

## REDBACK COMPATIBLE SFP-GE-SX Quick Spec:

|                 |           |
|-----------------|-----------|
| Part Number:    | SFP-GE-SX |
| Form Factor:    | SFP       |
| TX Wavelength:  | 850nm     |
| Reach:          | 500m      |
| Cable Type:     | MMF       |
| Rate Category:  | 1000Base  |
| Interface Type: | SX        |
| DDM:            | No        |
| Connector Type: | Dual-LC   |



## REDBACK COMPATIBLE SFP-GE-SX Features

- Up to 1.25Gb/s data links
- Hot-pluggable SFP Footprint
- Compliant with specifications for IEEE802.3Z 1000Base-SX
- Supported distance in accordance with 1000Base-SX standard: up to 220m via 62.5/125µm multimode fiber, up to 550m via 50/125µm multimode fiber
- Eye Safety Designed to meet Laser Class1 Compliant with IEC60825-1
- Single +3.3V Power Supply
- RoHS compliance
- Operating temperature range:
  - Standard 0 to +70 °C
  - Industrial -40 to +85 °C

## REDBACK COMPATIBLE SFP-GE-SX Applications

- Gigabit Ethernet
- 1x Fiber Channel
- Other optical links

## REDBACK COMPATIBLE SFP-GE-SX Specification

### Electrical Characteristics (Condition: Ta=TOP)

| Parameter                           | Symbol          | Min. | Typ | Max.            | Unit   |
|-------------------------------------|-----------------|------|-----|-----------------|--------|
| Transmitter Differential Input Volt | +/-TX_DAT       | 650  |     | 2000            | mV p-p |
| Supply Current                      | I <sub>CC</sub> |      | 200 | 250             | mA     |
| Tx_Disable Input Voltage – Low      | V <sub>IL</sub> | 0    |     | 0.8             | V      |
| Tx_Disable Input Voltage – High     | V <sub>IH</sub> | 2.0  |     | V <sub>CC</sub> | V      |
| Tx_Fault Output Voltage – Low       | V <sub>OL</sub> | 0    |     | 0.8             | V      |
| Tx_Fault Output Voltage – High      | V <sub>OH</sub> | 2.0  |     | V <sub>CC</sub> | V      |
| Receiver Differential Output Volt   | +/-RX_DAT       | 0.4  |     | 2000            | mV p-p |
| Rx_LOS Output Voltage- Low          | V <sub>OL</sub> | 0    |     | 0.8             | V      |
| Rx_LOS Output Voltage- High         | V <sub>OH</sub> | 2.0  |     | V <sub>CC</sub> | V      |

## Optical Characteristics

| TX                      |                           |               |      |               |      |
|-------------------------|---------------------------|---------------|------|---------------|------|
| Parameter               | Symbol                    | Min           | Typ  | Max           | Unit |
| Data Rate               | B                         | -             | 1.25 | -             | Gb/s |
| Centre wavelength       | $\lambda_c$               | 830           | 850  | 860           | nm   |
| Output Spectral Width   | $\Delta\lambda$           | -             | -    | 0.85          | nm   |
| Average Output Power    | $P_o$                     | -9            | -    | -3            | dBm  |
| Extinction Ratio        | EXT                       | 10            | -    | -             | dB   |
| Data Input Voltage-High | $V_{IHS}$                 | $V_{cc}-1.16$ | -    | $V_{cc}-0.89$ | V    |
| Data Input Voltage -Low | $V_{ILS}$                 | $V_{cc}-1.82$ | -    | $V_{cc}-1.48$ | V    |
| Supply Current          | $I_{cc}$                  | -             | 90   | 130           | mA   |
| Output Optical Eye      | Compliant with IEEE802.3Z |               |      |               |      |

| RX                                   |             |               |     |               |      |
|--------------------------------------|-------------|---------------|-----|---------------|------|
| Parameter                            | Symbol      | Min           | Typ | Max           | Unit |
| Receive Sensitivity                  | $P_{min}$   | -             | -   | -17           | dBm  |
| Maximum Input Power                  | $P_{MAX}$   | -3            | 0   | -             | dBm  |
| Signal Detect Threshold-Assertion:   | $SD_{HIGH}$ | -             | -   | -18           | dBm  |
| Signal Detect Threshold-Deassertion: | $SD_{LOW}$  | -30           | -   | -             | dBm  |
| Hysteresis                           | -           | -             | 2.0 | -             | dBm  |
| Output High Voltage                  | $V_{OH}$    | $V_{cc}-1.03$ | -   | $V_{cc}-0.89$ | V    |
| Output Low Voltage                   | $V_{OL}$    | $V_{cc}-1.82$ | -   | $V_{cc}-1.63$ | V    |
| Operating Wavelength                 | $\lambda_c$ | 770           | -   | 860           | nm   |
| Supply Current                       | $I_{cc}$    | -             | 80  | 110           | mA   |

## Absolute Maximum Ratings (T<sub>C</sub>=25°C)

| Parameter                          | Symbol          | Min | Max | Unit |
|------------------------------------|-----------------|-----|-----|------|
| Storage Temperature                | T <sub>ST</sub> | -40 | +85 | °C   |
| Operating Temperature (Standard)   | T <sub>IP</sub> | 0   | +7- | °C   |
| Operating Temperature (Industrial) | T <sub>IP</sub> | -40 | +85 | °C   |
| Input Voltage                      | T <sub>CC</sub> | 0   | 5   | V    |

## Recommend Operation Environment

| Parameter             | Symbol          | Min  | Typ | Max  | Unit |
|-----------------------|-----------------|------|-----|------|------|
| Supply Voltage        | V <sub>CC</sub> | +3.0 | 3.3 | +3.6 | V    |
| Operating Temperature | T <sub>OP</sub> | 0    | -   | +50  | °C   |