram



PIN Names

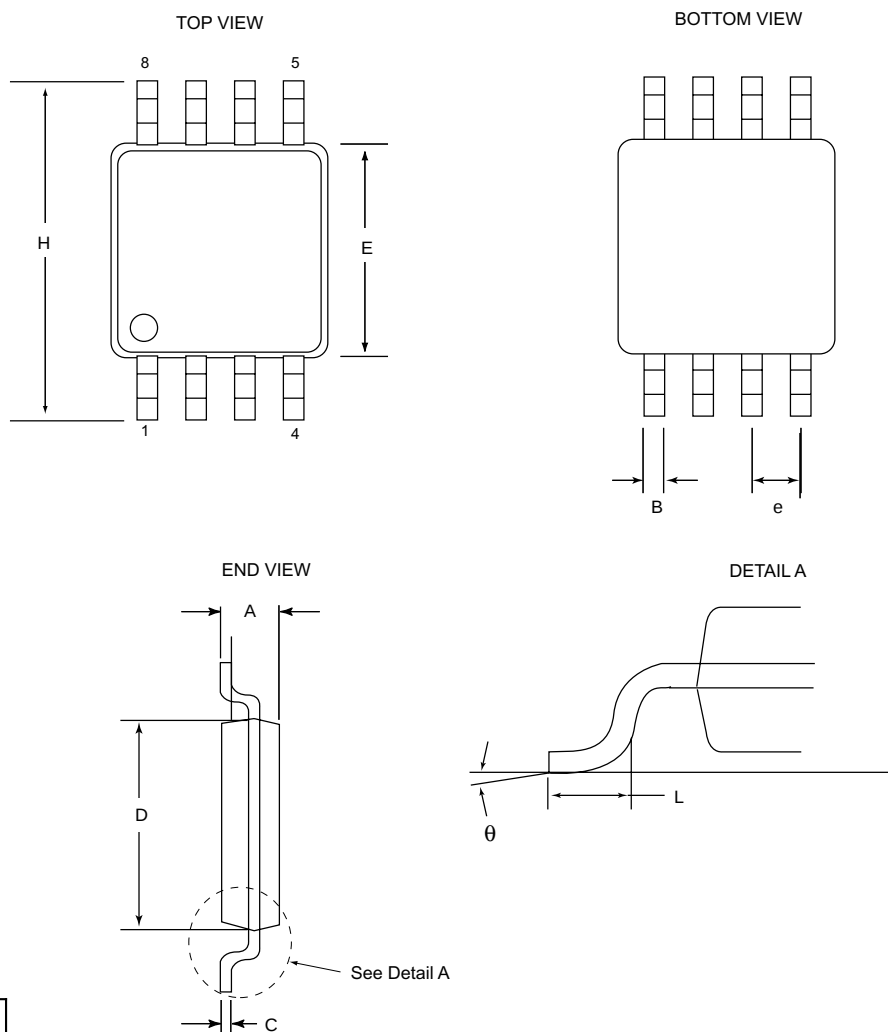
Pin	Function
DO, D1	LVTTTL/LVCMOS; TTL/CMOS Inputs
Q_n, Q_n^*	LVPECL/PECL Outputs
V_{CC}	+3.0 to +5.5V Positive Power Supply
GND	Ground

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Package Information
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
θ	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.

8 Pin MSOP Package


DIM	MILLIMETERS	
	MIN	MAX
A	0.94	1.1
B	0.21	0.45
C	0.13	0.22
D	2.90	3.10
E	2.90	3.10
e	0.65 BSC	
H	4.7	5.1
L	0.4	0.7
θ	0°	6°

NOTES:

1. Dimensions are in mm.
2. Controlling dimension: mm
3. Dimension does not include mold flash or protrusions, either of which shall not exceed 0.20.

HIGH-PERFORMANCE PRODUCTS
DC Characteristics
SK10/100ELT22W TTL Input DC Electrical Characteristics
 $(V_{CC} = 3.0V \text{ to } 5.5V; T_A = -40^{\circ}C \text{ to } 85^{\circ}C)$

Symbol	Characteristic	Min	Typ	Max	Unit	Condition
V_{IH}	Input HIGH Voltage	2.0			V	
V_{IL}	Input LOW Voltage			0.8	V	
I_{IH}	Input HIGH Current			20	μA	$V_{IN} = 2.7V$
I_{IHH}	Input HIGH Current			100	μA	$V_{IN} = V_{CC}$
I_{IL}	Input LOW Current	-0.6			mA	$V_{IN} = 0.5V$
V_{IK}	Input Clamp Voltage			-1.2	V	$I_{IN} = -18 \text{ mA}$

SK10ELT22W PECL Output DC Electrical Characteristics
 $(V_{CC} = +3.0V \text{ to } +5.5V; V_{OUT} \text{ loaded } 50W \text{ to } V_{CC} - 2.0V)$

