

TEST AND MEASUREMENT PRODUCTS

Description

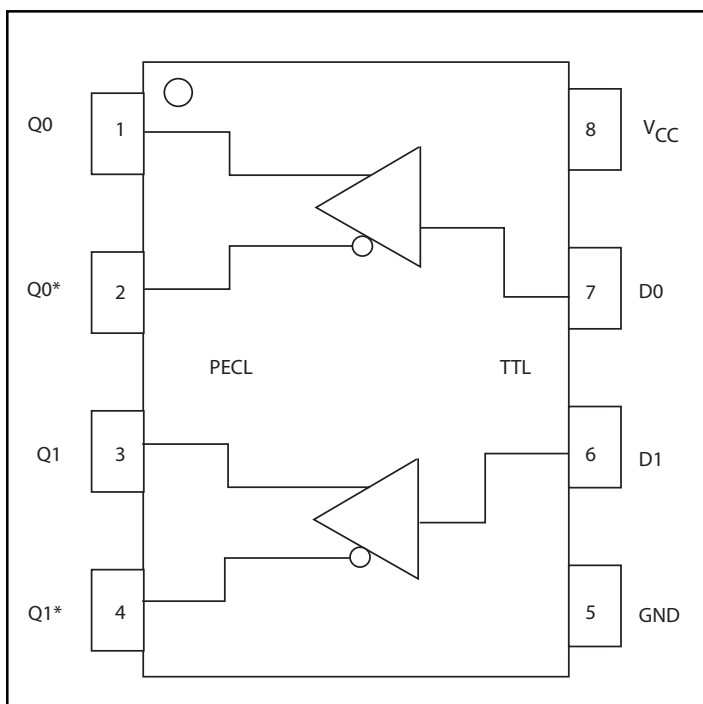
The SK100ELT22W is a dual LVTTTL to LVPECL and TTL/CMOS to PECL translator. Because PECL /LVPECL levels are used, only $V_{CC} = 3.0$ to $5.5V$ and ground are required.

This device is fully compatible with MC100ELT22 and MC100LVELT22. 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

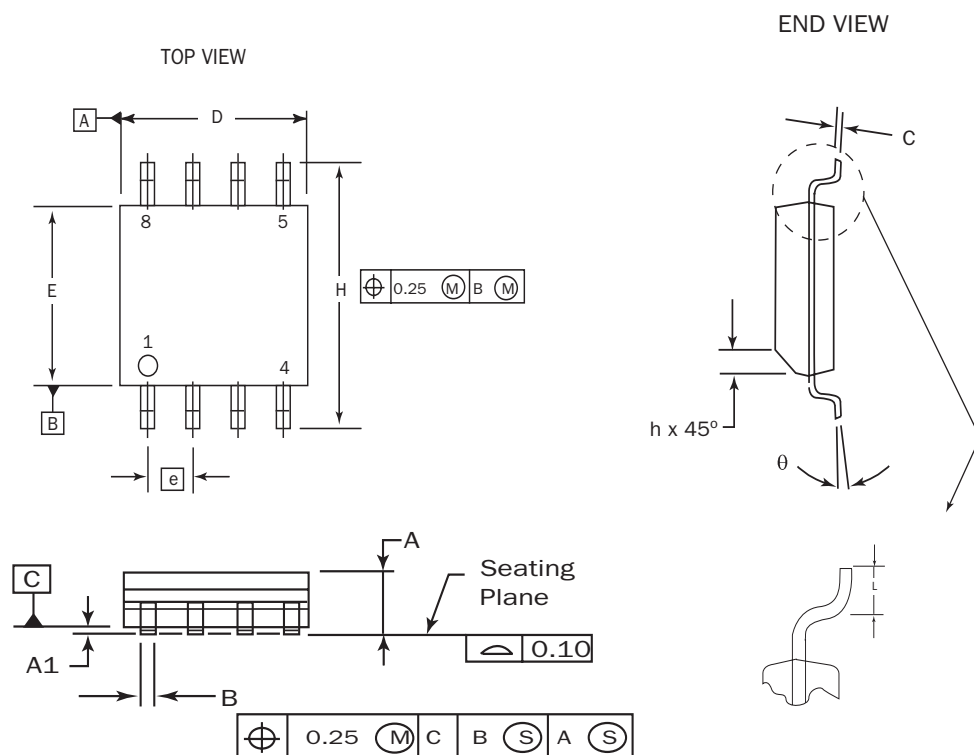
- Extended Supply Voltage Range: ($V_{CC} = +3.0V$ to $+5.5V$)
- High Bandwidth Output Transition
- 650 ps Typical Propagation Delay
- <300 ps Output-to-Output Skew
- Fully Compatible with MC100ELT22 and MC100LVELT22
- ESD Protection of >4000V
- Specified Over Industrial Temperature Range: $-40^{\circ}C$ to $85^{\circ}C$
- Available in 8-Pin SOIC (150 mils) and MSOP (3mm x 3mm) Packages
- Flammability Rate: UL-94 code V-0.
- Moisture Sensitivity: Level 1.

