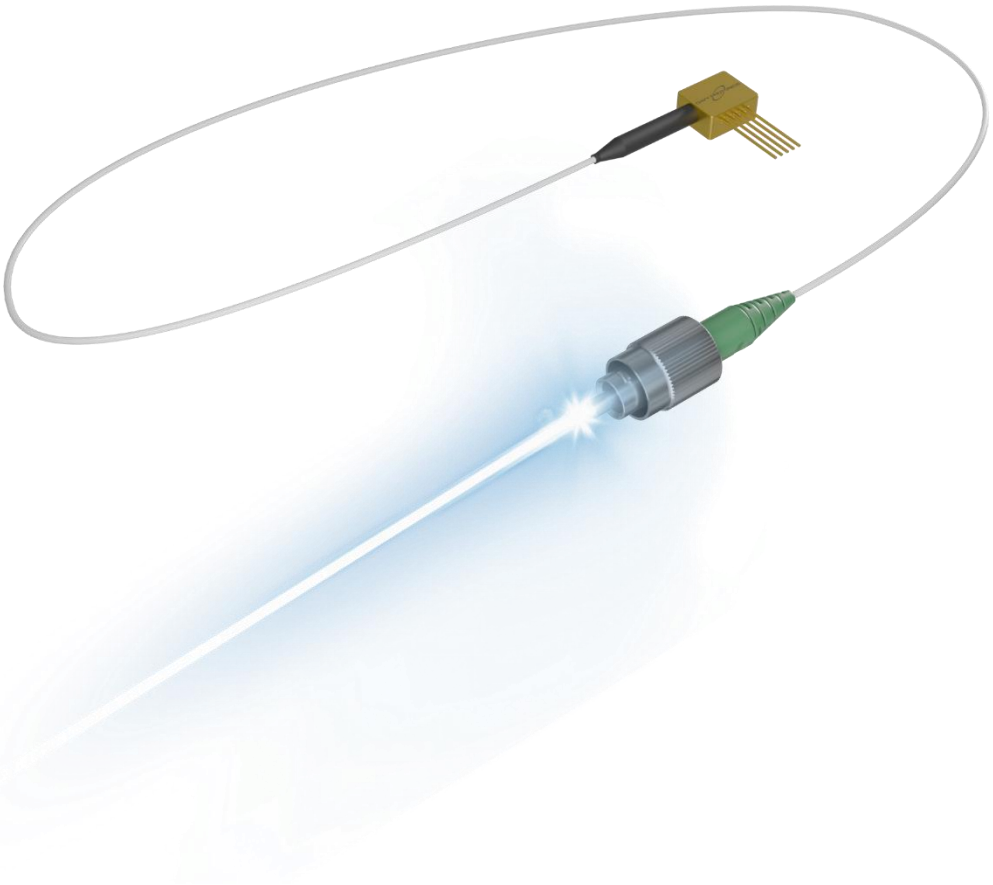
DATASHEET

Single-SLED Optical Spectral Engine G1: MiniBUT Uncooled Package, 1 SLED: 835nm, SM Fiber, No Degree of Polarization, Spectral Coverage: 830nm-840nm, FWHM: >10nm, CW: 835nm, Fiber Output Power >4mW.

Part# ASM002401



DAYY Photonics Corporation, 4030 8 St SE, Calgary, Canada, T2G 3A7
sales@dayyphotonics.com, +1(587)328-0739, www.dayyphotonics.com

A. PRODUCT DESCRIPTION

This solution is a Superluminescent Diode (SLED) housed in a compact 5-pin MiniBUTT package, designed for operation in the near-infrared (NIR) region. The package integrates an optical interface and delivers one of the highest power densities available in SLED technology, ensuring both performance and reliability.

The device provides spectral coverage from 825 nm to 835 nm with an output power exceeding 4.5mW. Its robust and user-friendly design makes it ideal for integration into a wide range of optical assemblies and systems requiring stable light sources.

B. KEY FEATURES

- Center Wavelength 835nm
- Output power: >4mW
- Bandwidth FWHM: >10nm
- Light output: FC/APC Connector (Optional: FC/PC or SMA)
- SLED comes with a built-in thermistor

C. APPLICATIONS

- Optical Component Testing
- Telecom Test Equipment
- Medical Optical Coherence Tomography
- Industrial Optical Coherence Tomography
- Metrology
- Fiber Optic Gyroscopes
- Biomedical Imaging Systems
- Optical Sensing
- White Light Interferometry & Chromatic Dispersion
- Research and Development

DAYY Photonics Corporation, 4030 8 St SE, Calgary, Canada, T2G 3A7
sales@dayyphotonics.com, +1(587)328-0739, www.dayyphotonics.com

D. ABSOLUTE MAXIMUM RATINGS (see note 1)

Parameter	Symbol	Condition	Min.	Max.	Unit
Reverse Voltage	V_R	CW	-	2	V
Operating Current	I_{OP}	CW T_{OP} = 25˚C	-	200	mA
Forward Voltage	V_F	CW T_{OP} = 25˚C	-	2.5	V
Package Temperature (see note 2)	T_{BTF}	-	-40	74	°C
Storage Temperature (see note 4)	T_{stg}	No condensation, Unbiased	-51	85	°C
Storage Humidity (see note 4)	RH_{stg}	-	5	85	%RH
Electro Static Discharge (ESD)	V_{ESD}	Human Body Model	-	500	V
Lead Soldering Temperature	T_{Solder}	-	-	280	°C
Lead Soldering Time	t_{Solder}	-	-	10	s

Notes:

1. *Please note that exceeding the Absolute Maximum Ratings above may cause device failure. The manufacturer does not bear responsibility for laser power damage that is attributed to electrostatic discharge, excessive current levels, and current spikes (transients).*

   Any attempts to increase the laser drive current above the pre-set limits or recommended specification limits, can damage the device, and nullify the warranty period. It should be emphasized that the current limit set points cannot be exceeded.

