

SPECIFICATIONS

1550nm Medium Power Optical Source

DL-CS550257C-FP-PD-T30

A. PRODUCT DESCRIPTION

The DenseLight DL-CS550257C-FP-PD-T30 is a 1550nm medium power optical source that is qualified for operating case temperature range of -20°C to 60°C when SLED chip temperature is 25°C and certified for -30°C to 71°C when SLED chip temperature is 30°C. The broadband source is packaged in an 8-pin BTF footprint integrated with monitoring photodiode with polarization maintaining fiber output.

For responsive prototyping enquiries please email: sales@denselight.com

B. FEATURES

- Ex-fiber output power of >2.5mW at case temperature 30°C
- 3dB bandwidth of > 45nm
- Spectral ripple of <0.4dB
- Case temperature of -30 to +71 °C
- 8-pin BTF package
- Integrated Photodiode
- Polarization maintaining fiber

C. APPLICATIONS

- Fiber Optic Gyroscope
- Optical Test Instrument
- Fiber Optic Sensors
- Fiber Optic Communications
- Optical Coherence Tomography
- Biomedical Imaging Device
- Clinical Healing Equipment

D. ABSOLUTE MAXIMUM RATINGS

Stresses beyond the absolute maximum ratings may cause permanent damage to the device. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Parameter	Symbol	Condition	Min	Max	Unit
Reverse voltage	V_R	-	-	2	V
Forward current	I_F	-	-	350	mA
Forward voltage	V_F	I_{op}	-	2.4	V
Case temperature	T_c	I_{op}	-30	71	°C
Thermoelectric cooler voltage	V_{TEC}	-	-	3.2	V
Thermoelectric cooler current	I_{TEC}	-	-	1.8	A
Storage temperature	T_{stg}	Unbiased	-40	85	°C
Storage humidity	-	-	5	85	%RH
Electro static discharge (ESD)	V_{ESD}	Human body model	-	500	V
Lead soldering temperature	S_{temp}	-	-	260	°C
Lead soldering time	S_{time}	-	-	10	sec

E. SPECIFICATIONS ($T_{SLED}^{(1)} = 30\text{ °C}$)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Operating current	I_{op}	-	125	250	275	mA
Power in PMF	P_o	I_{op}	2.5	3	-	mW
Central wavelength	λ_C	I_{op}	1535	1550	1565	nm
Bandwidth	B_{FWHM}	I_{op}	45	50	-	nm
Spectrum modulation	R	I_{op}	-	-	0.4	dB
Thermistor resistance	R_{therm}	$T_{SLED} = 30\text{ °C}$	7.5	8	8.5	k Ω
Photodiode monitoring current	I_{PD}	I_{op}	100	-	-	μ A
Polarization extinction ratio	PER	I_{op}	12	-	-	dB

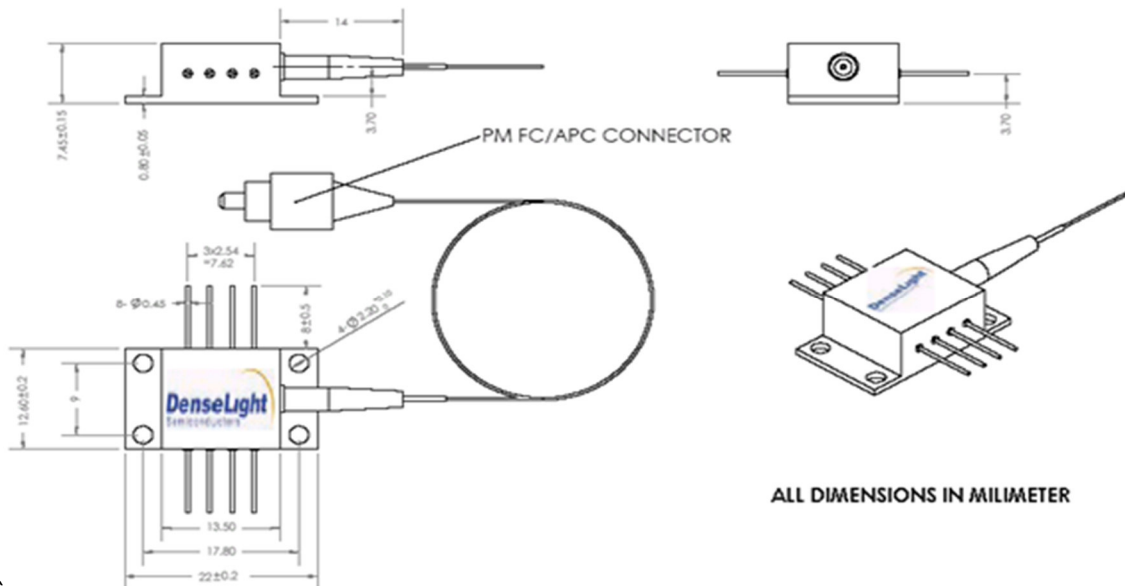
- Short term power stability @ ± 0.1 dB (1Hour)
- Thermistor characteristic over temperature will be provided

¹ T_{SLED} is monitored by internal thermistor with external pin out.

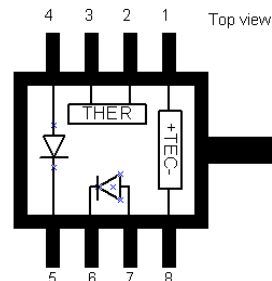
F. PACKAGE

BTF package

Part	Description
Package type	8-Pin BTF
Fiber:	Panda PMF
MFD	10.5 μ m
Cladding diameter	125 μ m
Coating diameter	245 μ m
Fiber pigtail length	>1.2m
Fiber bending radius	>40mm
Connector	FC/APC
Dimensions	See figure



Pin Assignment	
1	TEC (+)
2	THERMISTOR
3	THERMISTOR
4	DIODE ANODE (+)
5	DIODE CATHODE (-)
6	PD CATHODE (+)
7	PD ANODE (-)
8	TEC (-)



G. PRODUCT NAMING

DL – CS550257C-FP-PD-T30

DL: DenseLight customized

CS: Cooled SLED

550: Typical Central wavelength 1550nm

25: Minimum Power 2.5mW

7: Minimum Bandwidth 45nm

C: 8-Pin BTF

FP: Polarization Maintaining Fiber

PD: Monitor PD

T30: $T_{SLED} = 30\text{ }^{\circ}\text{C}$

H. DISCLAIMER FOR CUSTOMER SPECIFIC APPLICATIONS

Denselight product is not intended for use other than stated on the application note or as defined in the product specification. The performance of the product should always be tested in the actual application conditions. As our products are used in conditions beyond our control, we cannot assume any liability for damage caused through their use. Users of DenseLight products are solely responsible to thoroughly test and qualify their system and / or application for their intended application and have determined such at their sole discretion. DenseLight cannot assume any liability for the use of our products in conjunctions with other. Customer assumes the sole risk and liability of the product performance other than specified by the product specific data sheet or application notes without DenseLight's specific written consent.