

# SLC-25-C-1-x-R6 Optical Transceiver

InfiniBand Applications – 2.5 GBaud

850nm SFF 2x5, +3.3V

## Applications

The Cinch Connectivity Solutions SLC-25-C-1-x-R6 Small Form Factor (SFF) optical transceivers are high performance integrated duplex data links for bi-directional communication over multimode fiber. The SLC-25-C-1-x-R6 module is specifically designed to be used in multimode InfiniBand applications with data rates up to 2.5GBaud. The SLC-25-C-1-x-R6 transceivers are provided with the LC receptacle which is compatible with the industry standard LC connector.

The Stratos Lightwave SFF transceivers measure 0.532 inches in width. These transceivers provide double port densities by fitting twice the number of transceivers into the same board space as a 1x9 transceiver. The 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.



## Features

- 2.5Gbps InfiniBand Compliant
- Die Cast Metal Package
- TTL Signal Detect Output
- Transmitter Disable Input
- Low Profile Fits Mezzanine Card Applications
- 100Ω Differential AC Coupled CML Level Outputs
- Single +3.3V Power Supply
- Wave Solderable / Aqueous Washable
- Class 1 Laser Safety Compliant
- RoHS Compliant
- UL 1950 Approved

## Ordering Information

SLC - 25 - C - 1 - X - R6

└─ Grounding Clip

N – No Clip  
E – Individual Clip (.6" Center)  
K – Extended Clip (.6" Center)  
G – Gang Clip (.55" Center)

## Module Specifications – Electrical: -5°C<Tc<+80°C; +3.0V<Vcc<+3.6V

| Parameter                       | Symbol          | MIN | Typical | MAX                  | Unit | Notes                                    |
|---------------------------------|-----------------|-----|---------|----------------------|------|------------------------------------------|
| Supply Current                  | I <sub>CC</sub> |     | 150     | 200                  | mA   |                                          |
| <b>Transmitter</b>              |                 |     |         |                      |      |                                          |
| CML/PECL Inputs (Differential)  |                 | 400 |         | 2500                 | mVpp | AC Coupled Inputs                        |
| Input Impedance                 | Z <sub>in</sub> | 85  | 100     | 115                  | Ω    |                                          |
| TX_DISABLE Input Voltage – High | V <sub>IH</sub> | 2.0 |         | V <sub>CC</sub> +0.3 | V    |                                          |
| TX_DISABLE Input Voltage – Low  | V <sub>IL</sub> | 0   |         | 0.8                  | V    |                                          |
| <b>Receiver</b>                 |                 |     |         |                      |      |                                          |
| CML Outputs (Differential)      |                 | 400 | 600     | 1000                 | mVpp | AC Coupled Outputs                       |
| Output Impedance (Differential) | Z <sub>in</sub> | 90  | 100     | 110                  | Ω    |                                          |
| Total Contributed Jitter        | T <sub>j</sub>  |     |         | 68                   | pS   | Measured with 2 <sup>7</sup> -1 PRBS     |
| TTL Signal Detect Output – Low  |                 |     |         | 0.8                  | V    | I <sub>OL</sub> = -1.6mA, 1TTL unit load |
| TTL Signal Detect Output – High |                 | 2.4 | 3       |                      | V    | I <sub>OH</sub> = 40μA, 1TTL unit load   |

## Module Specifications – Optical: -5°C<Tc<+80°C; +3.0V<Vcc<+3.6V

| Parameter                    | Symbol                          | MIN   | Typical | MAX  | Unit  | Notes                                |
|------------------------------|---------------------------------|-------|---------|------|-------|--------------------------------------|
| <b>Transmission Distance</b> |                                 |       |         |      |       |                                      |
| 50μm Core Diameter MMF       |                                 | 250   | 500     |      | m     | BER<1.0E-12 @ 1.25/2.5 GBaud         |
| 62.5μm Core Diameter MMF     |                                 | 150   | 300     |      | m     | BER<1.0E-12 @ 1.25/2.5 GBaud         |
| <b>Transmitter</b>           |                                 |       |         |      |       |                                      |
| Optical Center Wavelength    | λ                               | 830   | 850     | 860  | nm    |                                      |
| Spectral Width               | Δλ                              |       |         | 0.85 | nm    | RMS                                  |
| Optical Transmit Power       | P <sub>opt</sub>                | -10.0 |         | -3   | dBm   | Average @ 850nm                      |
| Optical Modulation Amplitude | OMA                             | 200   |         |      | μW    | pk-pk                                |
| Relative Intensity Noise     | RIN                             |       |         | -117 | dB/Hz |                                      |
| Total Jitter                 | T <sub>j</sub>                  |       |         | 84   | pS    | Measured with 2 <sup>7</sup> -1 PRBS |
| Output Rise/Fall Time        | t <sub>R</sub> , t <sub>F</sub> |       |         | 150  | pS    | 20-80%; measured unfiltered          |
| <b>Receiver</b>              |                                 |       |         |      |       |                                      |
| Optical Input Wavelength     | λ                               | 770   |         | 860  | nm    |                                      |
| Optical Input Power          | Pr                              | -15   |         | -1.5 | dBm   | BER<1.0E-12                          |
| Optical Modulation Amplitude | OMA                             | 50    |         |      | μW    | pk-pk                                |
| Optical Return Loss          | ORL                             | 12    |         |      | dBm   |                                      |
| Signal Detect – Asserted     | Pa                              |       |         | -15  | dBm   | Measured on transition – Low to High |
| Signal Detect – Deasserted   | Pd                              | -29   |         |      | dBm   | Measured on transition – High to Low |
| Signal Detect – Hysteresis   | Pa-Pd                           |       | 1.5     | 5.0  | dB    |                                      |

For more information on this product consult the SLC-25-C-1-x-R6 product data sheet.

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