Functional Block Diagram



PIN Names

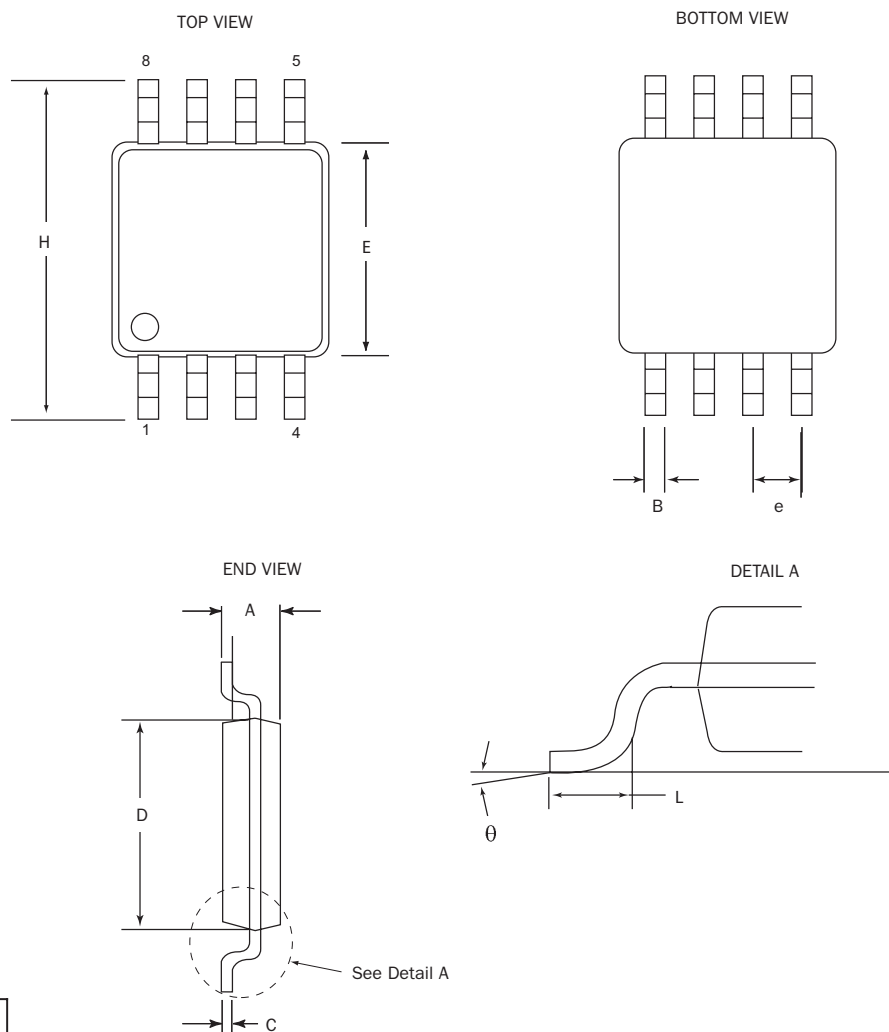
Pin	Function
DO, D1	LVTTTL/LVCMOS; TTL/CMOS Inputs
Q_n, Q_n^*	LVPECL/PECL Outputs
V_{CC}	+3.0 to +5.5V Positive Power Supply
GND	Ground

TEST AND MEASUREMENT PRODUCTS
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.

