

DFB TO-CAN with aspherical lens cap



Applications

- Digital transmission up to 2.5Gbps
- Analog transmission

Descriptions

- FOL1xxxYxA4x series is a DFB TO-CAN designed for digital and analog applications.
- The module has a TO-CAN package with an aspherical lens cap, which contains a DFB laser diode and a power monitor photodiode.
- This laser module complies with telecom requirements described in Telcordia™ GR-468 and is manufactured in an ISO™9001 certified production line.

Features

- 1310nm, 1550nm and C-WDM (1470~1610nm) wavelength are available
- Wide temperature operation
- Low threshold current
- High side mode suppression ratio
- RoHS compliant

Absolute Maximum Ratings

| Parameter | Symbol | Min. | Max. | Unit | Note |
|------------------------------|--------|------|------|------|-----------|
| Storage Temperature | Tstg | -40 | 85 | °C | |
| Operating Case Temperature | Tc | -20 | 85 | °C | S version |
| | | 0 | 70 | °C | B version |
| LD Forward Current | IfLD | - | 150 | mA | |
| LD Reverse Voltage | VrLD | - | 2 | V | |
| PD Forward Current | IfPD | - | 5 | mA | |
| PD Reverse Voltage | VrPD | - | 20 | V | |
| Soldering Temperature (<10s) | Stemp | - | 260 | °C | |
| Relative Humidity | RH | 0 | 85 | % | |

Specifications ($T_c=25^\circ\text{C}$, $P_o=5\text{mW}$, unless otherwise specified)

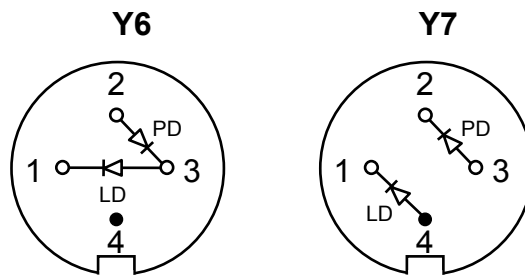
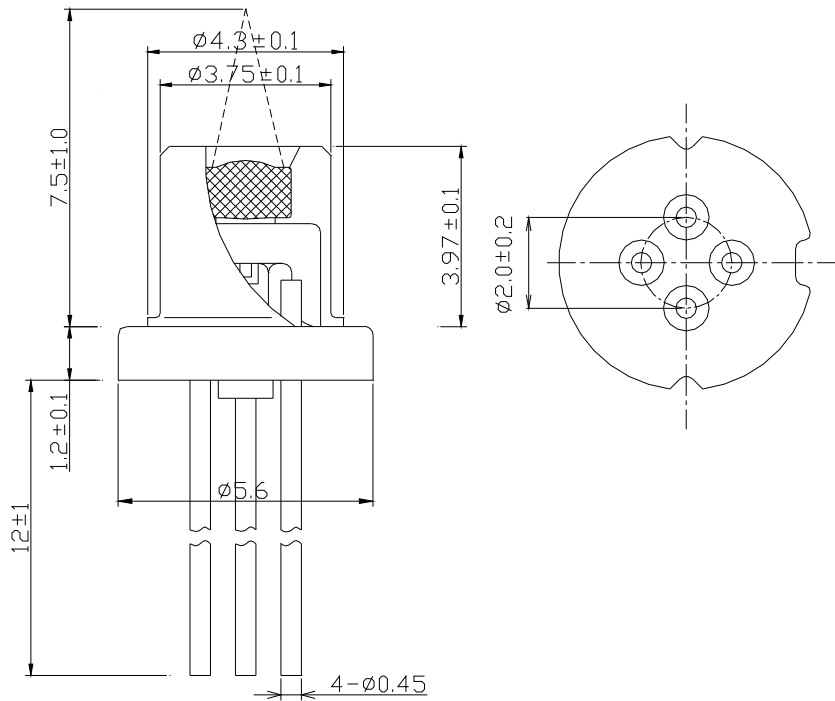
| Parameter | Symbol | Min. | Typ. | Max. | Unit | Condition |
|-----------------------------|-----------------|-------------------|-------------------|-------------------|------|--|
| Threshold Current | I _{th} | - | 8 | 15 | mA | CW |
| | | - | - | 40 | | 13F1 ; CW, T _c =over temperature |
| | | - | - | 50 | | 15F5, 1xQx ; CW, T _c =over temperature |
| LD Operating Current | I _{op} | - | - | 40 | mA | 13F1 ; CW |
| | | - | - | 70 | | 13F1 ; CW, T _c =over temperature |
| | | - | - | 50 | mA | 15F5, 1xQx ; CW |
| | | - | - | 90 | | 15F5, 1xQx ; CW, T _c =over temperature |
| Slope Efficiency | η | 0.25 | 0.35 | - | W/A | 13F1 ; CW |
| | | 0.15 | - | - | | 13F1 ; CW, T _c =over temperature |
| | | 0.15 | 0.25 | - | W/A | 15F5, 1xQx ; CW |
| | | 0.10 | - | - | | 15F5, 1xQx ; CW, T _c =over temperature |
| LD Forward Voltage | V _f | - | - | 1.6 | V | CW |
| Peak Wavelength | λ _p | 1280 | 1310 | 1335 | nm | 13F1 ; CW, T _c =over temperature |
| | | 1530 | 1550 | 1570 | nm | 15F5 ; CW, T _c =over temperature |
| | | λ _p -3 | λ _p *1 | λ _p +3 | nm | 1xQx ; CW, T _c =25°C |
| Side Mode Suppression Ratio | SMSR | 30 | - | - | dB | CW, T _c =over temperature |
| Rise Time | t _r | - | - | 0.10 | ns | I _b =I _{th} , 20-80% T _c =over temperature |
| Fall Time | t _f | - | - | 0.15 | ns | I _b =I _{th} , 80-20% T _c =over temperature |
| Monitor PD Current | I _m | 50 | - | 1500 | μA | V _{rPD} =5V |
| Monitor PD Dark Current | I _d | - | - | 100 | nA | V _{rPD} =5V |
| Monitor PD Capacitance | C | - | - | 10 | pF | V _{rPD} =5V, f=1MHz |

