XRT83VSH28/XRT83VSH38
8-Channel E1 or T1/E1/J1 Short-Haul Line Interface Unit

Ideal for Cost-Sensitive Transport Applications Including Multi-service Provisioning Platforms and Routers

The XRT83VSH28 (83VSH28) and XRTVSH38 (83VSH38) are fully integrated 8-channel short-haul line interface units (LIUs) that operate from a 1.8V and a 3.3V power supply. Using internal termination, the 83VSH38 provides one bill of materials to operate in T1, E1, or J1 mode with minimum external components while the XRT83VSH28 operates in E1 75 Ohms or 120 Ohms mode with minimum external components.

Both LIU features are programmed through a standard parallel or serial microprocessor interface. EXAR's LIU's has patented high impedance circuits that allow the transmitter outputs and receiver inputs to be high impedance when experiencing a power failure or when the LIU is powered off. Key design features within the LIU optimize 1:1 or 1+1 redundancy and non-intrusive monitoring applications to ensure reliability without using relays.

The on-chip clock synthesizer generates T1/E1/J1 clock rates from a selectable external clock frequency and outputs a clock reference of the line rate chosen for the XRT83VSH38. The on-chip clock synthesizer generates an E1 clock reference for the XRT83VSH28.

Additional features include RLOS, a 16-bit LCV counter for each channel, AIS, QRSS generation/detection, TAOS, DMO, and diagnostic loopback modes.

Major Features

- **Fully integrated eight channel short-haul transceivers for T1/J1 (1.544MHz) and E1 (2.048MHz) applications (XRT83VSH38)**

- **Fully integrated eight channel short-haul transceivers for E1 (2.048MHz) applications (XRT83VSH28)**

- **T1/E1/J1 short haul and clock rate are per port selectable through software without changing components (XRT83VSH38)**

- **Internal Impedance matching on both receive and transmit for 75 Ohms (E1), 100 Ohms (T1), 110 Ohms (J1), and 120 Ohms (E1) applications are per port selectable through software without changing components**
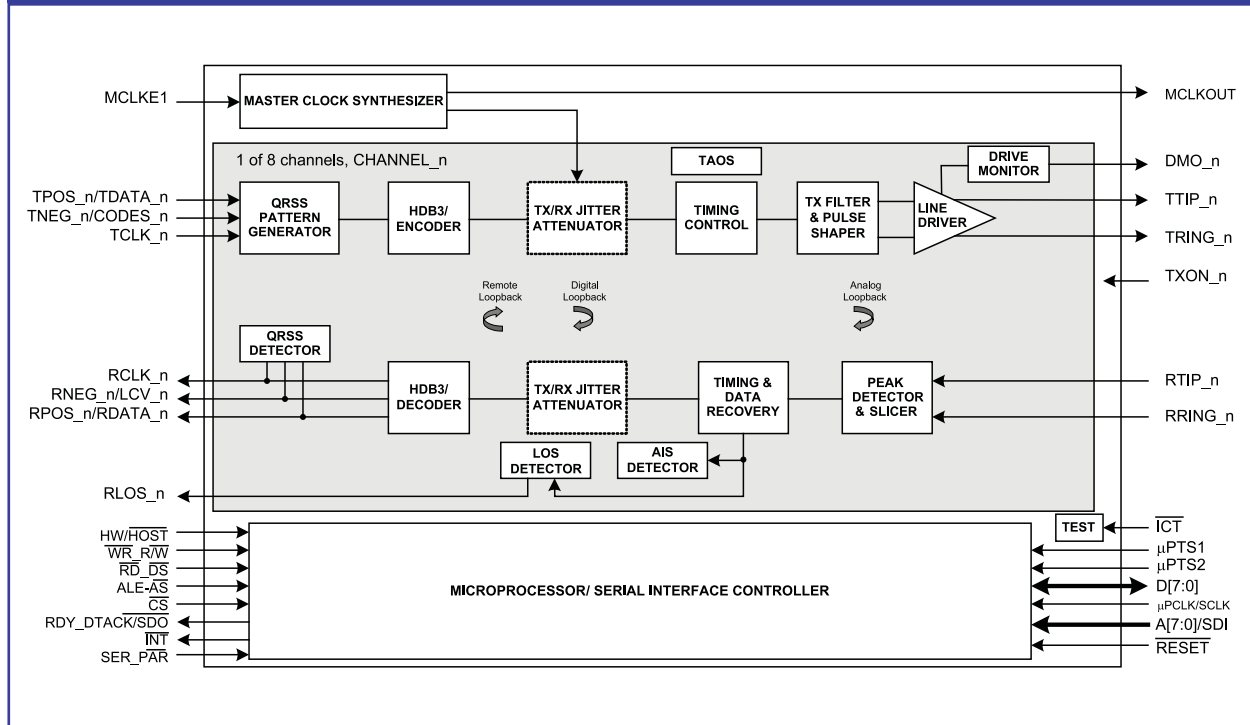
EXAR

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XRT83VSH28 Block Diagram (Host Mode)

Features

- Fully integrated eight channel short-haul transceivers for T1/J1 (1.544MHz) and/or E1 (2.048MHz) applications

- T1/E1/J1 short haul and clock rate are per port selectable through software without changing components

- Internal Impedance matching on both receive and transmit for 75 Ohms (E1), 100 Ohms (T1), 110 Ohms (J1), and/or 120 Ohms (E1) applications are per port selectable through software without changing components

- Power down on a per channel basis with independent receive and transmit selection

- Five pre-programmed transmit pulse settings for T1 short haul applications per channel

- Low Power: 1.8V Power Supply for Core Logic; 3.3V Power Supply for I/O (5V Tolerant)

- General Purpose Microprocessor Interface

- IEEE 1149.1 Standard Boundary Scan

- Pb-Free, RoHS Compliant Versions Offered

Applications

- T1 Digital Cross-Connects (DSX-1)

- ISDN Primary Rate Interface

- CSU/DSU E1 or E1/T1/J1 Interface

- E1 or T1/E1/J1 LAN/WAN Routers

- Public switching Systems and PBX Interfaces

- Multiplexer and Channel Banks

- E1 or T1/E1/J1 Multiplexer and Channel Banks

Ordering Information

Product No.	Package	Operating Temp. Range
XRT83VSH28IB	225-Ball PBGA	-40°C to +85°C
XRT83VSH38IB	225-Ball PBGA	-40°C to +85°C