T-D-TBBC-127DA

TO, DFB, 1270nm, 2.5G, I-temp, A-lens, 7.5mmFL

Features

- Uncooled laser diode with MQW structure
- 9mW CW operation at -40 to +85ºC
- High temperature operation without active cooling
- Hermetically sealed active component
- Built-in InGaAs monitor photodiode
- Complies with Telcordia (Bellcore) GR-468-CORE
- Designed for 2.5G high speed optical network
- TO-18 with a 7.5mm A-lens cap

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Optical output power (85ºC)	Po	-	9	mW
LD Forward Current (85ºC)	I_{FLD}	-	120	mA
LD Forward Current (25ºC)	I_{FLD}	-	100	mA
LD Reverse Voltage (-40~85ºC)	V_{RLD}	-	2	V
PD Reverse Voltage (-40~85ºC)	V_{RPD}	-	10	V
PD Forward Current (-40~85ºC)	I_{FPD}	-	2	mA
Operating Temperature	Topr	-40	85	ºC
Storage Temperature	Tstg	-40	100	ºC

NOTE: Stress level higher than specified value would degrade device performance or reliability significantly

Optical and Electrical Characteristics (Tc=25ºC unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Threshold Current	Ith	-	8	-	mA	-40ºC, CW
		-	10	14	mA	25ºC, CW
		-	30	36	mA	85ºC, CW
Slope Efficiency	SE	0.33	0.38	-	mW/mA	25ºC, CW, Po=5mW
		0.19	0.22	-	mW/mA	85ºC, CW, Po=5mW
Optical output power	Po	9	-	-	mW	CW, kink free
Operating Current	Iop	-	-	80	mA	CW, Ith+30mA

Forward Voltage	V_F	-	1.2	1.5	V	CW, Po=5mW
Peak Wavelength	λ	1267	1270	1273	nm	CW, Po=5mW
Side Mode Suppression Ratio	Sr	32	35	-	dB	CW, Po=5mW (-40 to 85ºC)
d λ /dt	d λ /dt	-	0.1	-	nm/℃	
Spectral Width	Δ λ	-	-	1	nm	CW, Po=5mW
Rise/Fall Time	tr / tf	-	-	50	ps	Ith+20mA, 20-80%
PD Monitor Current	I_m	100	-	1200	μA	CW, Po=5mW
PD Dark Current	I_{DARK}	-	-	0.1	μA	V_{RPD}=5V
PD Capacitance	C_t	-	6	15	pF	V_{RPD}=5V, f=1MHz
Bandwidth	BW	2.5	-	-	GHz	chip on carrier 85ºC, Ith+30mA
Track Error	TE	-1		1	dB	-40˚C&85˚C
Focal length	FL	7.0	7.5	8.0	mm	Iop=20mA, SMF

Mechanical Drawing

All dimesions in mm

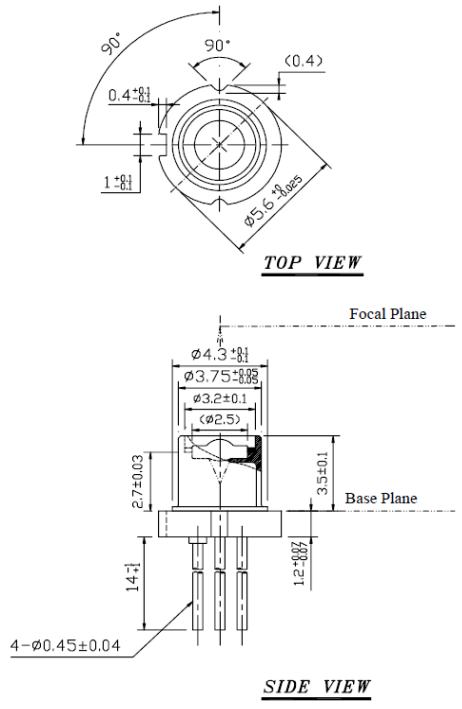

Figure 1 Dimension

PIN Assignment

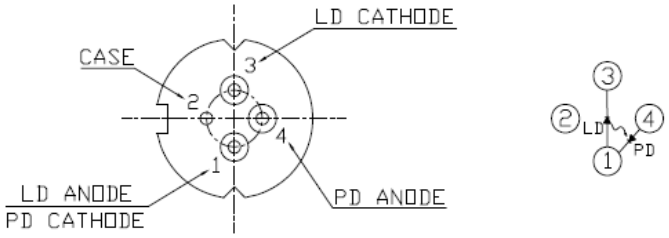

Figure 2 D Type Model PIN Assignment(Bottom View)

Ordering Information

Part No.	Peak Wavelength	Application	Operation Temperature
T-D-TBBC-127DA	1270nm	Designed for 2.5G high speed optical network	-40~85ºC

Warnings

Handling Precautions: This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

Laser Safety: Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

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