

# SRFK-ST32

## Optical Transceiver

1310nm Micro Module 1.25 / 1.0625 GBaud

### Applications

The Cinch Connectivity Solutions SRFK-ST32 transceiver module is a high performance integrated full duplex data link for bi-directional communication over single mode optical fiber. It has been designed for use in space constrained applications, and offers the mandatory GbE and FC compliance commonly provided by SFF and SFP transceivers. This optoelectronic transceiver module is a Class 1 Laser product compliant with FDA Radiation Performance Standards, 21 CFR Subchapter J. This component is also Class 1 Laser compliant according to International Safety Standard IEC-825-1/EN 60825.



The SRFK-ST32 consists of transmitter and receiver functions housed in a compact form factor. The optical transmitter is a 1310nm FP laser. The transmitter inputs are driven with differential LVPECL signals applied to the TX+ and TX- pins. These signals are converted to suitable modulation current to drive the laser. The receiver consists of a PIN detector and limiting amplifier. Outputs from the receiver are differential CML and drive the RX+ and RX- pins. RX data is squelched (JAM) upon SD deassert to prevent noise when no optical signal is present.

### Applications

- NIC card
- Host Bus Adapters
- GbE / FC Switch
- High Speed Proprietary Links
- Long wave option to the Stratos RJS-ST31

### Features

- Compact Design
- 1.25 GBaud Gigabit Ethernet Compliant
- 1.0625 GBaud Fiber Channel Compliant
- 100 differential DC coupled inputs/outputs
- Industry Standard LC Connector Interface
- Single +3.3V Power Supply
- RoHS Compliant
- Metal Housing

## Ordering Information

SRFK - ST32

### Module Specifications - Electrical

| Parameter                               | Symbol | MIN  | Typical | MAX     | Unit     |
|---|--------|------|---------|---------|----------|
| <b>Total Supply Current</b>             | Icct   |      | 190     | 280     | mA       |
| <b>Transmitter</b>                      |        |      |         |         |          |
| Differential Input Voltage <sup>1</sup> | Vdt    | 0.5  |         | 2.4     | V        |
| Disable Input - High                    | Vdish  | 2    |         | Vcc+0.3 | V        |
| Disable Input - Low                     | Vdisl  | 0    |         | 0.8     | V        |
| Fault Output - High                     | Vtxfh  | 2    |         | Vcc+0.3 | V        |
| Fault Output - Low                      | Vtxfl  | 0    |         | 0.8     | V        |
| <b>Receiver</b>                         |        |      |         |         |          |
| Differential Output Voltage             | Vdr    | 0.35 |         | 2       | V        |
| LOS Load                                | LOSI   | 4.7K |         | 10K     | $\Omega$ |
| SD Output - High                        | LOSoH  | 2    |         | Vcc+0.3 | V        |
| SD Output - Low                         | LOSoL  | 0    |         | 0.8     | V        |
| Output Data Rise/Fall Time (20-80%)     | Tr/Tf  |      | 220     |         | pS       |

1. Internally AC coupled and terminated to 100 $\Omega$  load

### Module Specifications - Optical

| Parameter                      | Symbol | MIN  | Typical | MAX  | Unit |
|--------------------------------|--------|------|---------|------|------|
| <b>Transmitter</b>             |        |      |         |      |      |
| Optical Output Power           | Po     | -9.5 |         | -3   | dBm  |
| Extinction Ratio               |        | 9    |         |      | dB   |
| Center Wavelength              |        | 1274 | 1310    | 1355 | nm   |
| Spectral Width (RMS)           |        |      |         | 3    | nm   |
| Rise/Fall Time (20-80%)        | Tr/Tf  | 0    |         | 260  | pS   |
| <b>Receiver</b>                |        |      |         |      |      |
| Sensitivity (Avg) <sup>1</sup> | Pin    |      |         | -19  | dBm  |
| Input Wavelength               |        | 1270 |         | 1355 | nm   |
| SD - Deasserted                | Pd     | -30  |         |      | dBm  |
| SD - Asserted                  | Pa     |      |         | -19  | dBm  |
| DS - Hysteresis                | Pa-Pd  | 0.5  |         |      | dB   |
| Overload                       | Pol    | -3   | 0       |      | dBm  |

1. BER of 10<sup>-12</sup>

For more information on this product consult the SRFK-ST32 product data sheet.