

# Cisco ONS 15454 MSTP Protection Switch Module

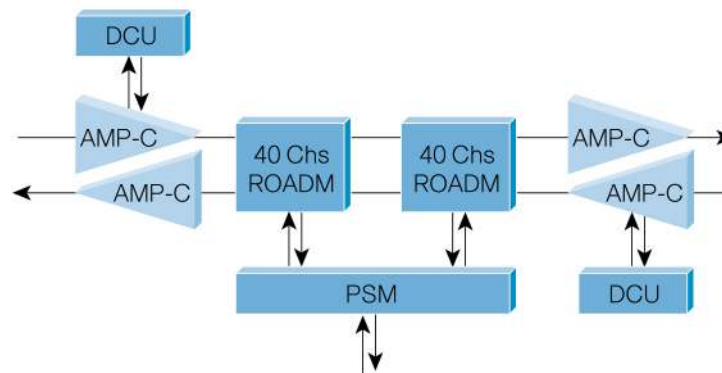
## Product Overview

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).

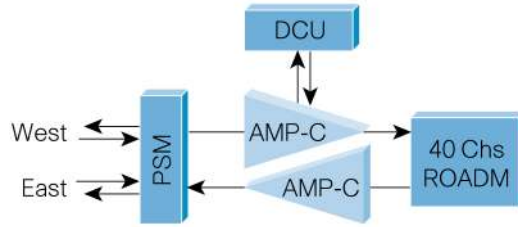
**Figure 1.** Cisco ONS 15454 MSTP Protection Switch Module



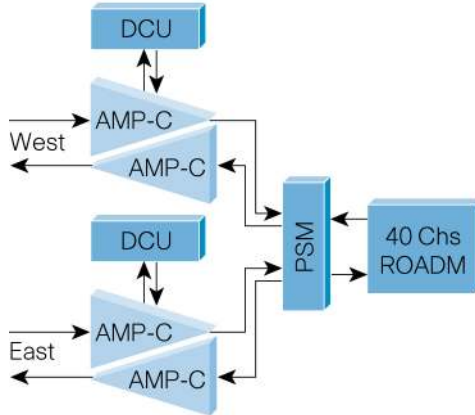
**Figure 2.** Channel Protection (Fiber Switched Protection)



**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.

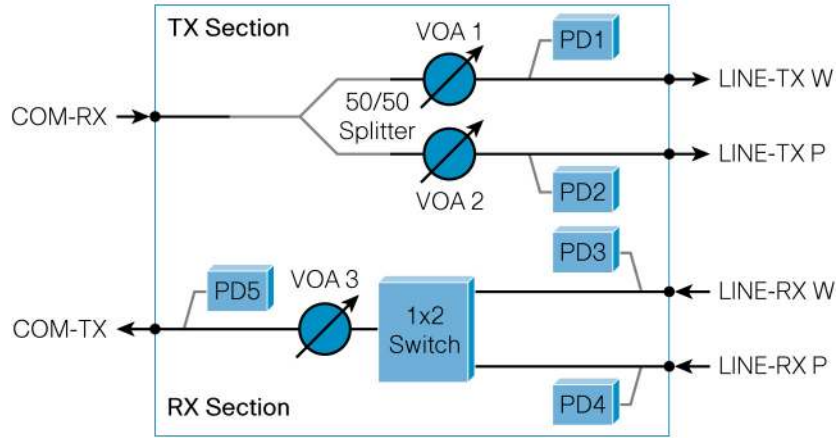
**Product Specifications**

**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 <small>See Figure 5</small>	–25	17	dB
Photodiode 3 & 4 <small>See Figure 5</small>	–38	20	dB
Photodiode 5 <small>See Figure 5</small>	–40	19	dB
<b>Power Specifications</b>			
Typical	25W		
Maximum	32W		
<b>Reliability Specification</b>			
MTBF	333,292		
<b>Operating Environment Specification</b>			
Temperature	–5 to 55°C	23 to 131F	
Humidity	5 to 95 percent noncondensing		
<b>Storage Environment Specification</b>			
Temperature	–5 to 55°C	23 to 131F	
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=

## Cisco Services

Cisco Services make networks, applications, and the people who use them work better together.

Today, the network is a strategic platform in a world that demands better integration between people, information, and ideas. The network works better when services, together with products, create solutions aligned with business needs and opportunities.

The unique Cisco Lifecycle approach to services defines the requisite activities at each phase of the network lifecycle to help ensure service excellence. With a collaborative delivery methodology that joins the forces of Cisco, our skilled network of partners, and our customers, we achieve the best results.

## 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.



Americas Headquarters  
Cisco Systems, Inc.  
San Jose, CA

Asia Pacific Headquarters  
Cisco Systems (USA) Pte. Ltd.  
Singapore

Europe Headquarters  
Cisco Systems International BV  
Amsterdam, The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at [www.cisco.com/go/offices](http://www.cisco.com/go/offices).

CCDE, CCENT, Cisco Eos, Cisco Lumin, Cisco Nexus, Cisco StadiumVision, Cisco TelePresence, Cisco WebEx, the Cisco logo, DCE, and Welcome to the Human Network are trademarks; Changing the Way We Work, Live, Play, and Learn and Cisco Store are service marks; and Access Registrar, Aironet, AsyncOS, Bringing the Meeting To You, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, CCSP, CCVP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Collaboration Without Limitation, EtherFast, EtherSwitch, Event Center, Fast Step, Follow Me Browsing, FormShare, GigaDrive, HomeLink, Internet Quotient, IOS, iPhone, iQuick Study, IronPort, the IronPort logo, LightStream, Linksys, MediaTone, MeetingPlace, MeetingPlace Chime Sound, MGX, Networkers, Networking Academy, Network Registrar, PCNow, PIX, PowerPanels, ProConnect, ScriptShare, SenderBase, SMARTnet, Spectrum Expert, StackWise, The Fastest Way to Increase Your Internet Quotient, TransPath, WebEx, and the WebEx logo are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0809R)