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Facts about Intersil Space Parts

Intersil offers a broad range of radiation hardened and Single-Event Effects (SEE) hardened IC products for RH and space applications.

- Over 300 space-qualified radiation hardened products available.
- Consistent design and manufacturing in Intersil's MIL-PRF-38535-qualified facility located in Palm Bay, Florida.
- Intersil is one of only 11 RHA Defense Logistics Agency (Land and Maritime) QML suppliers.
- All products are fully Class V (space level) compliant.
- All products are on individual DLA SMD drawings.

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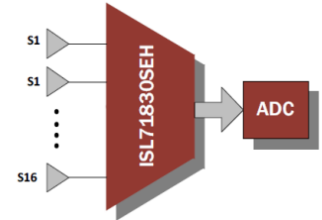
Web: <http://www.protec-semi.de>

New Intersil 5V RadHard Multiplexers for 3,3V and 5V Supply Rails - Released

Single Supply MUX ISL71830/1SEH

Cold Spare – 16/32 Channel – 5V Single Supply

The ISL71830/1SEH is a radiation hardened, 16/32 channel multiplexer. It operates with a single supply range from 3.3V to 5.0V and has a 4/5 bit address line plus an enable that can be driven with adjustable logic thresholds to conveniently select one of 16/32 available channels. An inactive channel is separated from the active channel by a high impedance which inhibits any interaction between them.



Description

The ISL71830SEH is a radiation tolerant, 16-channel multiplexer that is fabricated using Intersil's proprietary P6-SOI process technology to provide excellent latch-up performance. It operates with a single supply range from 3V to 5.5V and has a 4-bit address line plus an enable that can be driven with adjustable logic thresholds to conveniently select one of 16 available channels. An inactive channel is separated from the active channel by a high impedance, which inhibits any interaction between them.

The ISL71830SEH's low $rDS(ON)$ allows for improved signal integrity and reduced power losses. The ISL71830SEH is also designed for cold sparing making it excellent for redundancy in high reliability applications. It is designed to provide a high impedance to the analog source in a powered off condition, making it easy to add additional backup devices without incurring extra power dissipation. The ISL71830SEH also has analog overvoltage protection on the input that disables the switch during an overvoltage event to protect upstream and downstream devices.

The ISL71830SEH is available in a 28 Ld CDFP and operates across the extended temperature range of $-55^{\circ}C$ to $+125^{\circ}C$. There is also a 32-channel version available offered in a 48 Ld CQFP, please refer to the ISL71831SEH datasheet for more information.

Key Features

- DLA SMD 5962-15247
- Fabricated using P6 SOI process technology
- Rail-to-rail operation
- No latch-up
- Low $rDS(ON)$: $<120\Omega$ (maximum)
- Single supply operation: 3V to 5.5V
 - Adjustable logic threshold control
- Cold sparing capable: $-0.4V$ to $7V$
- Analog overvoltage range: $-0.4V$ to $7V$
- Switch input off leakage: $120nA$
- Transition times (tAHL): $70ns$
- Internally grounded metal lid
- Break-before-make switching
- ESD protection $\geq 5kV$ (HBM)
- Operating temperature range: $-55^{\circ}C$ to $+125^{\circ}C$
- Radiation tolerance
 - Low dose rate (0.01rad(Si)/s): $75krad(Si)$
 - SEL/SEB LETTH ($V+ = 6.5V$): $60MeV \cdot cm^2/mg$

NOTE: All lots are assurance tested to $75krad$ (0.01rad(Si)/s) wafer-by-wafer.