

Cisco ONS 15454 MSTP Protection Switch Module

Product Overview

The optical Protection Switch Module (PSM) for the Cisco® ONS 15454 Multiservice Transport Platform (MSTP) provides protection against a fiber cut by optically splitting an optical signal over two diverse paths. The PSM (Figure 1) allows three types of protection: single-channel or channel protection (Figure 2); amplified or non-amplified Multiplex Section Protection across the composite C- or L-band (Figure 3); and amplified or non-amplified Path Section Protection across the composite C- or L-band (Figure 4).

Figure 1. Cisco ONS 15454 MSTP Protection Switch Module



Figure 2. Channel Protection (Fiber Switched Protection)

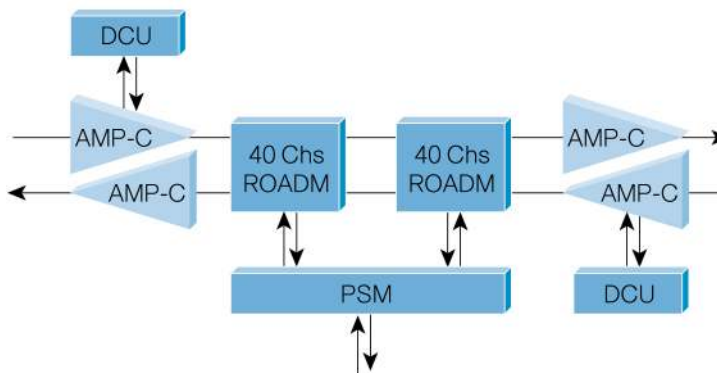


Figure 3. Multiplex Section Protection

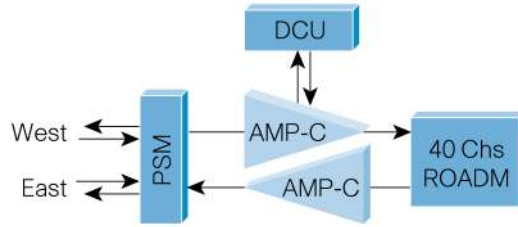
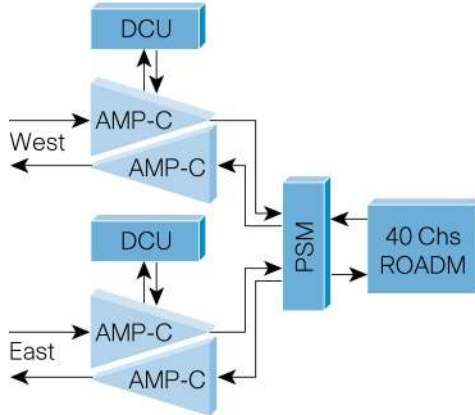


Figure 4. Path Section Protection



Features and Benefits

- **Flexible protection options:** The PSM is an addition to the extensive array of protection mechanisms on the Cisco ONS 15454 MSTP, which gives customers the flexibility to choose the appropriate level of protection based on cost and their requirements for network resiliency.
- **Cost effectiveness:** PSM-based protection is one of the most cost-effective means to provide service resiliency in an optical network. The PMS gives customers an affordable entry-level solution.
- **Fast switchover performance:** The PSM completes the service switchover in less than 50 milliseconds, which helps ensure minimal disruption to data traffic.
- **Easy provisioning and management:** The PSM fully integrates with the Cisco ONS 15454 MSTP through Cisco Transport Controller.
- **Support for amplified networks:** The PSM also works with the Cisco ONS 15454 MSTP amplifiers to extend the reach of the network.

