SEMTECH

ACS8515 LC/P

Line Card Protection Switch
for SONET or SDH Network Elements

ADVANCED COMMUNCIATIONS **Product brief**

Description

The ACS8515 is a highly integrated, single-chip solution for "hit-less" protection switching of SEC clocks from Master and Slave SETS clockcards in a SONET or SDH Network Element. The ACS8515 has fast activity monitors on the inputs and will implement automatic system protection switching against master clock failure. A further input is provided for an optional standby SEC clock. The ACS8515 is fully compliant with the required specifications and standards.

The ACS8515 can perform frequency translation from a SEC input clock distributed along a back plane to a different local line card clock, e.g. 8 kHz distributed on the back plane and 19.44 MHz generated on the line cards.
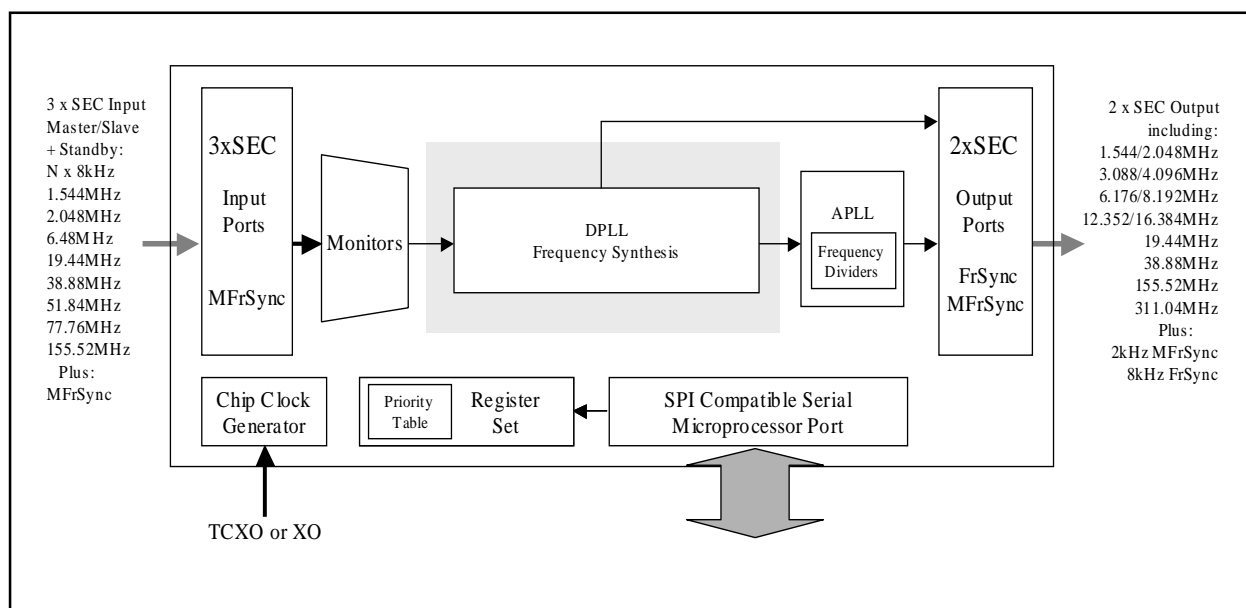
An SPI serial port is incorporated, providing access to the configuration and status registers for device setup.

The ACS8515 can utilise either a low cost XO oscillator module, or a TCXO with full temperature calibration - as required by the application.
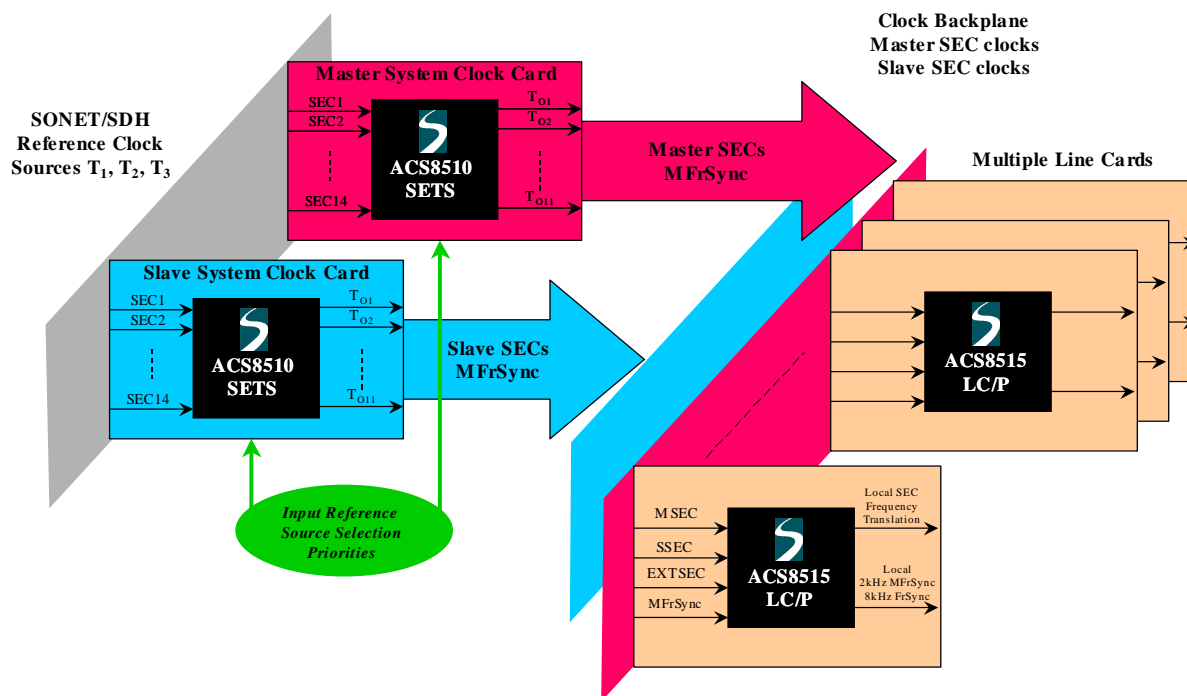
Features

- Suitable for Stratum 3, 4E and 4 SONET or SDH Equipment Clock (SEC) applications
- Meets AT&T, ITU-T, ETSI and Telcordia specifications
- Three SEC input clocks, from 2 kHz to 155.52 MHz
- Generates two SEC output clocks, up to 311.04 MHz
- Frequency translation of SEC input clock to a different local line card clock
- Robust input clock source frequency and activity monitoring on all inputs
- Supports Free-running, Locked and Holdover modes of operation
- Automatic "hit-less" source switchover on loss of input
- External force fast switch between SEC inputs
- Phase build-out for output clock phase continuity during input switchover
- SPI compatible serial microprocessor interface
- Programmable wander and jitter tracking/ attenuation 0.1 Hz to 20 Hz
- Single 3.3 v operation. 5 v I/O compatible
- Operating temperature (ambient) -40°C to +85°C
- Available in 64 pin LQFP package

Block Diagram

Applications

- SONET/SDH Add/Drop Multiplexers
- SONET/SDH Uplinks
- SONET/SDH Line Cards
- SONET/SDH Cross Connects

SONET/SDH Sychronization Solution

For additional information, contact the following:

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