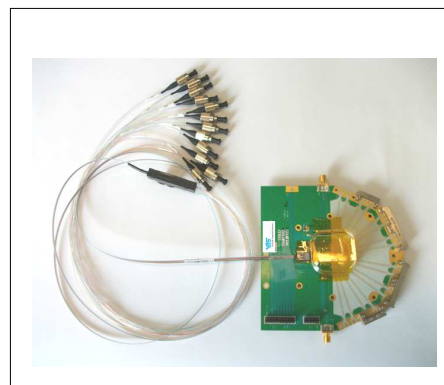


## Up to 12 x 25 Gbit/s 700-870 nm High Speed Optical Receiver Testboard

Product Code: **VHXR6212A-840**

### 300 Gbit/s



*Sample image only. Actual product may vary.*

### Product Description

The VHXR6212A-840 receiver optical subassembly utilizes a 12-channel PIN photodetector chip array and transimpedance amplifier (TIA) integrated on an evaluation board. The multi mode ribbon fiber coupled receiver board is designed for short reach ultrahigh-speed data communication applications of up to 12 x 25 Gbit/s over multi mode fiber.

## Preliminary

### Features

- up to 12 x 25 Gbit/s data rate
- high speed electrical connector (GPPO)
- ribbon-fiber coupled

### Applications

- Infiniband EDR
- Proprietary optical interconnects
- Research and development

| Parameter              | Typical (PD chips) | Notes |
|------------------------|--------------------|-------|
| Operating Wavelength   | 700 ~ 870 nm       |       |
| 3 dB Bandwidth         | 22 GHz             |       |
| Rise time (20% to 80%) | 17 ps              |       |
| Maximum input power    | 4 mW @ 850 nm      |       |

All product specifications and descriptions are subject to change without notice.

## Preliminary

### Electro-optical characteristics (at Tambient = 25 °C)

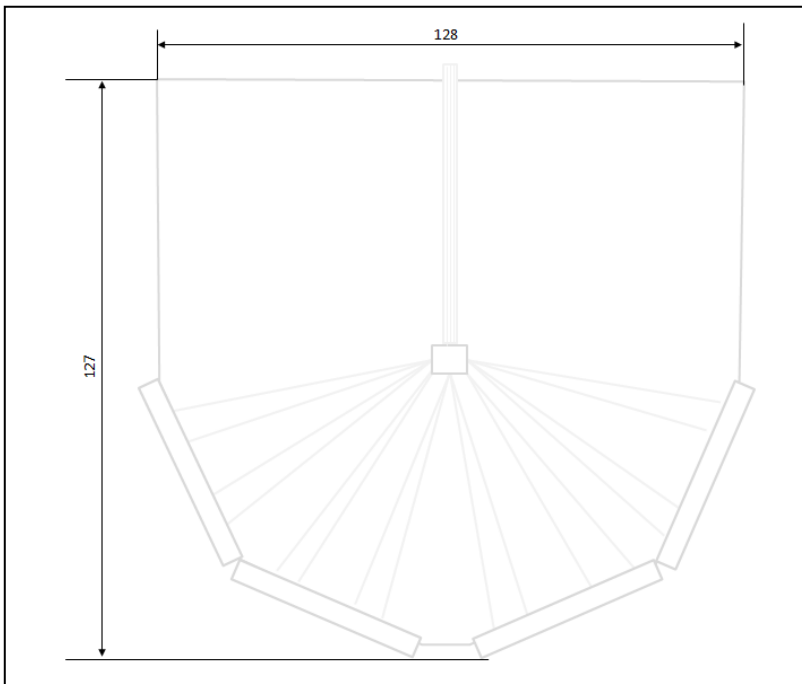
| Parameter                   | Symbol      | Test Condition | Min | Typ | Max  | Unit     |
|-----------------------------|-------------|----------------|-----|-----|------|----------|
| Wavelength responsivity     | $\lambda$   |                | 790 | 850 | 870  | nm       |
| Operating temperature       | $T_{op}$    | ambient        | 15  |     | 35   | °C       |
| Supply voltage              | $V_{cc}$    |                | 3.1 | 3.3 | 3.5  | V        |
| Bandwidth                   | BW          |                |     | 22  |      | GHz      |
| Low frequency cutoff        |             |                |     |     | 150  | kHz      |
| Sensitivity (OMA)           | S           |                |     | -10 |      | dBm      |
| Output resistance           | $R_o$       | differential   |     | 100 |      | $\Omega$ |
| Optical overload            |             |                | 1.5 |     |      | dBm      |
| Differential output voltage | $V_{out}$   |                | 100 |     | 1200 | mV       |
| Duty cycle distortion       |             |                |     | 1   | 10   | %        |
| Rise/Fall time              | $T_R / T_F$ |                |     | 15  | 17   | ps       |

### Absolute Maximum Ratings

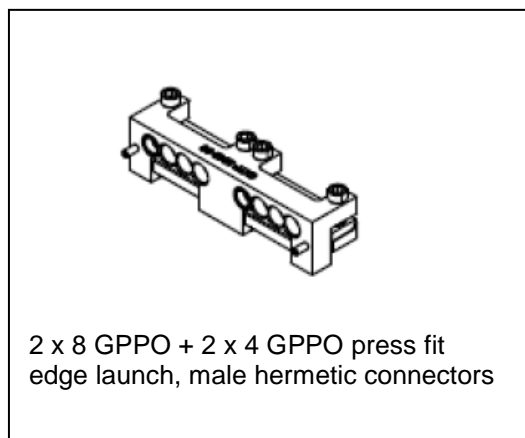
| Parameter              | Symbol   | Min  | Max      | Unit |
|------------------------|----------|------|----------|------|
| Incident optical power | $P_{in}$ |      | +5       | dBm  |
| Power supply voltage   | $V_p$    | -0.3 | 4.0      | V    |
| ESD (Human Body Model) |          |      | Class 1A |      |

