

PowerBit™ SD-40

40 Gb/s Intensity Modulator

Features:

- Titanium-Indiffused Waveguides
- X-Cut, Single Drive
- C and L-Band Operation
- Extended Bandwidth for FEC
- Zero Chirp, No Spectral Broadening
- Small Footprint
- Low Drive Voltage, Matched Drivers Available
- High Extinction Ratio
- Integrated Photodiode
- Allows Highest Power into the Fiber
- V or GPPO Connector

Applications:

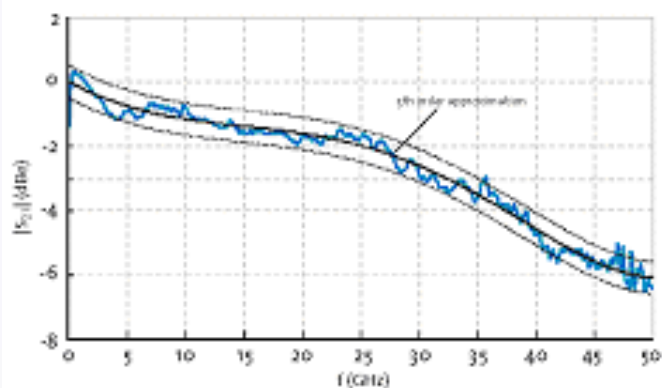
- Chirp-Free External NRZ Intensity Modulation
- Terrestrial and Submarine Long and Ultra Long-Haul Systems
- WDM over C and L-Band
- Data Encoder for Double Stage RZ Modulators



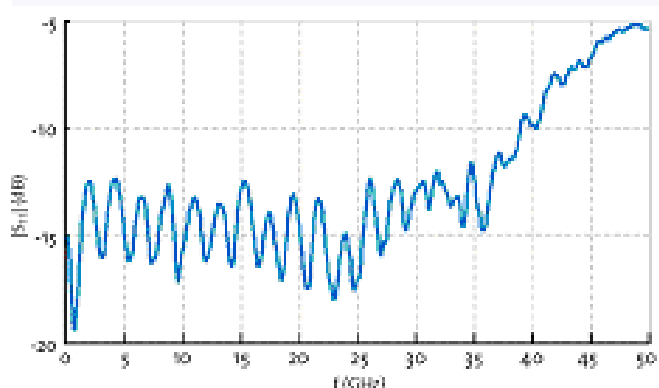
This leading edge 40 Gb/s intensity modulator is a key building block for next generation optical communication networks. The unique x-cut, zero chirp modulator enables leading uncompensated transmission distances, and high channel counts in Long and Ultra Long Haul DWDM networks. Chirp free signal generation provides high dispersion tolerance and minimum channel crosstalk. LiNbO₃ is also the technology of choice when optimum transmission quality is required on shorter reaches. Advanced process technologies are applied to achieve maximum feasible electro-optic bandwidth while maintaining the low drive voltage and low insertion loss of classical x-cut modulators. Well matched driver amplifiers are available through Avanex recommended partners.a

Performance Characteristics

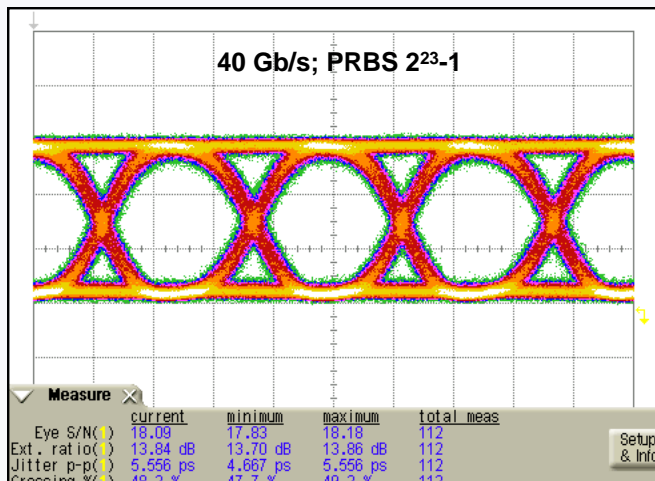
Electro Optical Response



Electrical Return Loss



Eye Diagram



Specifications

| Parameters | | Units |
|---|--------------------|-------|
| Optical | | |
| Operating Wavelengths Range | C and L-Band | |
| Insertion Loss | 3.2 | dB |
| Extinction Ratio (DC) | ≥ 20 | dB |
| Dynamic Extinction Ratio | ≥ 12 | dB |
| Optical Return Loss (without connectors) | ≥ 45 | dB |
| Chirp | ± 0.1 (± 0.03 typ) | |
| Electrical | | |
| S ₂₁ Electro Optic Bandwidth (-3 dBe) | 33 | GHz |
| S ₁₁ Return Loss (V-Connector) | £ 10 | dB |
| RF V _□ Voltage (@ 1 kHz) | £ 5.0 | V |
| Bias V _□ Voltage (@ 1 kHz) | £ 5.5 | V |
| PRBS Electrical Drive Voltage (V _{amp}) | 5.5 | V |
| Input Connector Impedance | 50 | □ |
| Photodiode Responsivity | 10 ⁻³ | A/W |
| S ₂₁ Electro Optic Bandwidth (-3 dBe) | 33 | GHz |

Where not specified, parameters are measured at 25 °C.

