

## Radiation Hardened Quad Differential Line Driver

The Intersil HS-26C31RH is a quad differential line driver designed for digital data transmission over balanced lines and meets the requirements of EIA standard RS-422. Radiation hardened CMOS processing assures low power consumption, high speed, and reliable operation in the most severe radiation environments.

The HS-26C31RH accepts CMOS signal levels and converts them to RS-422 compatible outputs. This circuit uses special outputs that enable the drivers to power-down without loading down the bus. Enable and disable pins allow several devices to be connected to the same data source and addressed independently.

### Specifications

Specifications for Rad Hard QML devices are controlled by the Defense Supply Center in Columbus (DSCC). The SMD numbers listed here must be used when ordering.

**Detailed Electrical Specifications for these devices are contained in SMD 5962-96663. A “hot-link” is provided on our homepage for downloading.**  
[www.intersil.com/military/](http://www.intersil.com/military/)

### Features

- Electrically Screened to SMD # 5962-96663
- QML Qualified per MIL-PRF-38535 Requirements
- 1.2 Micron Radiation Hardened CMOS
  - Total Dose Up to . . . . . 300kRAD(Si)
- Latchup Free
- EIA RS-422 Compatible Outputs (Except for IOS)
- CMOS Inputs
- High Impedance Outputs when Disabled or Powered Down
- Low Power Dissipation . . . . . 2.75mW Standby (Max)
- Single 5V Supply
- Low Output Impedance . . . . . 10Ω or Less
- Full -55°C to +125°C Military Temperature Range

### Applications

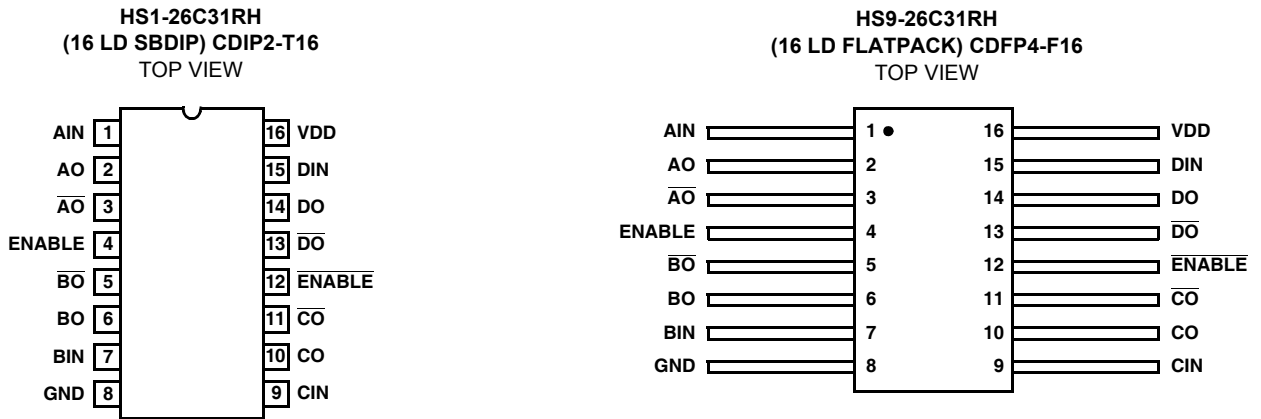
- Line Transmitter for MIL-STD-1553 Serial Data Bus

### Ordering Information

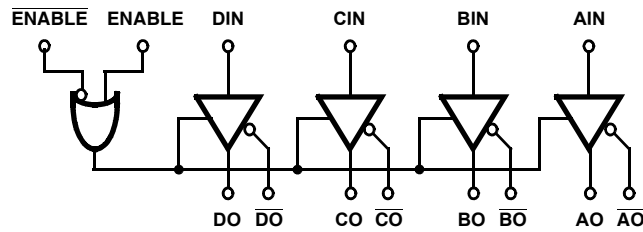
ORDERING NUMBER	INTERNAL MKT. NUMBER	PART MARKING	TEMP. RANGE (°C)	PACKAGE	PKG. DWG. #
5962F9666301QEC	HS1-26C31RH-8	Q 5962F96 6630QEC	-55 to +125	16 LD SBDIP	D16.3
5962F9666301QXC	HS9-26C31RH-8	Q 5962F96 66301QXC	-55 to +125	16 LD FLATPACK	K16.A
5962F9666301VEC	HS1-26C31RH-Q	Q 5962F96 66301VEC	-55 to +125	16 LD SBDIP	D16.3
5962F9666301VXC	HS9-26C31RH-Q	Q 5962F96 66301VXC	-55 to +125	16 LD FLATPACK	K16.A
HS1-26C31RH/PROTO	HS1-26C31RH/PROTO	HS1- 26C31RH/PROTO	-55 to +125	16 LD SBDIP	D16.3
HS9-26C31RH/PROTO	HS9-26C31RH/PROTO	HS9- 26C31RH/PROTO	-55 to +125	16 LD FLATPACK	K16.A
5962F9666301V9A	HSO-26C31RH-Q		-55 to +125		

# HS-26C31RH

## Pinouts



## Logic Diagram



All Intersil U.S. products are manufactured, assembled and tested utilizing ISO9000 quality systems.  
Intersil Corporation's quality certifications can be viewed at [www.intersil.com/design/quality](http://www.intersil.com/design/quality)

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**Die Characteristics**

**DIE DIMENSIONS:**

96.5 mils x 195 mils x 21 mils  
(2450 x 4950)

**INTERFACE MATERIALS:**

**Glassivation:**

Type: PSG (Phosphorus Silicon Glass)  
Thickness: 10kÅ ±1kÅ

**Metallization:**

M1: Mo/TiW  
Thickness: 5800Å  
M2: Al/Si/Cu (Top)  
Thickness: 10kÅ ±1kÅ

**Substrate:**

AVLSI1RA

**Backside Finish:**

Silicon

**ASSEMBLY RELATED INFORMATION:**

**Substrate Potential (Powered Up):**

V<sub>DD</sub>

**ADDITIONAL INFORMATION:**

**Worst Case Current Density:**

<2.0x10<sup>5</sup>A/cm<sup>2</sup>

**Bond Pad Size:**

110µmx100µm

**Metallization Mask Layout**

