



TH-DSC

DISPERSION SLOPE COMPENSATOR

MANAGE YOUR DISPERSION AND LOWER YOUR COSTS

TeraXion's TH-DSC is a grating-based multi-channel dispersion slope compensator that fulfills the needs of high data rate communication systems for fixed chromatic dispersion compensation. Based on an innovative and proprietary multi-channel technology, it provides an optimized dispersion compensation for each individual DWDM channel. The dispersion slope of the transmission fiber can thus be corrected for with a small insertion loss penalty and a minimal investment in equipment and components. These features make TeraXion's TH-DSC the ideal tool for dispersion slope compensation on 10 and 40 Gb/s links, where it can be used either at the transmitter end for pre-compensation, in front of the demultiplexer for dispersion slope trimming or in place of the compensating fiber (DCF).

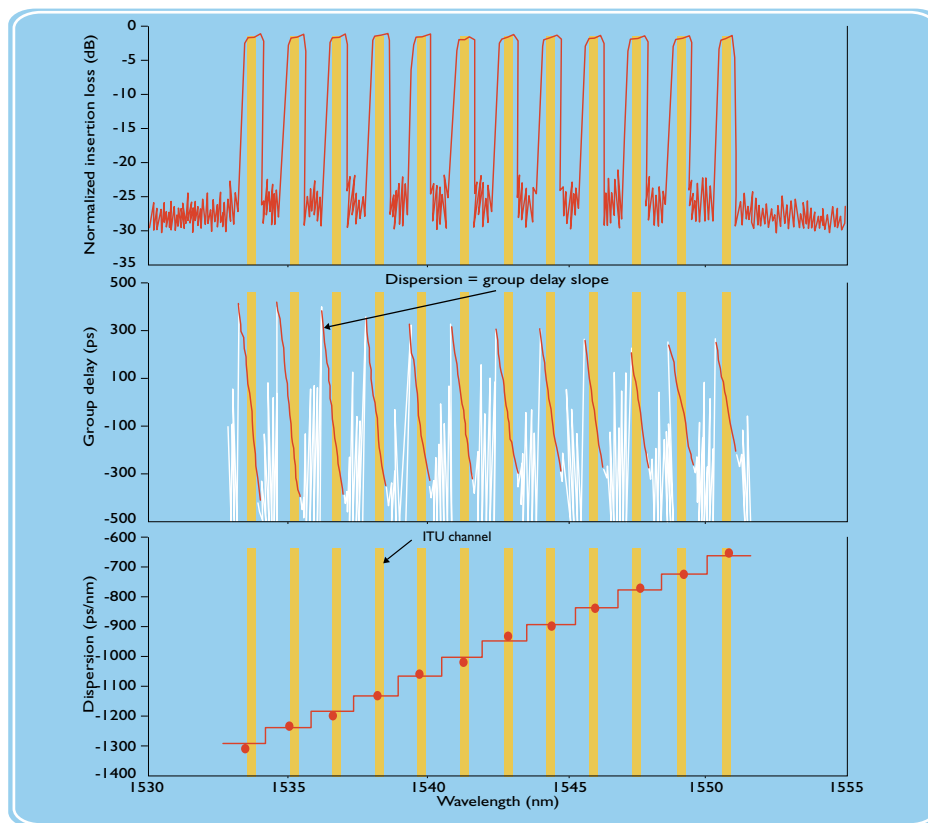
BENEFITS

- _ Low insertion loss
- _ Accurate and customized dispersion slope compensation on a per channel basis
- _ Low group delay ripple ensures minimal system penalties for up to 40 Gb/s transmission
- _ Non-linear effects minimized in high-power applications
- _ Modular, compact and flexible module configuration
- _ Cost-effective solution for dispersion slope compensation
- _ Telcordia™ GR-1221 & GR-1312 compliant

APPLICATIONS

- _ Long-haul and ultra long-haul DWDM networks:
 - Compensation for the residual slope at the terminal in multiple spans with DCF
 - Multi-channel sub-band or broadband slope matching dispersion compensation
 - Pre-compensation at the transmitter end

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Normalized insertion loss and group delay spectra of a 12-channel dispersion slope compensation grating (upper two graphs).

The dots in the bottom graph give the dispersion values obtained from a curve fit of the group delay while the solid line represents the target.

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SIMPLICITY_PERFORMANCE_RELIABILITY

SPECIFICATIONS

Optical Parameters		
Transmission rate	10 Gb/s	40 Gb/s
Channel bandwidth	20 GHz	80 GHz
Center wavelength	C & L band	C & L band
Number of channels	≤ 32	≤ 32
Channel spacing	100-200 GHz	200 GHz
Dispersion level	± 200 to ± 2500 ps/nm	± 200 to ± 1000 ps/nm
PMD	< 2 ps	< 1 ps
Dispersion tolerance	< 5 %	
Group delay ripple GDR	< ± 20 ps (unsmoothed) < ± 5 ps (smoothed @ 100 pm moving avg)	
Insertion loss ¹	2 to 5 dB	
Insertion loss ripple	< 1.5 dB	
Channel to channel IL non-uniformity	< 1 dB	
PDL	< 0.5 dB	
Return loss	> 50 dB	
Mechanical Parameters		
Operating temperature	0 to 70 °C	
Storage temperature	-40 to 85 °C	
Packaging Parameters		
Athermalized sensitivity	< 1 pm/ °C	
Dimensions	230 x 100 x 16 mm	

1. Depending upon the number of channels. Excluding connectors

Ordering Information

For orders, questions, specific requirements, or to learn more about TeraXion products, contact us at sales@teraxion.com.

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