

Preliminary Information

January 20, 2000

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

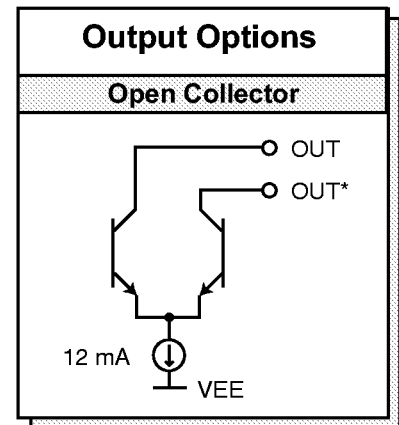
Functional Description

The SK1599 is an extremely fast, stable, and accurate low skew 1:5 clock / signal distributor featuring a synchronous enable, which allows the outputs to be turned off and on without the risk of an unpredictable output pulse.

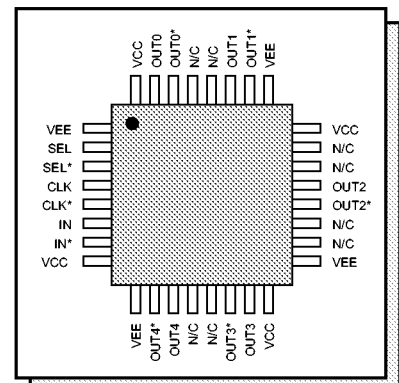
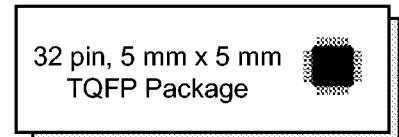
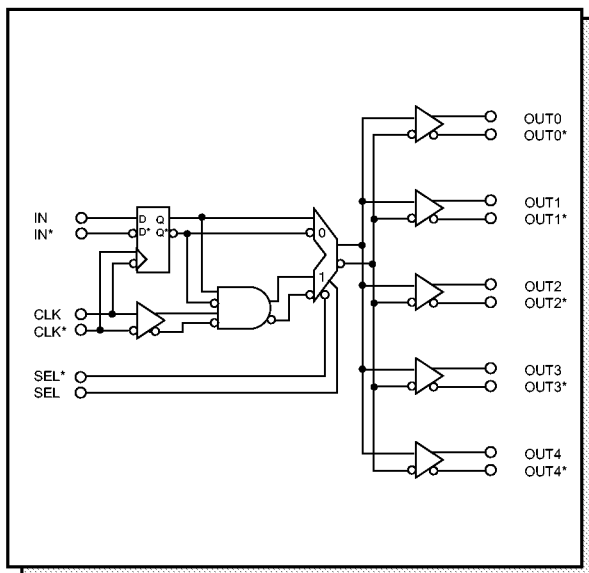
The SK1599 has open collector (CML) outputs, targeted for:

- Ultra high speed applications
- Adjustable common mode levels at the destination.

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



Functional Block Diagram



DC Characteristics

Parameter	Symbol	Min	Typ	Max	Units
Inputs					
Input High	V _{IH}	V _{EE} + 2.0		V _{CC}	V
Input Low	V _{IL}	V _{EE}		V _{CC} - 2	V
(IN – IN*, CLK – CLK*, SEL – SEL*) Differential Input Voltage	Input – Input*	.2		4.3	V
Timing Inputs (CLK / CLK*)					
Input High Current	I _{IH}	+1		+25	μA
Input Low Current	I _{IL}	-1		+1	μA
Functional Inputs (IN / IN*, SEL / SEL*) Input Current	I _{IH} , I _{IL}	-420		+250	μA
Outputs					
Output Current High	I _{OH}	TBD	0	TBD	mA
Output Current Low	I _{OL}	TBD	12	TBD	mA
Power Supply					
Power Supply Current	I _{EE}	TBD	145	TBD	mA
Power Supply Voltage	V _{CC} – V _{EE}	3.0		5.5	V

Test Conditions: Outputs terminated with 50Ω to VCC.

AC Characteristics

Parameter	Symbol	Min	Typ	Max	Units
High Performance Option					
Propagation Delay					
CLK to OUT (SEL = 0)	T _{pd}	X – 100	X	X + 100	ps
CLK to OUT (SEL = 1)	T _{pd}	Y – 100	Y	Y + 100	ps
SEL to OUT	T _{pd}	Z – 100	Z	Z + 100	ps
Channel to Channel Skew				<10	ps
Maximum Operating Frequency (Note 1)	F _{max}	3.0			GHz
Minimum Pulse Width (Note 1)	PW min	160			ps
IN to CLK (Note 1)					
Set Up Time	T _{su}	100			ps
Hold Time	T _h	100			ps
Output Rise and Fall Times (20% / 80%)	T _r / T _f		125	150	ps
Temperature Coefficient	ΔT _{pd} / ΔT		<1		ps / °C

Note 1: Guaranteed by characterization. Not production tested.