Note: *1 λ_p: **14Q7**:1470nm, **14Q9**:1490nm, **15Q1**:1510nm, **15Q3**:1530nm, **15Q5**:1550nm, **15Q7**:1570nm, **15Q9**:1590nm, **16Q1**:1610nm, Wavelength tolerance can be customized.

Dimensions and pin assignments

Unit: mm

Tolerance: +/-0.1mm, unless otherwise specified



Bottom view, No.4 Pin is Case GND

Ordering information

FOL□□□□Y□A4□

| Wavelength | |
|------------|--------|
| 13F1 | 1310nm |
| 15F5 | 1550nm |
| 14Q7 | 1470nm |
| 14Q9 | 1490nm |
| 15Q1 | 1510nm |
| 15Q3 | 1530nm |
| 15Q5 | 1550nm |
| 15Q7 | 1570nm |
| 15Q9 | 1590nm |
| 16Q1 | 1610nm |

| Pin assignment | |
|----------------|----|
| 6 | Y6 |
| 7 | Y7 |

| Operating case temperature | |
|----------------------------|-----------|
| S | -20~+85°C |
| B | 0~+70°C |

Safety information

This product complies with 21 CFR 1040.10 and 1040.11, Class 3b laser product. Invisible laser radiation is emitted from the end of the fiber or connector. Avoid direct exposure to the beam.



Telcordia is a trademark of Telcordia Technologies, Inc.
ISO is a trademark of The International Organization for Standardization.
Hytel is a trademark of DuPont.

Furukawa Electric reserves the right to improve, enhance and modify the features and specifications of FITEL products without prior notifications.

 **FURUKAWA ELECTRIC CO., LTD.**

Japan
Head Office
2-2-3, Marunouchi
Chiyoda-ku
Tokyo 100-8322,
JAPAN
Tel: +81-3-3286-3253
Fax: +81-3-3286-3978
<http://www.furukawa.co.jp>

North America
OFS
1 Brightwave Blvd.
Carrollton, GA 30117, USA
Tel: +1-770-798-5555
<http://www.ofsoptics.com>
E-mail: info@ofsoptics.com

Europe
Furukawa Electric Europe Ltd.
Furukawa House
77-85 Fulham Palace Road,
London W6 8JD, United Kingdom
Tel: +44-20-7313-5300
Fax: +44-20-7313-5310
<http://www.furukawa.co.uk>
<http://www.furukawa.co.uk/contactus.php>

ASIA
Furukawa Electric Hong Kong Ltd.
Suite 1810, 18/F, Tower 2,
33 Canton Road, China Hong Kong City
Tsim Sha Tsui, Kowloon, Hong Kong
Tel: 852-2512-8938
Fax: 852-2512-9717
<http://www.fehk.com.hk/>
E-mail: guest@fehk.cn