

100 GHz, Narrowband (Gaussian) Arrayed Waveguide Grating (AWG)

**Key Features**

- Very low insertion loss
- Wide channel bandwidth
- Low polarization dependent loss
- Low chromatic dispersion
- High adjacent channel isolation
- Low power consumption
- Compact size
- Integrated temperature controller (optional)

Applications

- Metro and long-haul mux/demux
- OADM network nodes
- Original equipment manufacturer (OEM) applications

Compliance

- Telcordia GR-1221 qualified

JDSU 100 GHz, narrowband arrayed waveguide gratings (AWGs) provide a price-competitive, small-form-factor alternative to standard thin film-based dense wavelength division multiplexing (DWDM).

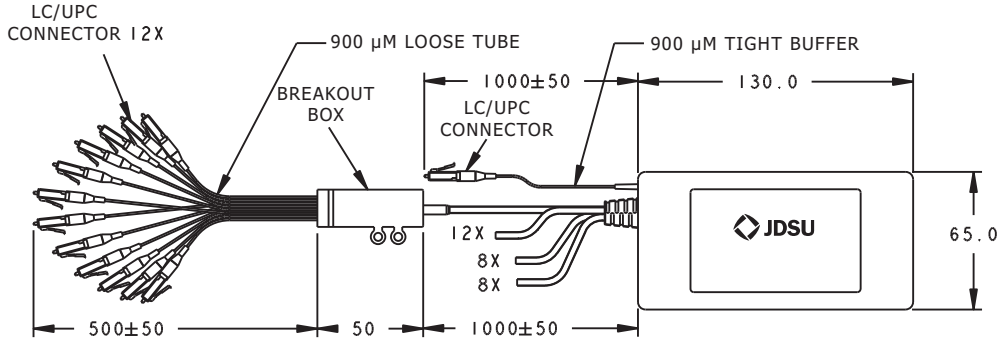
JDSU AWGs are a product of advanced PLC fabrication capabilities, and are offered in both mux and demux configurations. The low cost and high performance make them the ideal solution for metro and long-haul DWDM applications.

JDSU AWGs can incorporate microcontroller-based internal temperature control (ITC) circuitry to allow stable alignment with the ITU grid. The optional ITC eliminates the need for external temperature control, and does not impact package dimensions.

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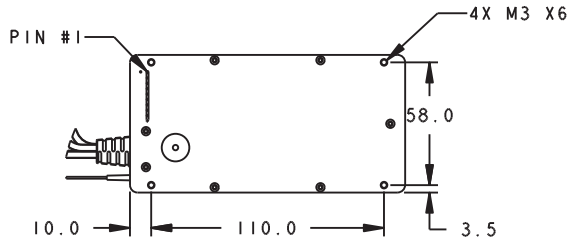
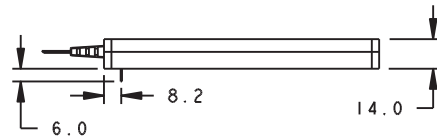
Dimensions Diagram

(Specifications in mm unless otherwise noted; tolerance= $x.x \pm 0.5$)



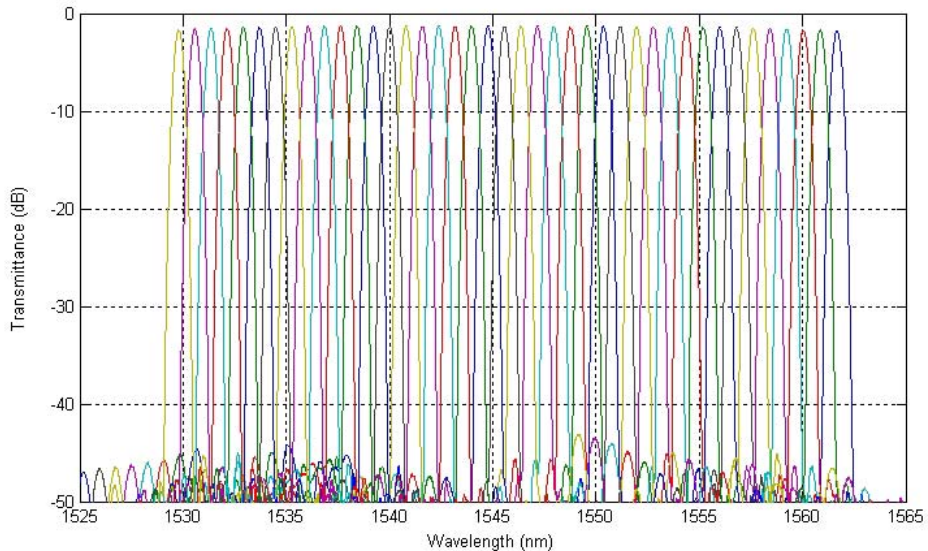
Pinout

Pin	Description
1	Vdd
2	Vdd
3	EN
4	A2
5	N1
6	Rx
7	Tx
8	GND
9	GND
10	Vcc



Note: Reference appropriate specifications for channel marking.

100 GHz Narrowband Transmission Spectrum



Specifications

Parameter	40 Channel Demux Narrowband AWG	
Number of channels		40
Channel spacing		100 GHz
Specification passband ¹		±12.5 GHz
Operating wavelength range		ITU grid, C or L band
Insertion loss ² (excluding connectors)	Maximum	2.5 dB
1 dB channel bandwidth ³	Minimum	30 GHz
3 dB channel bandwidth ³	Minimum	55 GHz
Loss uniformity ⁴ (excluding connectors)	Maximum	1.0 dB
Adjacent channel crosstalk ⁵	Minimum	26 dB
Non-adjacent crosstalk ⁶	Minimum	35 dB
Polarization dependent loss	Maximum	0.5 dB
Return loss		40 dB
Operating temperature		-5 to 65°C
Dimensions ⁷ (L x W x H)		130 x 65 x 14 mm

Notes: All specifications are guaranteed at the worst-case polarization state and center frequency misalignment, over the entire operating temperature range.

1. The specification passband is defined relative to the ITU grid.
2. The insertion loss is defined as the ITU grid loss value, taking into account the worst-case polarization state.
3. The channel bandwidth is the total physical bandwidth of the device at specified level below peak transmission
4. Loss uniformity is the peak-to-peak variation of all channel insertion loss values.
5. Adjacent channel crosstalk is defined for a single channel as the worst-case isolation in the two neighboring channels, measured relative to the channel insertion loss.
6. Non-adjacent crosstalk is defined for a single channel as worst-case isolation of all non-adjacent channels, measured relative to the channel insertion loss.
7. Package dimensions are shown for typical devices and may not be applicable for all AWGs. Please contact JDSU for more details.

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.