

**Description**

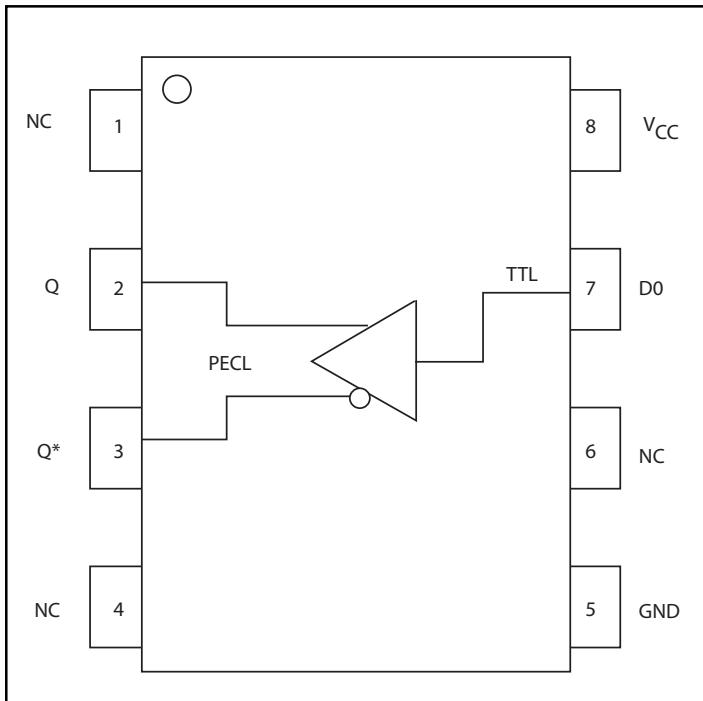
The SK100ELT20W is a single LVTTL / LVCmos to LVPECL and TTL / CMOS to PECL translator. Because PECL / LVPECL levels are used, only VCC = +3.0 to +5.5V and ground are required. This device is fully compatible with MC100ELT20 and MC100LVELT20. Its small outline, 8-lead SOIC and MSOP packages, low skew, and single gate design make the ELT20W ideal for applications which require the translation of clock and data signals.

# **SK100ELT20W**

## **LVTTL / LVCmos to Diff LVPECL or TTL / CMOS to Diff PECL Translator**

**Features**

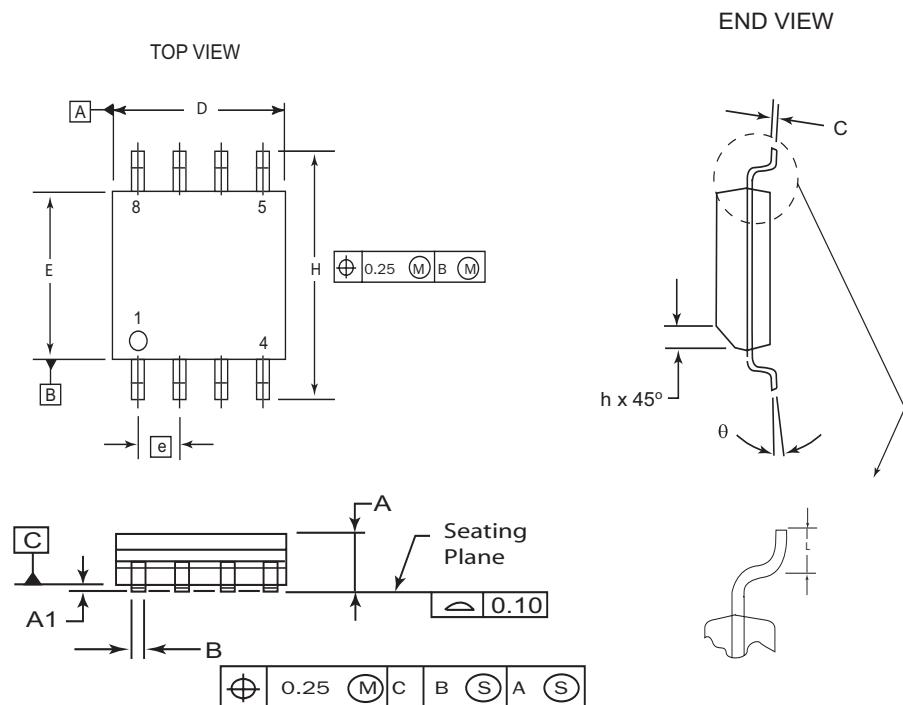
- Extended Supply Voltage Range: (VCC = +3.0V to +5.5V)
- High Bandwidth Output Transition
- 650 ps Typical Propagation Delay
- Differential LVPECL / PECL Outputs
- Fully Compatible with MC100ELT20 and MC100LVELT20
- ESD Protection of >4000V
- Industrial Temperature Range: -40°C to 85°C
- Available in both 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	LVTTL / TTL Input
Q, Q*	LVPECL / PECL Outputs
VCC	+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
q	0°	8°