TEST AND MEASUREMENT PRODUCTS
Package Information (continued)
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.

TEST AND MEASUREMENT PRODUCTS
DC Characteristics
SK100ELT22W TTL Input DC Electrical Characteristics

($V_{CC} = 3.0V$ to $5.5V$; $T_A = -40^{\circ}C$ 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		20	μA	$V_{IN} = 2.7V$
I_{IHH}	Input HIGH Current			100	μA	$V_{IN} = V_{CC}$
I_{IL}	Input LOW Current	-20		20	μA	$V_{IN} = 0.5V$
V_{IK}	Input Clamp Voltage	-1.2			V	$I_{IN} = -18\text{ mA}$

SK100ELT22W PECL Output DC Electrical Characteristics

($V_{CC} = +3.0V$ to $+5.5V$; V_{OUT} loaded 50Ω 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			25			25			25			25	mA	

TEST AND MEASUREMENT PRODUCTS
AC Characteristics
SK100ELT22W AC Electrical Characteristics

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

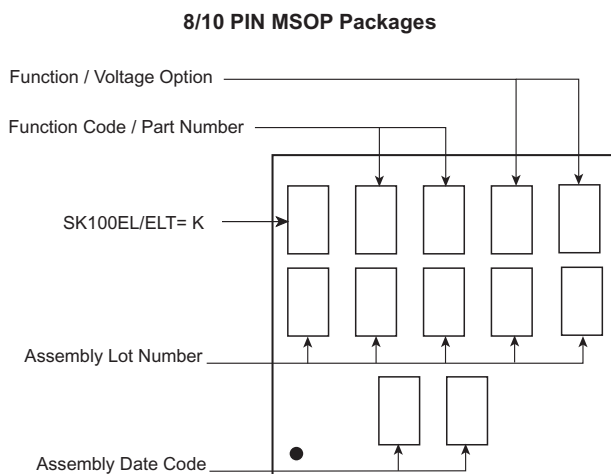
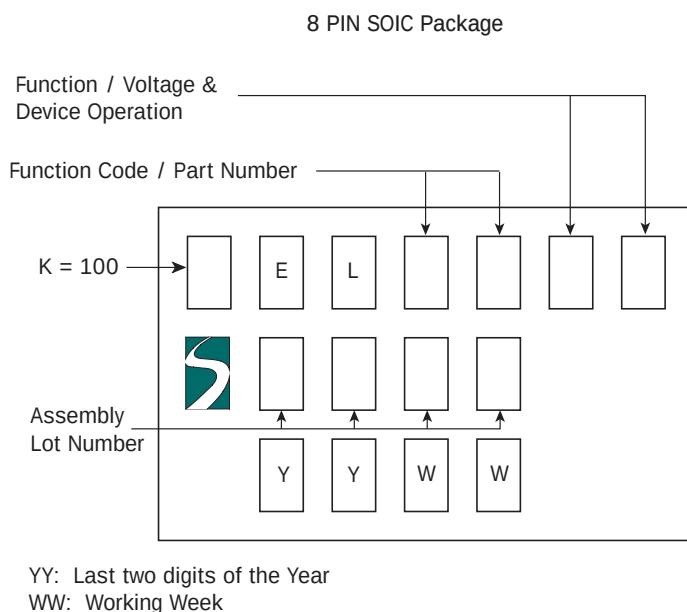
Symbol	Characteristic	TA = -40°C			TA = 0° C			TA = +25°			TA = +85° C			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
f _{max}	Maximum Input Frequency	500			500			500			500			MHz
t _{PLH} t _{PHL}	Propagation Delay ¹	365		650	380		620	380		600	375		565	ps
t _r t _f	Output Rise/Fall Times (20% – 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.
3. For part ordering description, see TMD Part Ordering Information Data Sheet.

Ordering Information

Ordering Code	Package ID
SK100ELT22WD	8-SOIC
SK100ELT22WDT	8-SOIC
SK10ELT22WMST	8-MSOP
SK100ELT22WMS	8-MSOP
SK100ELT22WMST	8-MSOP
SK100ELT22WU	Die

TEST AND MEASUREMENT PRODUCTS
Marking Information

Contact Information

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