

Unidirectional OC-192 Optical Regenerator

WaveShifter 600 ER



Key Features

- Reach extension for power- and dispersion-limited OC-192/STM-64 links
- 3R operation with jitter rejection
- High transmit power (+2 dBm)
- Excellent receiver sensitivity (-24 dBm minimum)
- Extended dispersion tolerance to 80 km at OC-192
- Convection cooled; no fans required

Applications

- SONET reach extension of loss and dispersion-limited links
- 1310/1550 WDM overlay with existing 1310 nm transmission equipment

Compliance

- Telcordia NEBS level 3
- GR-253-CORE, Issue 3, sections 4.1 (Physical Layer Classifications), 5.6.1 (Jitter for Regenerators), and 7 (Other Generic Criteria)
- UL 60950 Third Edition
- CAN/CSA C22.2 No. 60950 00 Third Edition
- FCC Class A

The WaveShifter 600 ER is a rugged optical regenerator that extends the reach of SONET OC-192 or 10-Gigabit Ethernet wide-area network (WAN) data by up to 80 km on standard single-mode fiber (SMF).

A versatile reach-extender, the WaveShifter 600 ER can be used as an in-line regenerator for power, dispersion, or jitter-limited transmission applications. With its high-sensitivity receiver, incoming 10 Gb/s signals are reshaped, retimed, and regenerated (3R), and retransmitted at high output power.

The WaveShifter 600 ER converts any 1310 nm or 1550 nm optical input to a long-reach 1550 nm C-band output compatible with erbium doped fiber amplifiers (EDFA) such as the LightAmp and BrightAmp series of network-ready optical amplifiers. The WaveShifter 600 ER is also compatible with dual 1310/1550 and ruggedized wavelength division multiplexing (WDM) products, enabling wavelength overlays with 1310 nm intermediate and long-reach equipment.

The WaveShifter 600 ER is ready to deploy out of the box into any WaveReady™ 3500 shelf and can be provisioned in minutes for a wide range of network applications.

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Specifications

Parameter ¹	Minimum	Typical	Maximum
Optical Characteristics			
Input and output data rate	9.95 Gb/s (OC-192/STM-64, 10GE WAN)		
Input and output wavelength			
Input wavelength, port A	1280 nm	-	1600 nm
Output wavelength, port B	1530 nm	-	1560 nm
Input sensitivity at 9.95 Gb/s, BER=10 ⁻¹²	-24 dBm	-	-
Input overload power at BER=10 ⁻¹²	-	-	-6 dBm
Wavelength/temperature accuracy	-200 pm	-	+200 pm
Maximum dispersion @ 1550 nm 2 dB path penalty	-	-	1600 ps/nm
Dispersion penalty (80 km at OC-192 and BER=10 ⁻¹²)	-	-	2.0 dB
Differential group delay (DGDmax) @ 1 dB path penalty	-	-	30 ps
Extinction ratio	9.5 dB	-	-
Eye mask	Per GR-253-CORE		
Output power level	+2 dBm	-	+6 dBm
Jitter (generation, tolerance, transfer)	Meets GR-253/ITU-T G.98 and ANSI X3.230-1994		
Electrical Characteristics			
DC supply voltage	-	-48 V	-
Power dissipation	-	10.5 W	12 W
Alarm relay signals	Dry contact major and minor alarms, Relay open under normal operation. Relay closed when power is off. Major (MAJ), Minor (MIN)		
Physical Dimensions			
Size (H x W x L)	6 x 2.2 x 8.5 inch (15.24 x 5.58 x 21.59 cm)		
Weight (approximate)	5.0 lbs (2.27 kg)		
Environmental Characteristics			
Operating ambient temperature	-5 °C	-	55 °C
Storage temperature	-40 °C	-	85 °C
Relative humidity (non-condensing)	5 %	-	95%
Interface Characteristics			
Optical connectors	SC/PC on input port A and output port B		
Front panel	Four LEDs: CARD (power), MAJ (major alarm), MIN (minor alarm), LOS A (loss of input signal)		

Note: This product should be deployed in accordance with your company's deployment directives.

1. All specifications are guaranteed over the life, operating temperatures, wavelength range, and input voltage specified.

Ordering Information

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at customer.service@jdsu.com.

Sample: WSH-600DC95SA

Product Code	CLEI	Description
WSH-600DC95SA	WMR6T5CDAA	WaveShifter 600 ER

Associated Part

Product Code	CLEI	Description
10129126	WMMNFF0DRA	DenseMount Shelf

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