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## **SPECIFICATIONS**

### **1550 nm Edge-Emitting LED**

#### **DL-US5084D**

DenseLight Semiconductors reserves the right to make product design or specifications changes without notice.

## A. PRODUCT DESCRIPTION

The DenseLight DL-US5084D series is an uncooled edge emitting LED in TO-can packaged engineered for optical communication system and test instrument. It operates over a wide temperature range from 0 to 65°C without any needs for a thermoelectric cooler and temperature controller.

For responsive prototyping enquiries please email: [info@denselight.com](mailto:info@denselight.com)

## B. FEATURES

- High coupled power
- Peak wavelength of 1550nm
- 3dB bandwidth of >40nm
- High speed >150MHz
- Operating temperature range 0 to 65°C
- TO-56 with aspherical lens

## C. APPLICATIONS

- Optical Communication system
- Optical Test Instrument
- Fiber Optic Sensors

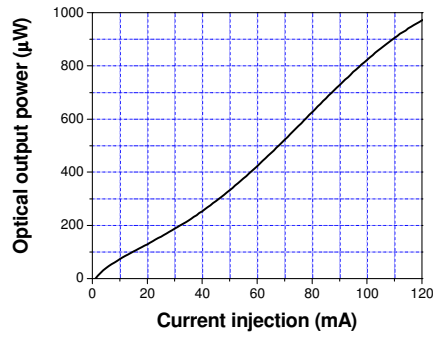
## D. ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Condition	Min	Max	Unit
Reverse voltage	$V_R$			2	V
Forward current	$I_F$			180	mA
Forward voltage	$V_F$	$I_{op}$		2.5	V
Case temperature	$T_C$	$I_{op}$	0	65	°C
Storage temperature	$T_{stg}$	Unbiased	-40	85	°C
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

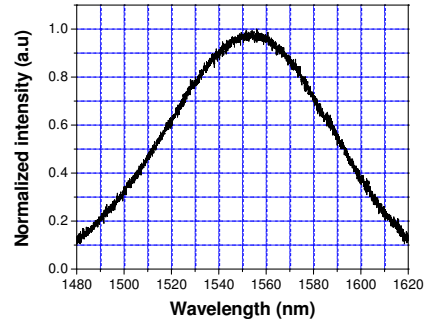
## E. SPECIFICATIONS ( $T_C = 25\text{ °C}$ )

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Operating current	$I_{op}$				120	mA
Forward voltage	$V_F$	$I_{op}$			2	V
Optical power	$P_o$	$I_{op}$	800			$\mu W$
Peak wavelength	$\lambda_p$	$I_{op}$	1520	1550	1580	nm
3dB Bandwidth	$B_{FWHM}$	$I_{op}$	40			nm
Cut off frequency	$f_c$	$I_{op} = 100\text{mA}$ $\pm 20\text{mA}_{p-p}$	150			MHz

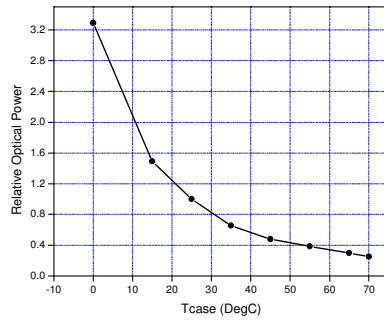
## F. TYPICAL PERFORMANCE CHARACTERISTICS



**P-I Curve ( $T_c=25\text{ }^\circ\text{C}$ )**

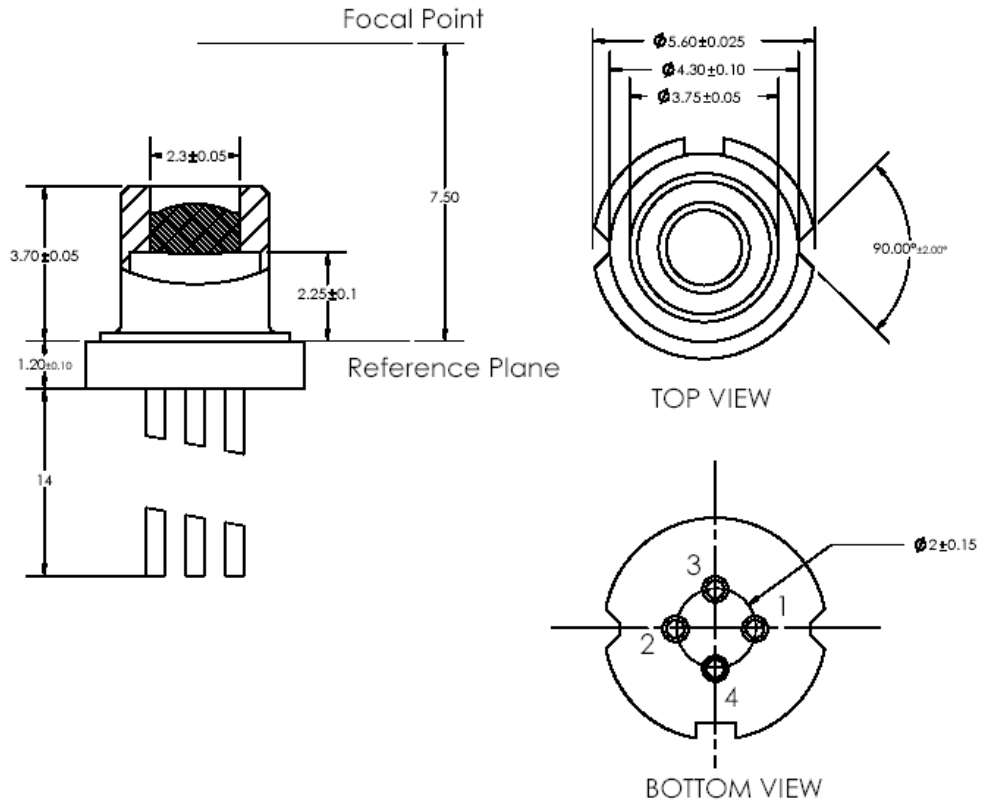


**Spontaneous Emission Spectrum ( $T_c=25\text{ }^\circ\text{C}$ )**



**Temperature Dependence of Optical Power**

## G. TYPICAL PERFORMANCE CHARACTERISTICS



Pin Assignment	Description
1	SLED Anode
2	SLED Cathode
3	NC
4	Case