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SPECIFICATIONS

1310 nm Superluminescent LED

DL-US31014D-FS

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

A. PRODUCT DESCRIPTION

The DenseLight DL-CS31014D series is a 1310nm uncooled SLED packaged in TO-56 single mode fiber pigtail. It operates over a wide temperature range from 0 to 65 °C.

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

B. FEATURES

- Ex-fiber output power of $>150\mu\text{W}$ @ 25 °C
- Center wavelength of 1310nm
- 3dB bandwidth of $>40\text{nm}$
- TO-56 pigtail package
- Single mode fiber output
- Operating temperature range 0 to 65 °C

C. ABSOLUTE MAXIMUM RATINGS

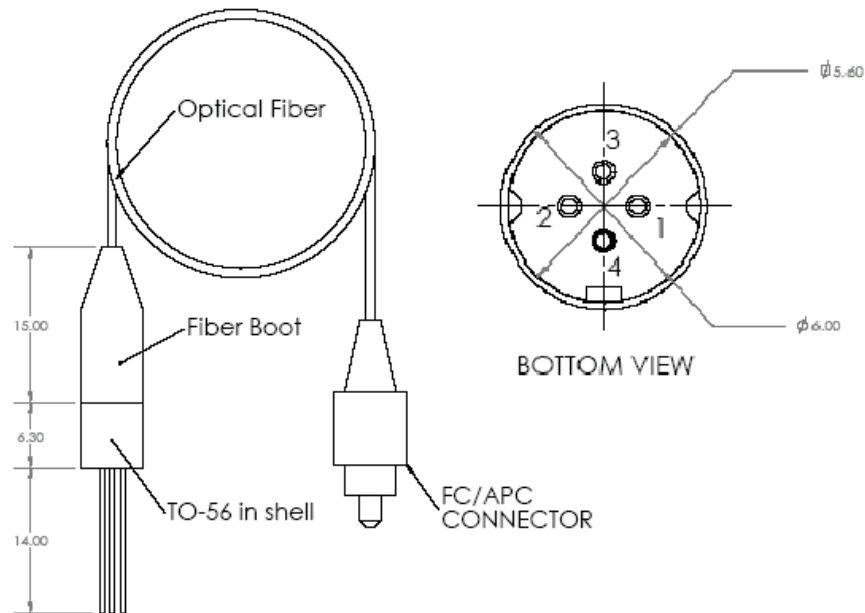
| Parameter | Symbol | Condition | Min | Max | Unit |
|--------------------------------|------------|------------------|-----|-----|------|
| Reverse voltage | V_R | | | 2 | V |
| Forward voltage | V_F | I_{op} | | 2.5 | V |
| Forward current | I_F | CW | | 150 | mA |
| Case temperature | T_c | I_{op} | 0 | 65 | °C |
| 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 |

D. SPECIFICATIONS ($T_c = 25\text{ °C}$)

| Parameter | Symbol | Condition | Min | Typ | Max | Unit |
|----------------------|-------------|-----------|------|------|------|---------|
| Forward voltage | V_F | I_{op} | | | 2 | V |
| Operating current | I_{op} | CW | | | 100 | mA |
| Optical output power | P_o | I_{op} | 150 | | | μ W |
| Center wavelength | λ_c | I_{op} | 1280 | 1310 | 1330 | nm |

E. PACKAGE

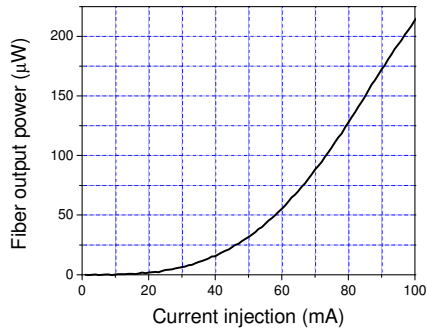
| Part | Description |
|----------------------|------------------------|
| Package type | TO-56 |
| Fiber: | SMF-28 |
| MFD | 9 μ m |
| Cladding diameter | 125 μ m |
| Coating diameter | 245 μ m |
| Jacket | 900 μ m loose tube |
| Fiber pigtail length | 1m |
| Fiber bending radius | >40mm |
| Connector | FC/APC |
| Dimensions | See figure |



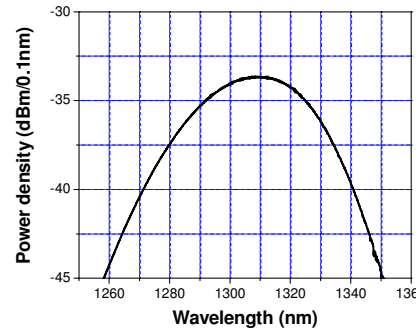
| Pin Assignment | Description |
|----------------|--------------|
| 1 | SLED Anode |
| 2 | SLED Cathode |
| 3 | NC |
| 4 | Case |

F. TYPICAL PERFORMANCE CHARACTERISTICS

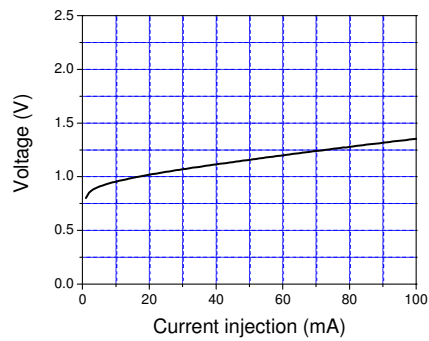
Operating condition: $T_C = 25\text{ }^\circ\text{C}$



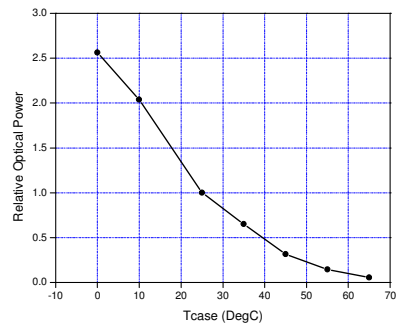
P-I Curve



Spontaneous Emission Spectrum



I-V Curve



Temperature Dependence of Optical Power