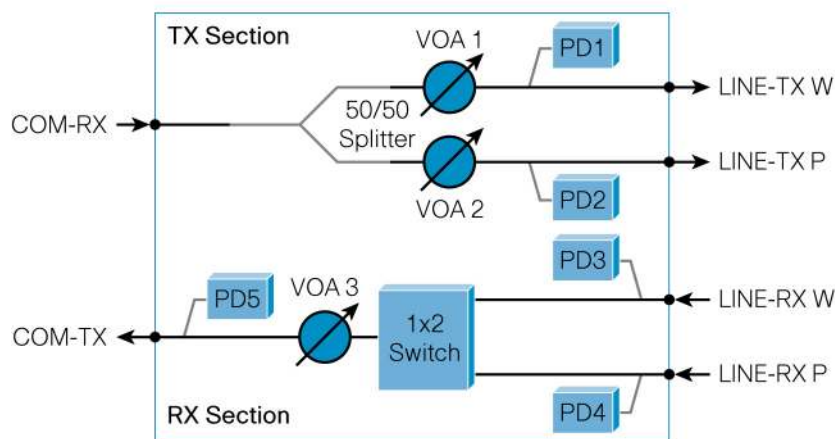
Product Specifications

Table 1. Product Specifications

| Optical Specifications | Minimum | Maximum | Unit |
|---|---------|---------|------|
| Insertion loss (Com-RX → Line TX) <small>See Figure 5</small> | – | 4.6 | dB |
| Insertion Loss (Line RX → Com-TX) <small>See Figure 5</small> | – | 2.3 | dB |
| VOA attenuation resolution | 0.1 | 0.1 | dB |
| VOA attenuation range | 0 | 15 | dB |
| VOA attenuation settling time | – | 10 | ms |
| VOA shut-off attenuation | – | 35 | dB |

| Optical Specifications | Minimum | Maximum | Unit |
|--|-------------------------------|-------------|------|
| Maximum optical input power | 300 | – | mW |
| Attenuation setting accuracy | –0.5 | 0.5 | dB |
| Attenuation setting precision | –0.2 | 0.2 | dB |
| Cross-talk | 50 | – | dB |
| Return loss | 40 | – | dB |
| Photodiode 1 & 2 ^{See Figure 5} | –25 | 17 | dB |
| Photodiode 3 & 4 ^{See Figure 5} | –38 | 20 | dB |
| Photodiode 5 ^{See Figure 5} | –40 | 19 | dB |
| Power Specifications | | | |
| Typical | 25W | | |
| Maximum | 32W | | |
| Reliability Specification | | | |
| MTBF | 333,292 | | |
| Operating Environment Specification | | | |
| Temperature | –5 to 55°C | 23 to 131°F | |
| Humidity | 5 to 95 percent noncondensing | | |
| Storage Environment Specification | | | |
| Temperature | –5 to 55°C | 23 to 131°F | |
| Humidity | 5 to 95 percent noncondensing | | |

Figure 5. Cisco ONS 15454 MSTP Protection Switch Module Block Diagram



System Requirements

Table 2. Product Specifications

| Description | Specification | |
|---------------------------|---|--|
| Component | Cisco ONS 15454 ANSI | Cisco ONS 15454 ETSI |
| Processor | TCC2P and TCC2 | TCC2P and TCC2 |
| Cross-connect | All (not required) | All (not required) |
| Shelf assembly | 15454-SA-HD or 15454-SA-HD-DDR shelf assembly with CC-FTA version fan-tray assembly | 15454-SA-ETSI shelf assembly with SDH CC-FTA version fan-tray assembly |
| System software | Release 9.0 or later | Release 9.0 or later |
| Slot compatibility | 1 to 6 and 12 to 17 | 1 to 6 and 12 to 17 |

Ordering Information

To place an order, visit the [Cisco Ordering Home Page](#). To download software, visit the [Cisco Software Center](#).

Table 3. Ordering Information

| Product Name | Part Number |
|---|-------------|
| Cisco ONS 15454 MSTP Protection Switch Module | 15454-PSM= |

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For More Information

For more information about the Cisco ONS 15454 MSTP Protection Switch Module, visit <http://www.cisco.com/en/US/products/hw/optical/ps2006/ps5320/index.html> or contact your local account representative.



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