Preliminary

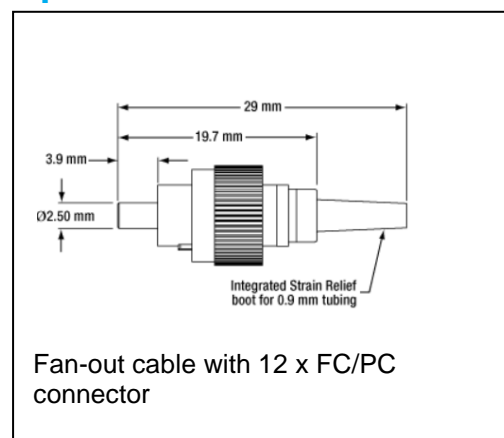
Mechanical drawing (in mm)



Electrical connector



Optical connector



Preliminary

**Functional overview**

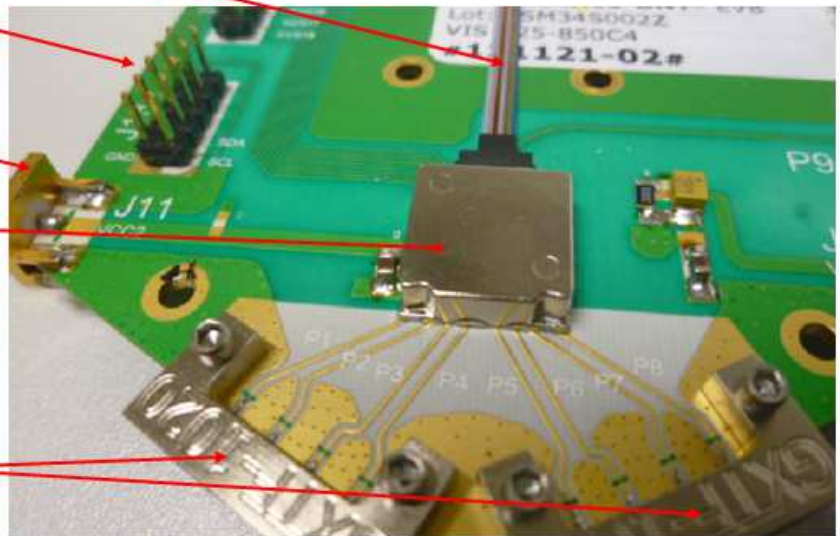
Ribbon fiber with 12-channel fan-out with FC/PC connectors

I<sup>2</sup>C bus connector

SMA connector for supply voltage

Optical engine

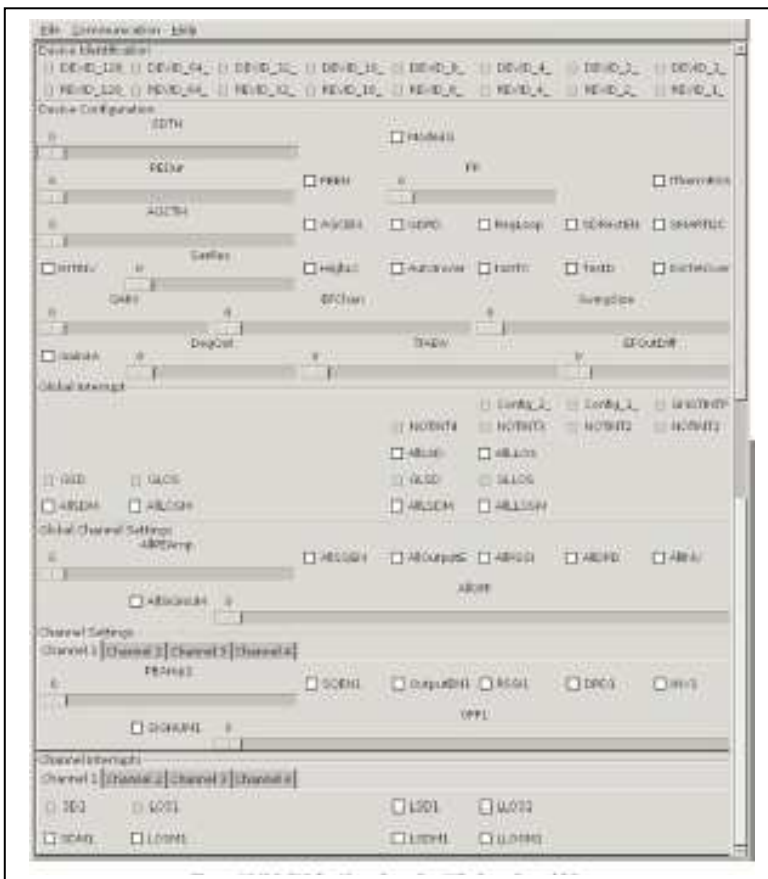
GPPO connector for differential data signal input



### USB-to-I<sup>2</sup>C converter



### User interface (Windows based)



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