**NOTES:**

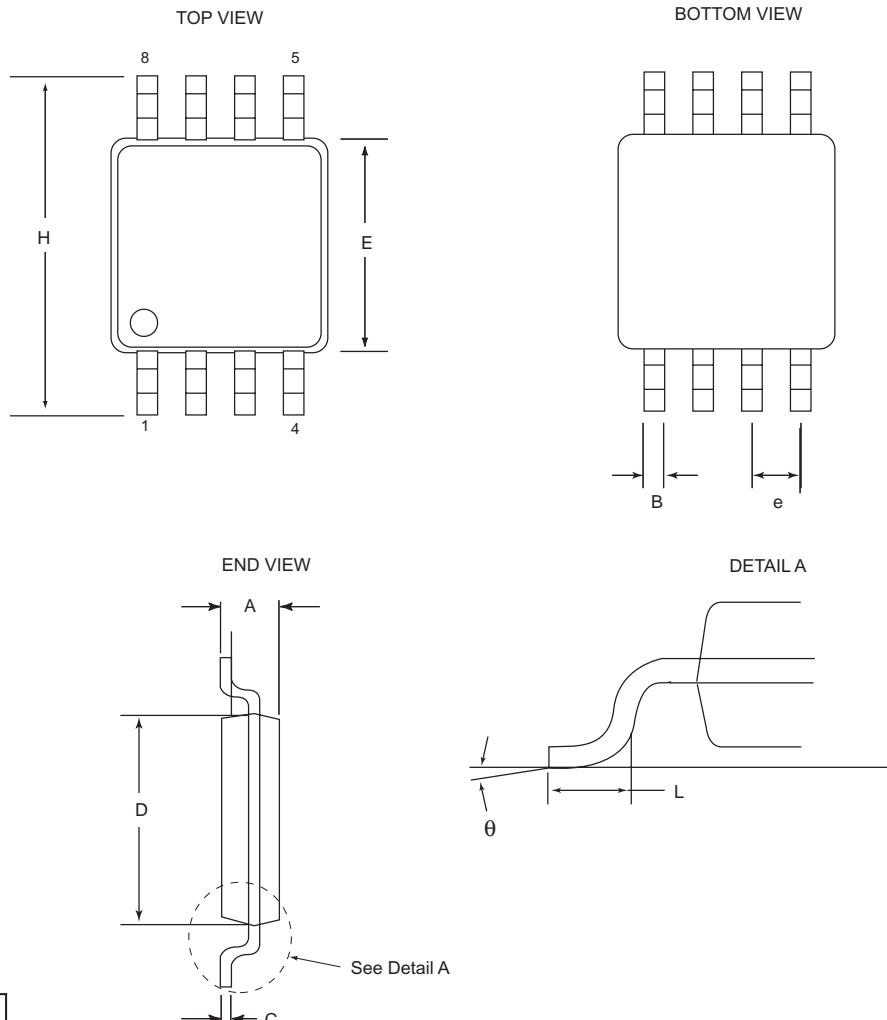
- Dimensions are in millimeters.
- Dimensions D and E do not include mold protrusion.
- Maximum mold protrusion 0.15 per side.
- Dimension B does not include Dambar protrusion. Allowable Dambar protrusion shall be 0.127 total in excess of the B dimension at maximum material condition.



