OCHIP™ 1110

Economical DWDM for the Metro/Access Market

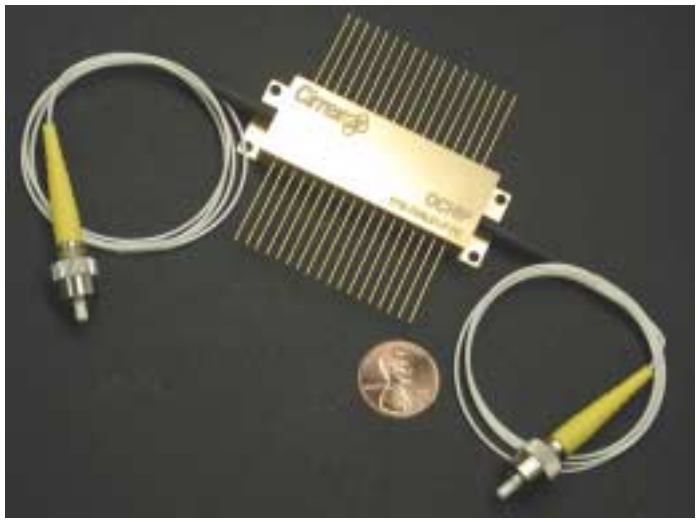
Product Description

The Cirrex OCHIP (Optical Communications Hybrid Integrated Platform) 1110 is a high-speed 2.5 Gbps DWDM optical add/drop multiplexer (OADM), optimized to access one channel of a multi-channel metropolitan fiber optic ring. The product includes all OADM optical and electrical functions integrated into a compact butterfly package.

The OCHIP's single mode fiber input accepts an optical signal with wavelengths spaced according to the ITU 200-GHz grid. The drop channel is wavelength filtered, converted to an electrical data signal, recovered and reclocked, and provided to the output as a differential PECL compatible data signal.

The add signal is provided to the data and clock inputs, which accept differential PECL compatible signals, and used to modulate the MACSL™, a wavelength-stabilized laser. This optical signal is then wavelength multiplexed with the pass-through channels onto the fiber egress port.

Internal optical monitoring of the laser provides for automatic power control to adapt to temperature variations and aging of the laser. Other status monitors are provided to give indication of receive optical power loss, loss of clock synchronization, and automatic power control failure. Temperature control of the laser is provided via an integrated thermistor and Thermoelectric Cooler.



Features

- Integrates multiple functions into a single compact, butterfly package
- Combines DWDM transceiver with wavelength add/drop multiplexer
- Operates in 1550 nm window, 16-channel 200-GHz ITU channel plan
- Low optical insertion loss
- Compliant with OC-48 eye mask
- Proprietary MACSL™ laser technology
- Accepts 2.488 Gbps serial data input/output
- Integral Clock and Data Recovery (CDR)
- Built-in Thermoelectric

Benefits

For the systems supplier

- 50%-80% reduction in cost and package size
- Enables new markets and applications
- Increases margins through reduced manufacturing costs
- Faster time to market

For the service provider

- Savings in rack space, co-location expenses
- Enables new applications – new revenue
- Reduced maintenance
- Equipment cost savings

Specifications

Package

Dimensions	20 mm (W) x 62.2 mm (L) x 10 mm (H)
Lead Configuration	36-pin butterfly
Connector Types	FC, SC, or LC

Optical Loss

Insertion Loss	<2 dB
Polarization Dependent Loss	<0.2 dB
Return Loss	>27 dB

Channel Filter

Channel Plan	200 GHz spacing on ITU grid
Center Wavelength Deviation	±0.2 nm
Band Pass Width	>0.8 nm
Adjacent Channel Isolation	>25 dB

Transmit Signal

Maximum Launch Power	0 to +3 dBm (1 to 2 mW),
Spectral Width	<0.6 nm
Center Wavelength Deviation	±0.2 nm
Side Mode Suppression Ratio	>30 dB
Extinction Ratio	>8.2 dB
Eye Pattern	Compliant with OC-48 mask

Receive Signal

Minimum Power (Sensitivity)	-21 dBm
Dispersion Penalty	<2 dB
Maximum Power (Overload)	0 dBm
Eye Pattern	Compliant with OC-48 mask

Electrical

Supply Voltage	5.0±0.5 V
Maximum Supply Current	0.5 A
Data Input/Output Voltage	Standard PECL levels
Maximum TEC Current	1.8 A, at 4.3 V drop

Temperature

Operating Temperature Range	0 to +70 ºC, case temperature
Storage Temperature Range	-40 to +85 ºC
Thermal Dissipation	2.5 to 7.0 W, depending upon operating temperature
Lead Soldering	Allowable at <260 ºC, up to 10 seconds

Contact Information

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