

THREE CHANNEL DIFFERENTIAL LINE DRIVER IC

With built-in current sink to drive an LED

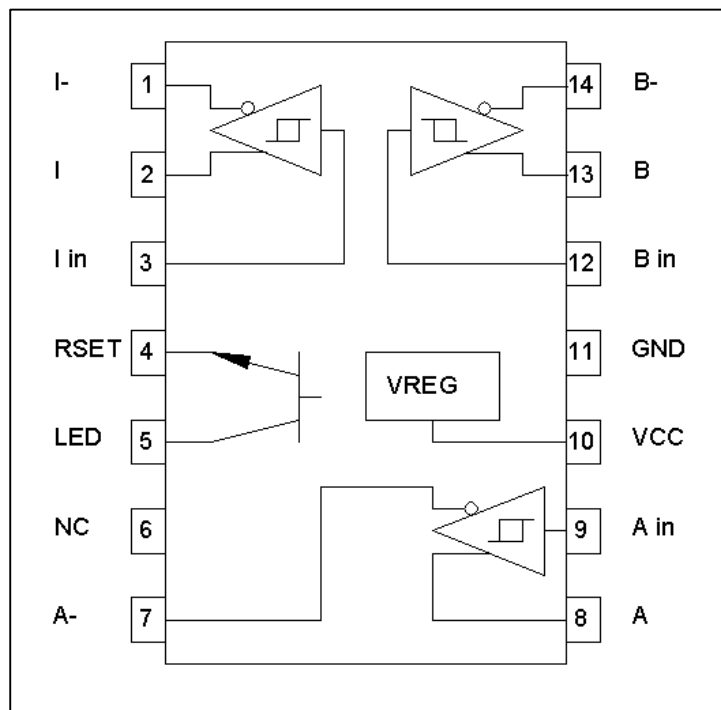
ET9600

FEATURES

- Supply Voltage Range 4.5V to 30V
- Operation to 800KHz
- CMOS and TTL Compatible Inputs
- Outputs RS-422A Compatible
- High Impedance Buffered Inputs with Hysteresis
- Outputs short circuit protected
- 70mA peak SINK/SOURCE current
- Outputs Protected by Thermal Shut-Down

APPLICATIONS

- Optical Encoders
- Industrial Controls



DESCRIPTION

These line drivers are similar to the four channel 26ET31, with the added feature of providing an internal LED drive. The device is biased so that the base of the LED drive transistor (shown) is held at 2.5V. To set the LED current, connect a resistor from RSET to ground. For more information on LED drive, see application note **APP-D2**. Voltage connected to the VCC pin is regulated for use by logic functions within the chip, while the output drivers run off this voltage without modification.

The device marking (see photo) includes the suffix SCP to denote that this version has 'short circuit protection'.

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min.	Max.	Units	Ref.
Operating Temperature Range	T_A	-40	125	°C	Note 1
Supply Voltage Range	V_{CC}	4.5	30	V	

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iC-Haus GmbH

Integrated Circuits

Am Kuemmerling 18, D-55294 Bodenheim

Tel +49-6135-9292-0

Fax +49-6135-9292-192

<http://www.ichaus.com>

ELECTRICAL CHARACTERISTICS

Unless otherwise specified, typical values given at $V_{CC}=12V$, $T_A = 25^{\circ}C$, with LED and RSET open.

Parameters	Symbol	Min.	Typ.	Max.	Units	Test Conditions
Overtemp Operate Point (junction)	T_{JOP}		155		$^{\circ}C$	Note 1
Overtemp Release Point (junction)	T_{JRP}		105		$^{\circ}C$	Note 1
Supply Current	I_{CC1} I_{CC2}	7.0 9.0	11.0 12.0	17.0 20.0	mA	$V_{CC} = 4.5V$ $V_{CC} = 30.0V$
Input Positive-Going Threshold	V_{T+}	1.1	1.5	1.9	V	
Input Negative-Going Threshold	V_{T-}	0.7	1.0	1.4	V	
Low Level Input Current	I_{IL}		-0.1	-4.0	μA	$V_{IN} = 0V$
High Level Input Current	I_{IH}		0	4.0	μA	$V_{IN} = 5V$
Low Level Output	V_{OL}		150	375	mV	$V_{CC} = 4.5V-30V$ $I_{OL} = 10mA$
High Level Output	V_{OH}	2.4	2.9		V	$I_{OH} = -10mA, V_{CC} =$
High Level Output	V_{OH}	27.8	28.4		V	$I_{OH} = -10mA, V_{CC} = 30V$

NOTES:

1. This is not a test parameter, but for information only.
2. It may be necessary to clamp the outputs with Schottky diodes when driving extremely long cables with high capacitance between outputs. These diodes should have a forward voltage of less than 0.4V, and be connected with cathode to the output and anode to ground.

PACKAGE

Chip Only
14 Lead SOIC

SUFFIX

-C
-SOP



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