

## 1310 nm 622 Mbps 5-Pin LC-ROSA

### DI7F-905x-x Series

#### TYPE NAME: DI7F-9055-3D

#### Product Description:

The LuxNet DI7F-9055-x 5-pin LC-ROSA (Receiver Optical Sub-Assembly) is designed for high-speed, high-performance data communication and telecommunication applications. This ROSA provides special digital diagnostic capability for transceivers with a wide dynamic range of input optical power. This device integrates our high-speed 1310 nm PIN detector with an STM4/OC12 trans-impedance amplifier (TIA) and capacitors into a TO-46 5-pin header with cap window and LC port. The product is designed for OC12 long distance optical communication systems. The LC-type optical port has a fiber connector that transmits light through an LC receptacle into the PIN detector with high coupling efficiency.

#### Product Specifications:

Absolute Maximum Ratings (T = 25°C):

| Parameter                 | Symbol           | Unit | Min. | Max. | Note            |
|---------------------------|------------------|------|------|------|-----------------|
| Operating Temperature     | T <sub>op</sub>  | °C   | -40  | 85   |                 |
| Storage Temperature       | T <sub>stg</sub> | °C   | -40  | 100  |                 |
| Solder Reflow Temperature | T <sub>stg</sub> | °C   |      | 260  | 10 seconds max. |
| Power Supply Voltage      | V <sub>p</sub>   | V    | -0.5 | 4.5  |                 |
| Optical Power             | P <sub>in</sub>  | dBm  |      | 5    |                 |

Electro-Optical Characteristics (T = 25°C, unless noted otherwise):

| Parameter                      | Symbol                         | Unit  | Min. | Typ.    | Max. | Test Condition  |
|--------------------------------|--------------------------------|-------|------|---------|------|---|
| Supply Voltage                 | V <sub>cc</sub>                | Volts | 3.0  | 3.3     | 3.6  |   |
| Supply Current                 | I <sub>cc</sub>                | mA    | 23   | 28      | 35   | P = 0 μW,<br>R <sub>L</sub> = 50Ω, V <sub>cc</sub> = 3.3V                               |
| Output Voltage (differential)  | V <sub>out</sub>               | mV    |      | 210     | 270  | R <sub>L</sub> = 50Ω  |
| Responsivity                   | R                              | KV/W  |      | 42.8    |      | λ = 1310nm<br>P = 1.5 μW, AC<br>Coupled to R <sub>L</sub> = 50Ω                         |
| Sensitivity                    | S                              | dBm   |      | -33.5   | -30  | λ = 1310nm,<br>2 <sup>23</sup> - 1 PRBS, BER = 10 <sup>-10</sup> , ER = 9~10dB SM fiber |
| High Frequency Bandwidth (3dB) | BW                             | MHz   | 347  | 459     | 532  | R <sub>L</sub> = 50Ω  |
| Low Frequency Bandwidth (3dB)  | BW <sub>L</sub>                | kHz   | 50   | 61      | 87   | R <sub>L</sub> = 50Ω  |
| Wavelength                     | λ <sub>p</sub>                 | nm    | 1100 | 1310    | 1650 |   |
| Rise/Fall Time                 | τ <sub>r</sub> /τ <sub>f</sub> | ps    |      | 550/550 |      | V <sub>cc</sub> = 3.3V (20%-80%)  |
| Overload Power                 | P <sub>load</sub>              | dBm   | 0    |         |      | 2 <sup>23</sup> - 1 PRBS, BER = 10 <sup>-10</sup> , ER = 9~10dB                         |

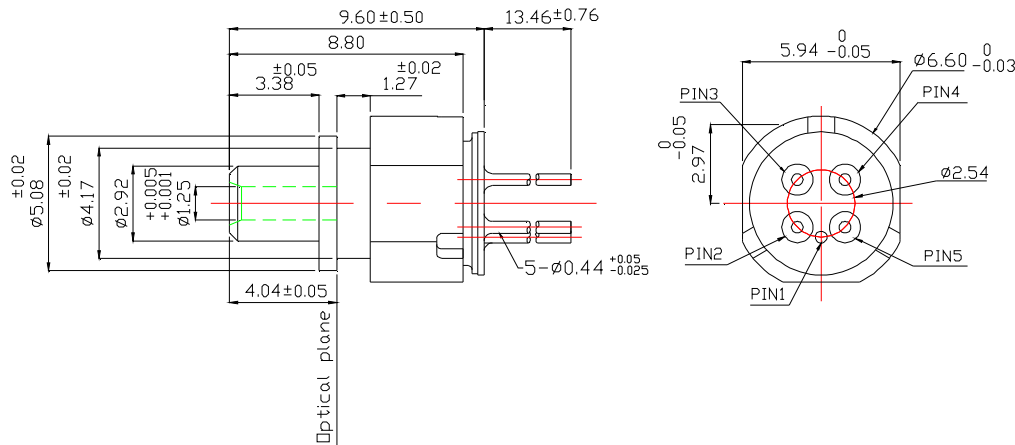
\* Specifications are subject to change without notice.

\* Screening per customer-specified reject limits is available.

Version 1.2

## DI7F-9055-3D (LC-ROSA)

**Dimensions:** (mm)  
*All dimensions are nominal*



### PINOUT

| DI7F-9055-3D |                          |
|--------------|--------------------------|
| Pin Number   | Function                 |
| 1            | Gnd                      |
| 2            | Non-Inverted Output (D+) |
| 3            | Vcc                      |
| 4            | RSSI(Current Source)     |
| 5            | Inverted Output(D*)      |

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 \* Screening per customer-specified reject limits is available.