

March 26, 1999

## Preliminary Information

This document contains information on a new product. The parametric information, although not fully characterized, is the result of testing initial devices.

## Functional Description

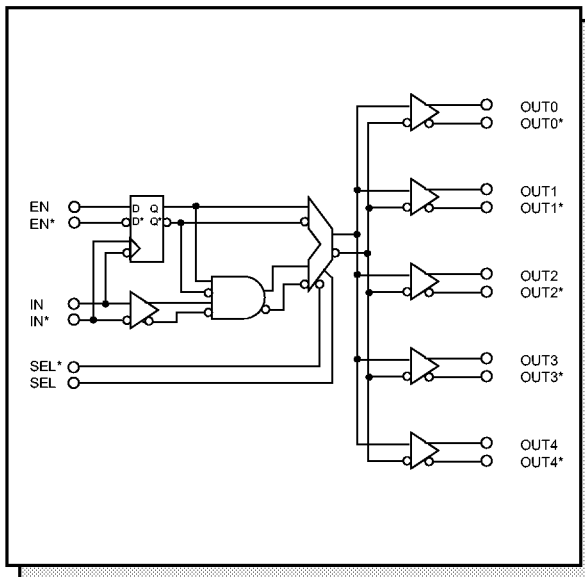
The SK1550 is an extremely fast, stable and accurate low skew 1:5 clock / signal distributor.

The SK1550 has a synchronous enable, which allows the outputs to be turned off and on without the risk of an unpredictable output pulse.

The SK1550 uses an open emitter output termination and has a 650 mV output swing. Suitable applications for this termination:

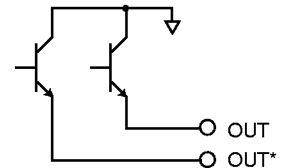
- Point to Point, or Daisy Chain
- Single or Double Terminations
- ECL and PECL compatible destinations

## Functional Block Diagram

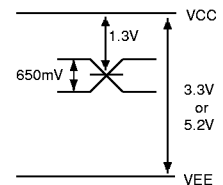
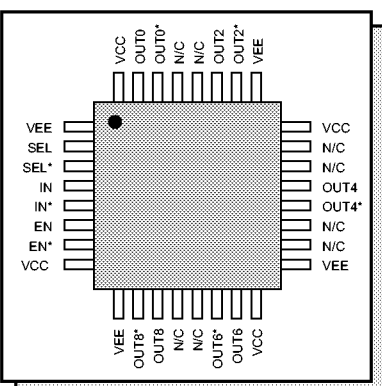

**1:5 Clock / Data Driver**
**2 GHz Fmax**
**3.3V / 5.2V Compatible**

### Output Options

#### Open Emitter



#### 650 mV Swing


**32 pin, 5 mm x 5 mm  
TQFP Package**


**DC Characteristics**

<i>Parameter</i>	<i>Symbol</i>	<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Units</i>
<b>Inputs</b>					
Input High	V <sub>IH</sub>	V <sub>EE</sub> + 2.0		V <sub>CC</sub>	V
Input Low	V <sub>IL</sub>	V <sub>EE</sub>		V <sub>CC</sub> - .2	V
(IN - IN*, EN - EN*, SEL - SEL*)					
Differential Input High Voltage	Input - Input*	.2		4.3	V
Differential Input Low Voltage	Input* - Input	.2		4.3	V
<b>Timing Inputs (IN / IN*)</b>					
Input High Current	I <sub>IH</sub>	-100		+100	μA
Input Low Current	I <sub>IL</sub>	-100		+100	μA
<b>Functional Inputs (EN / EN*, SEL / SEL*)</b>					
Input High Current	I <sub>IH</sub>	-500		+500	μA
Input Low Current	I <sub>IL</sub>	-500		+500	μA
<b>Outputs</b>					
Digital Output High Voltage	OUT - OUT*	600	650		mV
Digital Output Low Voltage	OUT* - OUT	600	650		mV
Output Common Mode Range	(OUT + OUT*) / 2	V <sub>CC</sub> - 1.5	V <sub>CC</sub> - 1.3	V <sub>CC</sub> - 1.1	V
Output Current	I <sub>OUT</sub>	TBD		TBD	mA
<b>Power Supply</b>					
Power Supply Current	I <sub>EE</sub>	TBD	140	TBD	mA
Power Supply Voltage	V <sub>CC</sub> - V <sub>EE</sub>	3.0		5.5	V

**AC Characteristics**

<i>Parameter</i>	<i>Symbol</i>	<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Units</i>
<b>High Performance Option</b>					
Propagation Delay					
IN to OUT (SEL = 0)	T <sub>pd</sub>	X - 75	X	X + 75	ps
IN to OUT (SEL = 1)	T <sub>pd</sub>	Y - 75	Y	Y + 75	ps
SEL to OUT	T <sub>pd</sub>	Z - 100	Z	Z + 100	ps
Channel to Channel Skew				<15	ps
Maximum Operating Frequency (Note 1)	F <sub>max</sub>	2.0			GHz
Minimum Pulse Width (Note 1)	PW <sub>min</sub>			250	ps
Enable to Input (Note 1)					
Set Up Time	T <sub>su</sub>	100			ps
Hold Time	T <sub>h</sub>	100			ps
Output Rise and Fall Times (20% / 80%)	T <sub>r</sub> / T <sub>f</sub>		100	100	ps
Temperature Coefficient	ΔT <sub>pd</sub> / ΔT		<1		ps / °C

Note 1: Guaranteed by characterization. Not production tested.