Symbol	Characteristic	$T_A = -40^{\circ}C$			$T_A = -0^{\circ}C$			$T_A = +25^{\circ}C$			$T_A = +85^{\circ}C$			Unit	Condition
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max		
V_{OH}	Output HIGH Voltage	3920 2220		4110 2410	3980 2280		4160 2460	4020 2320		4190 2490	4090 2390		4280 2580	mV mV	$V_{CC} = 5V$ $V_{CC} = 3.3V$
V_{OL}	Output LOW Voltage	3050 1350		3350 1650	3050 1350		3370 1670	3050 1350		3370 1670	3050 1350		3405 1705	mV mV	$V_{CC} = 5V$ $V_{CC} = 3.3V$
I_{CC}	Power Supply Current			19			19			19			19	mA	

SK100ELT22W PECL Output DC Electrical Characteristics
 $(V_{CC} = +3.0V \text{ to } +5.5V; V_{OUT} \text{ loaded } 50W \text{ to } V_{CC} - 2.0V)$

Symbol	Characteristic	$T_A = -40^{\circ}C$			$T_A = 0^{\circ}C$			$T_A = +25^{\circ}C$			$T_A = +85^{\circ}C$			Unit	Condition
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max		
V_{OH}	Output HIGH Voltage	3915 2215		4120 2420	3975 2275		4120 2420	3975 2275		4120 2420	3975 2275		4120 2420	mV mV	$V_{CC} = 5V$ $V_{CC} = 3.3V$
V_{OL}	Output LOW Voltage	3170 1470		3445 1745	3190 1490		3380 1680	3190 1490		3380 1680	3190 1490		3380 1680	mV mV	$V_{CC} = 5V$ $V_{CC} = 3.3V$
I_{CC}	Power Supply Current			21			22			23			25	mA	

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AC Characteristics
SK10/100ELT22W AC Electrical Characteristics

(V_{CC} = +3.0V to +5.5V)

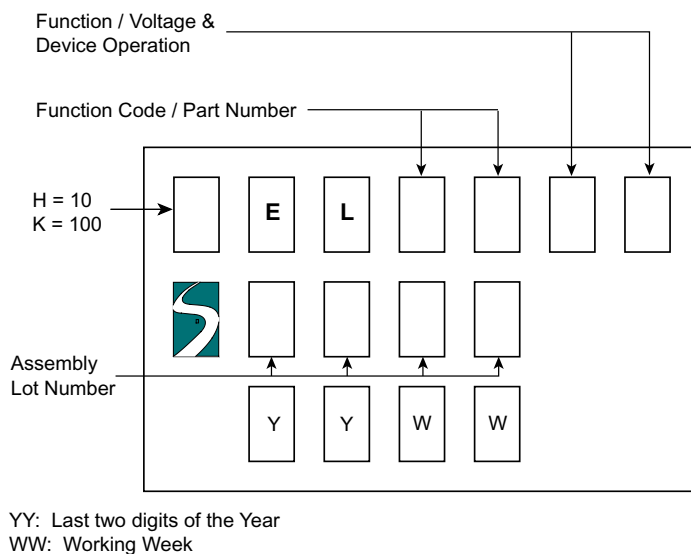
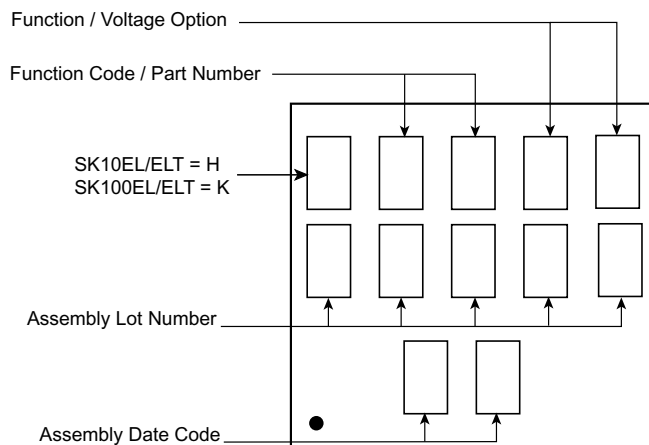
Symbol	Characteristic	TA = -40°C			TA = 0° C			TA = +25°			TA = +85° C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
f _{max}	Maximum Input Frequency	500			500			500			500			MHz
t _{PLH} t _{PHL}	Propagation Delay ¹	365		650	380		620	380		600	375		565	ps
t _r t _f	Output Rise/Fall Times (20% – 80%)	190		375	195		390	195		400	190		420	ps

Notes:

1. Specifications for standard TTL input signals.
2. For standard ECL DC specifications, refer to the ECL Logic Family Standard DC Specifications Data Sheet.
5. For part ordering description, see HPP Part Ordering Information Data Sheet.

Ordering Information

Ordering Code	Package ID	Temperature Range
SK10ELT22WD	8-SOIC	Industrial
SK10ELT22WDT	8-SOIC	Industrial
SK100ELT22WD	8-SOIC	Industrial
SK100ELT22WDT	8-SOIC	Industrial
SK10ELT22WMS	8-MSOP	Industrial
SK10ELT22WMST	8-MSOP	Industrial
SK100ELT22WMS	8-MSOP	Industrial
SK100ELT22WMST	8-MSOP	Industrial
SK10ELT22WU	Die	
SK100ELT22WU	Die	

HIGH-PERFORMANCE PRODUCTS
Marking Information
8 PIN SOIC PACKAGE

8/10 PIN MSOP PACKAGES

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