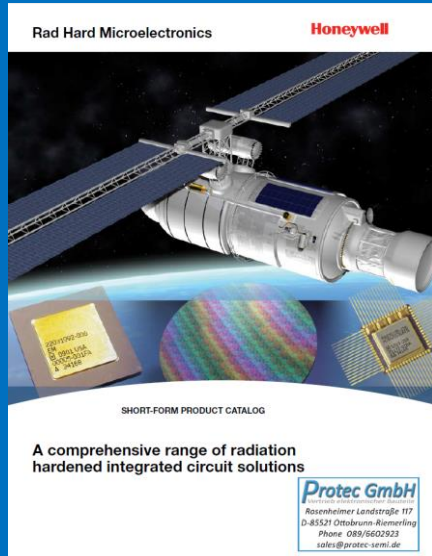


For more Honeywell Products or Short form ask Protec GmbH:



Honeywell SerDes Features:

- Fabricated on S150 Silicon On Insulator (SOI) CMOS
- 150 nm Process (Leff = 110 nm)
- 4 Channel (Quad) Transceiver with Redundant Transmitters
- Channel Data Rates to 3.1875Gb/s
- Multi-Channel XAUI to 10Gb/s
- Supports Ethernet and Fibre Channel Protocols
- Programmable Amplitude, Pre-Emphasis, Equalization
- CMOS Compatible I/O
- Total Dose $\geq 1 \times 10^6$ rad(Si)
- Soft Error Rate Heavy Ion $\leq 1 \times 10^{-12}$ Upsets/bit-day
Proton $\leq 2 \times 10^{-12}$ Upsets/bit-day
- Neutron $\geq 1 \times 10^{14}$ cm⁻²
- Dose Rate Upset $\geq 1 \times 10^{10}$ rad(Si)/s
- Dose Rate Survivability $\geq 1 \times 10^{12}$ rad(Si)/s
- No Latch up
- Core Power Supply 1.8 V \pm 0.09 V
- Parallel interface bus is SSTL-2
- Operating Range is -55°C to +125°C
- 468 Lead Ceramic Land Grid Array (LGA) 31 x 31 mm

RadHard SerDes Quad Redundant Transceiver

The HXSRD01 Trivor Serializer/Deserializer (SERDES) Integrated Circuit is a four channel, redundant SERDES which supports data rates from 1.0Gb/s to 3.1875Gb/s per lane. It is fabricated with Honeywell's 150nm silicon-on-insulator CMOS (S150) technology and is designed for use in low voltage systems operating in radiation sensitive environments.



HXSRD01 operates over the full military temperature range and requires a core supply voltage of 1.8V

+/- 0.09V and an I/O supply voltage of 2.5V \pm 0.2V. It supports point to point

communications and networking for 1G Ethernet, 1G and 2G Fiber Channel and 10G

XAUI Ethernet and Fiber Channel

communication protocols. The Trivor contains

a single Clock Multiplier Unit (CMU) which is

used for the entire integrated circuit to provide a multiplied reference clock to each

channel. The data is sent to Trivor in 8 bit bytes with a clock and the data is then 8b10b

encoded and transmitted. The receiver will perform byte and frame alignment, clock and

data recovery, 8b10b decode and output a clock and 8 bit data. The digital interface is SSTL-

2. For 1Gb/s transceiver operation, the Trivor consumes typical power of 0.53W for one

channel and 1.1W with four channels. When operating at 3Gb/s, typical power is 0.9W for

one channel and 1.7W for four channels. Trivor was designed to be a flexible device and has

many programmable features which are configured by internal registers. The Trivor

configuration registers are controlled via a Management Data Clock/Management Data

Input/Output (MDC/MDIO) software interface per clause 45 of IEEE 802.3ae.

