

### 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)

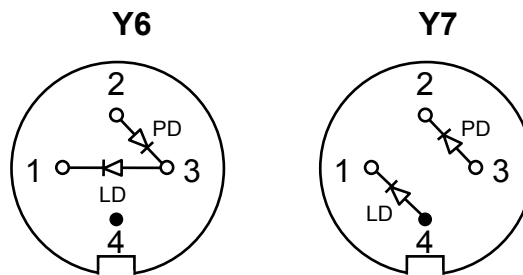
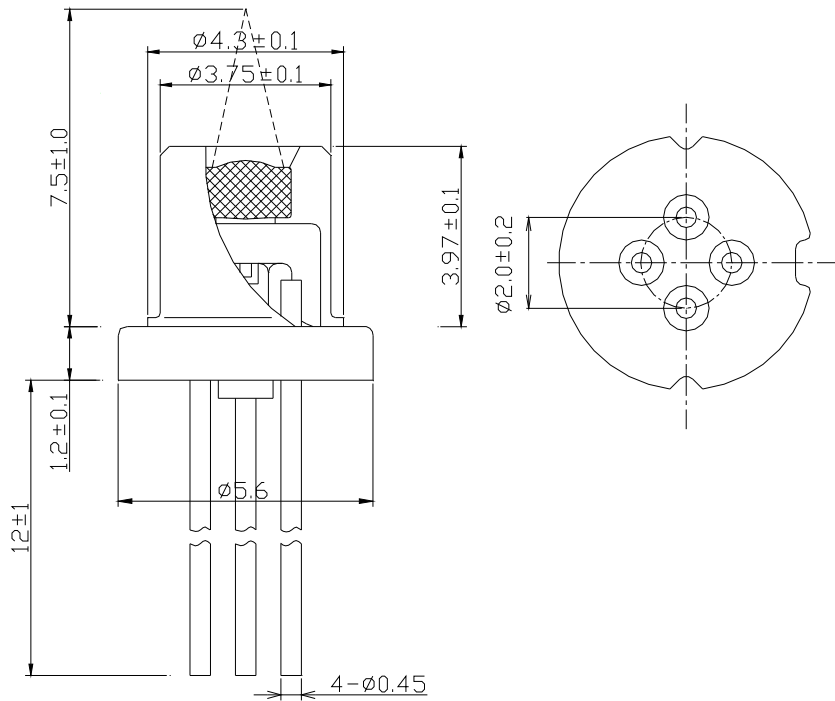
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Threshold Current	I <sub>th</sub>	-	8	15	mA	CW
		-	-	40		<b>13F1</b> ; CW, T <sub>c</sub> =over temperature
		-	-	50		<b>15F5, 1xQx</b> ; CW, T <sub>c</sub> =over temperature
LD Operating Current	I <sub>op</sub>	-	-	40	mA	<b>13F1</b> ; CW
		-	-	70		<b>13F1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

Note: \*1 λ<sub>p</sub>: **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.



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