## 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**
**SK100ELT20W TTL Input DC Electrical Characteristics**
 $(V_{CC} = 3.0V \text{ to } 5.5V; TA = -40^\circ C \text{ to } 85^\circ C)$ 

Symbol	Characteristic	Min	Typ	Max	Unit	Condition
V <sub>IH</sub>	Input HIGH Voltage	2.0			V	
V <sub>IL</sub>	Input LOW Voltage			0.8	V	
I <sub>IH</sub>	Input HIGH Current	-20		20	μA	V <sub>IN</sub> = 2.7V
I <sub>IHH</sub>	Input High Current			100	μA	V <sub>IN</sub> = V <sub>CC</sub>
I <sub>IL</sub>	Input LOW Current	-20		20	μA	V <sub>IN</sub> = 0.5V
V <sub>IK</sub>	Input Clamp Voltage	-1.2			V	I <sub>IN</sub> = -18 mA

**SK100ELT20W PECL Output DC Electrical Characteristics**
 $(V_{CC} = +3.0V \text{ to } +5.5V; V_{OUT} \text{ Loaded } 50\Omega \text{ to } V_{CC} - 2.0V)$ 

Symbol	Characteristic	TA = - 40°C		TA = 0°C		TA = + 25°C		TA = + 85°C		Unit	Condition
		Min	Max	Min	Max	Min	Max	Min	Max		
V <sub>OH</sub>	Output HIGH Voltage	3.915 2.215	4.12 2.42	3.975 2.275	4.12 2.42	3.975 2.275	4.12 2.42	3.975 2.275	4.12 2.42	V	V <sub>CC</sub> = 5V V <sub>CC</sub> = 3.3V
V <sub>OL</sub>	Output LOW Voltage	3.17 1.47	3.445 1.745	3.19 1.49	3.38 1.68	3.19 1.49	3.38 1.68	3.19 1.49	3.38 1.68	V	V <sub>CC</sub> = 5V V <sub>CC</sub> = 3.3V
I <sub>CC</sub>	Power Supply Current		20		20		20		20	mA	

## TEST AND MEASUREMENT PRODUCTS

### AC Characteristics

#### SK100ELT20W AC Electrical Characteristics

(V<sub>CC</sub> = +3.0V to +5.5V; V<sub>OUT</sub> Loaded 50Ω to V<sub>CC</sub> – 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	
f <sub>max</sub>	Maximum Input Frequency	500			500			500			500			MHz
t <sub>PLH</sub> t <sub>PHL</sub>	Propagation Delay <sup>1</sup>	345	490	630	360	470	595	360	470	575	365	450	540	ps
t <sub>r</sub> t <sub>f</sub>	Output Rise/Fall Times (20% – 80%)	160	210	305	165	215	320	170	220	330	175	235	350	ps

#### Notes:

1. Specifications for standard TTL input signals.
2. For ordering description, see TMD Part Ordering Information Data Sheet.

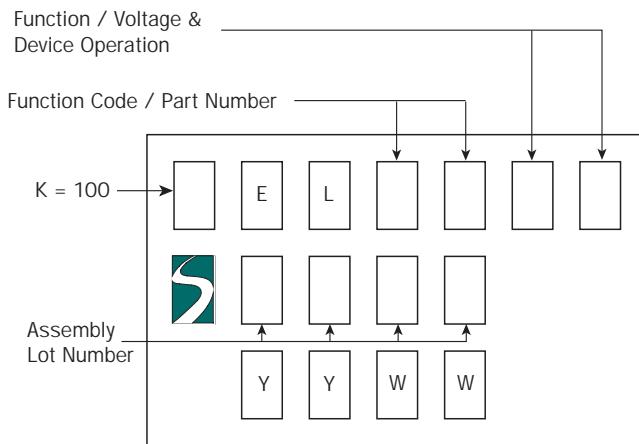
### Ordering Information

Ordering Code	Package ID
SK100ELT20WD	8-SOIC
SK100ELT20WDT	8-SOIC
SK100ELT20WMS	8-MSOP
SK100ELT20WMST	8-MSOP
SK100ELT20WU	Die

## TEST AND MEASUREMENT PRODUCTS

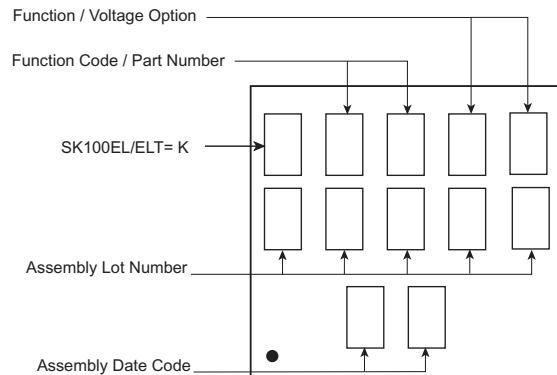
### Marking Information

8 PIN SOIC Package



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

8/10 PIN MSOP Packages



### Contact Information

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