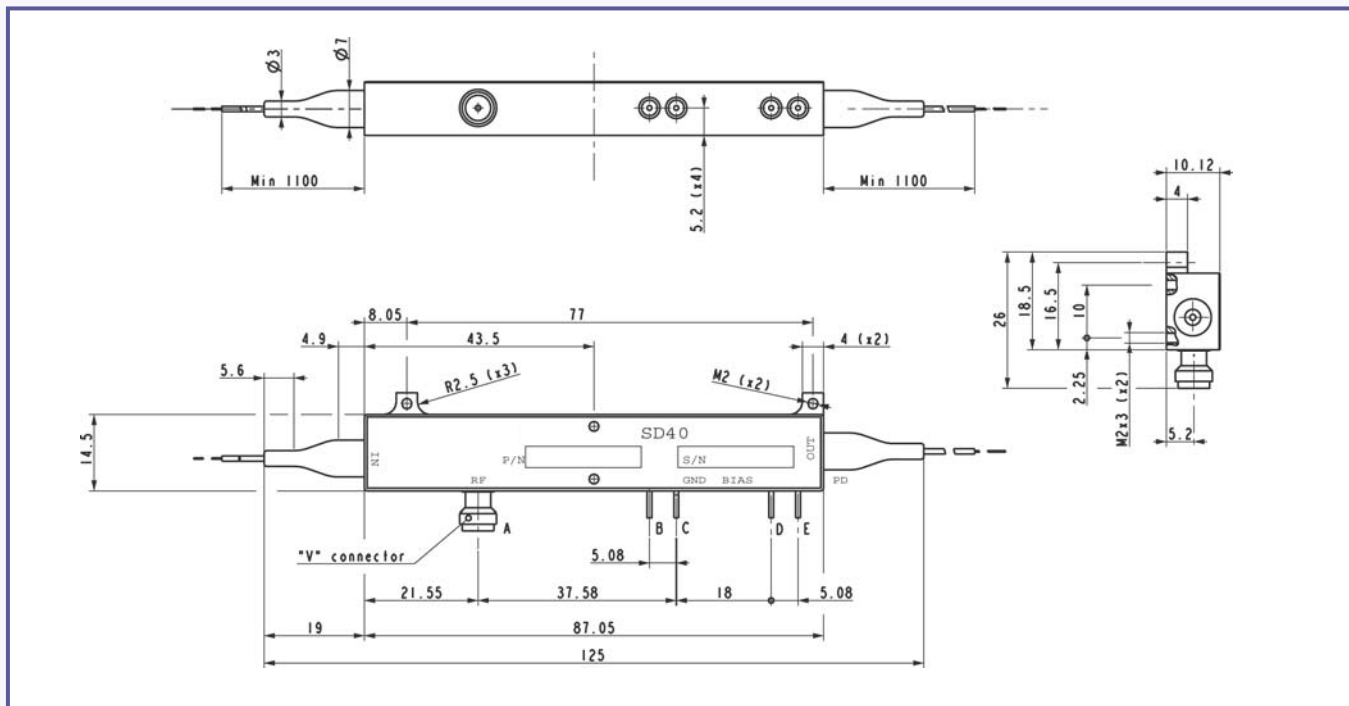
Pin-Out and Fiber Specifications

| | |
|-----------------------|---|
| RF Connector | V-Connector ² (GPPO on Request) |
| Bias and PD Connector | LEAD Pins |
| Input Fiber | Corning/Fujikura SM15P UV/UV250 (Panda Fiber) |
| Output Fiber | Corning/Fujikura SM15P UV/UV250 (Panda Fiber) |

Note 1. Other output fibers are available upon request.

Note 2. V-Connector is a registered trademark of the Anritsu Corporation.

Package Footprint



| Pin # | Description |
|-------|--------------------|
| A | RF Input |
| B | Ground |
| C | Bias |
| D | Photodiode Cathode |
| E | Photodiode Anode |



Ordering Information

| Part Number |
|-----------------------|
| SD40-0-40P-PP-yyzz-00 |

| | | | |
|--------|--------------------------|--|---|
| yy; zz | Input; Output Connectors | NC = No Connectors FP = FC/PC FA =FC/APC SP =SC/PC SA = SC/APC | Other connector s available upon request; all connectors on PM fiber are polarization maintaining |
|--------|--------------------------|--|---|

Contact Information

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