SONET/SDH OC-48/STM-16, 4XOC-12/STM-4, 16XOC-3/STM-1 FRAMER/CONCENTRATOR WITH INTEGRATED CDR'S

REV. P1.0.0

GENERAL DESCRIPTION

The XRT94L55 is a SONET/SDH OC-48/STM-16, 4xOC-12/STM-4, 16xOC-3/STM-1 Framer/Concentrator with integrated CDR's.

APPLICATIONS

- DWDM Multiplexer/Demultiplexers
- Add Drop Multiplexers
- Optical/Digital Cross-Connects
- Router and Switch Line Cards

FEATURES

- Provides the highest level of integration and cost savings for Multiplexer/Concentrator applications with on chip CDR's
- Provides multiplexing/concentration between OC-48/ STM-16 interfaces and 4xOC-12/16xOC-3 interfaces
- Provides 4 serial OC-12/STM-4 interfaces with integrated CDR, compatible with industry standard optical modules
- Provides 16 serial OC-3/STM-1 interfaces with integrated CDR, compatible with industry standard optical modules
- Provides 1+1 protected 4-bit parallel 2.488 Gbits/ sec OC-48/STM-16 interface, compatible with industry standard CDR/transceivers
- Supports the mappings for any standard combination of STS-48c/AU4-16c, STS-12c/AU-4c or STS-3c/AU4 or STS-1/AU3
- Supports both SONET and SDH on all interfaces
- SONET/SDH is programmable per interface
- Provides pointer processing to accommodate timing offsets between optical interfaces
- Terminates Section Overhead, Line Overhead on OC-48/STM-16, 4xOC-12, 16xOC-3 interfaces
- Provides options to terminate and/or monitor STS-Path Overhead

- Provides Overhead Transparency between low andhigh speed interfaces
- Supports performance monitoring and alarms required by GR.253 and ANSI T1.105
- Supports 50 msecond APS by monitoring and filtering K1,K2 bytes as required by the standards
- Provides 48x48 STS-1 cross-connect between OC-48 and OC-12/OC-3 interfaces
- Supports Tandem Path Monitoring for Network Failure sectionalization as required by ANSI T1.105

HIGH SPEED INTERFACE

- 1+1 Protected OC-48/STM-16, 4-bit parallel LVDS compliant with TFI-5 Protocol

LOW SPEED INTERFACES

- SONET/SDH compliant 4xOC-12 interfaces with integrated CDR meet all the relevant jitter specifications; OC-12 interfaces are PECL and compatible with industry standard optical modules
- SONET/SDH compliant 16xOC-3 Interfaces with integrated CDR meet all the relevant jitter specifications; OC-3 interfaces are PECL and compatible with industry standard optical modules

APS INTERFACE

- Provides bi-directional APS Interface for 1 + 1 and Ring Protection

SECTION, LINE, STS-PATH OVERHEAD INTERFACE

- Provides serial access to all Section, Line and STS Path Overhead data for OC-48, 4xOC-12 and 16xOC-3 interfaces
- Provides serial access to DCC channels for direct-connections to standard HDLC processors.

MICROPROCESSOR INTERFACE

- Supports standard 8-bit micro-controllers with Intel or Motorola style interfaces
- Provides interrupts for alarm processing

ORDERING INFORMATION

PART NUMBER	PACKAGE	OPERATING TEMPERATURE RANGE
XRT94L55IV	780 BGA	-40°C to +85°C

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XRT94L55 BLOCK DIAGRAM

OC-48 Line 4

OC-48 Line 4

STS-48 Section/Line Overhead Processor + APS

Pointer Processor

48 x STS-1 Path Overhead

48 x STS-1 Crossconnect

Pointer Processor

STS-12/STS-3 Section/Line/Path Overhead Processor

CDR/SERDES

OC-12/OC-3 Line

Pointer Processor

STS-3 Section/Line/Path Overhead Processor

CDR/SERDES

OC-3 Line

Pointer Processor

STS-3 Section/Line/Path Overhead Processor

CDR/SERDES

OC-3 Line

Pointer Processor

STS-3 Section/Line/Path Overhead Processor

CDR/SERDES

OC-3 Line

Overhead Add/Drop Bus

Microprocessor Interface

JTAG Test Port

APS Bus