



MU9C8248 FDDI SRT Interface

ADVANCE INFORMATION

DISTINCTIVE CHARACTERISTICS

- High-speed FDDI Source Routing and Transparent Bridging address filter supports up to sixteen ports
- Glue-free operation with the MUSIC MU9C1480 LANCAM and AMD, National Semiconductor, and Motorola FDDI chip sets
- Configurable for both Motorola and Intel processor addressing modes
- Complies with the ISO 9314 standard for FDDI
- 64-entry Instruction Buffer holds up to six downloadable filtering and purging routines
- 64-entry Data Buffer or internal FIFO
- Automatic selection of Source Routing or Transparent filtering routines based on Transceiver output data
- Supplies proper XDATMAT, XSAMAT, SRMAT, ABORT, and CIP signals to the FDDI chip sets
- Selectable filtering options for each frame type
- Checks validity of Routing Information Field
- TTL-compatible interfaces
- Manufactured in CMOS technology
- Available in 100-pin PQFP package

GENERAL DESCRIPTION

The MU9C8248 is a Source Routing Transparent (SRT) Interface to the MUSIC Semiconductors LANCAM for use in FDDI LAN Bridges and Routers. This interface operates in accordance with ISO standards while supporting address filtering rates up to 500,000 frames/sec for minimum-length frames.

The MU9C8248 has five interfaces to provide "glue-free" address filtering. The Transceiver interface monitors receive data between the Physical Layer device and the MAC and determines whether to filter according to Source Routing or Transparent Bridging standards. The MAC interface supplies signals to instruct the FDDI chip set to reject or copy a frame. The LANCAM interface controls the companion LANCAM(s) for Transparent filtering. The Host Processor interface allows direct initialization of the MU9C8248, and downloading of the filtering and purging routines. The FIFO interface outputs new addresses received from the FDDI network.

The MU9C8248 can choose to copy or reject a frame depending on the frame's DA, RIF, and/or the frame type (MAC, LLC, or Reserved), and can perform multiple validity checks within the Routing Information Field (RIF), including general checks on every Routing Control Field (RCF) as well as multiple frame related checks.

The internal RAM can store up to 64 instructions at initialization for the LANCAM to execute matching, learning, aging, and purging operations. Up to six routines can be stored here and started by the network or the Node Processor. Internal arbitration prioritizes execution of instructions by the LANCAM. A second internal RAM, which contains 64 16-bit words, is used for data buffering operations or as an internal FIFO.

With sixteen Ring-Bridge-Ring number combinations stored internally, the MU9C8248 is very well suited to operate as an address filter in multi-port Source Routing Bridge/Router environments.

BLOCK DIAGRAM