2. *For optimum performance of the SLED, the SLED must be operated within the specified temperature ranges. The SLED has an internal thermoelectric cooler (TEC) but it's always required to mount the butterfly package on an appropriate heatsink, capable of dissipating up to 7W.*

3. T_{TEC} *is monitored by internal thermistor with external readout.*

4. *Storage temperature and relative humidity should be chosen so the dew point of the humid air around the package is below the storage temperature of the package, to avoid condensation on the package.*

DAYY Photonics Corporation, 4030 8 St SE, Calgary, Canada, T2G 3A7
sales@dayyphotonics.com, +1(587)328-0739, www.dayyphotonics.com

E. OPTICAL AND ELECTRICAL SPECIFICATIONS

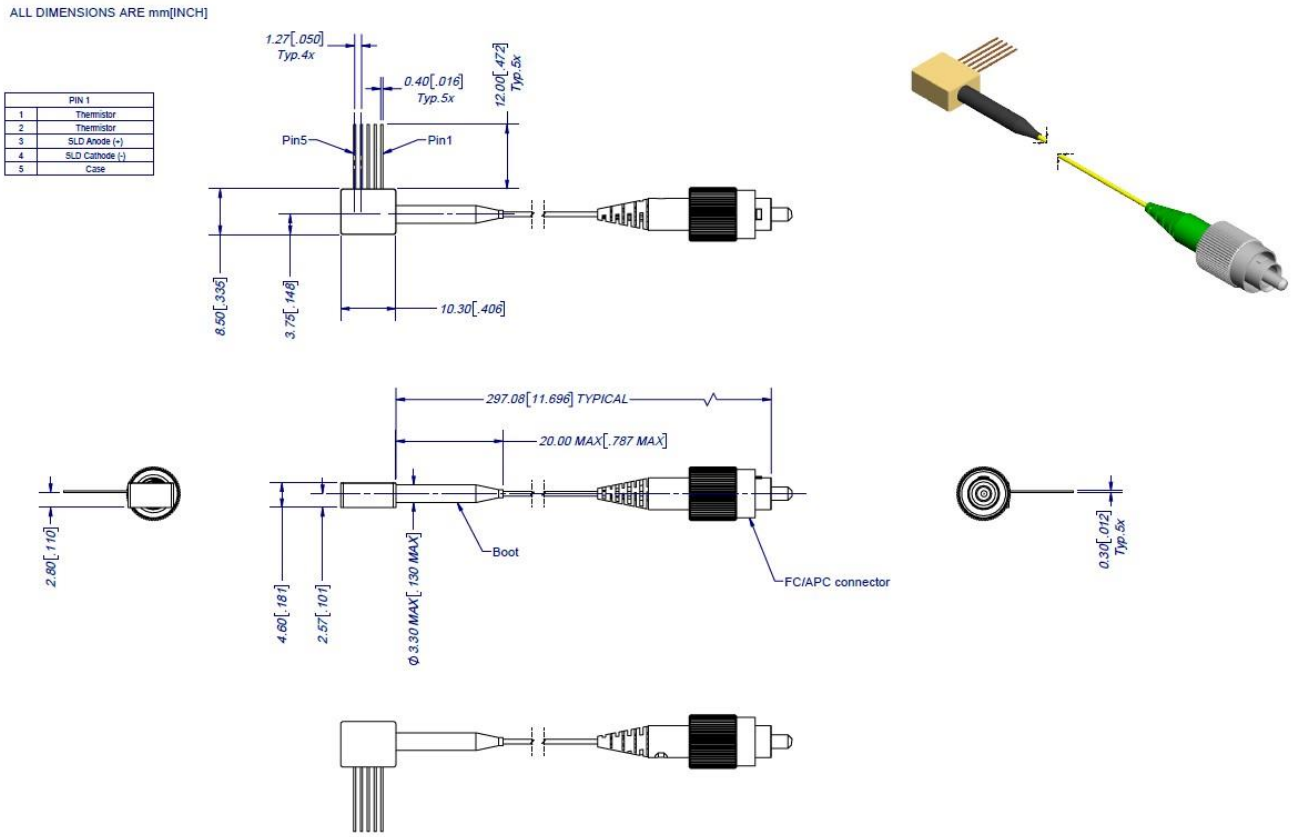
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Center Wavelength (see note 6)	CWL	T_{OP} = 25˚C	830	835	840	nm
Operating Current	I_{OP}	T_{OP} = 25˚C	-	150	200	mA
Forward Voltage	V_F	T_{OP} = 25˚C	-	-	2	V
SM Fiber Coupled Power @150mA	P	T_{OP} = 25˚C	4	-	-	mW
Bandwidth FWHM (see note 7)	B_{FWHM}	T_{OP} = 25˚C	-	10	-	nm
Spectral Coverage	SC	T_{OP} = 25˚C	-	830-840	-	nm
Spectrum Ripple (see note 8)	R	T_{OP} = 25˚C	-	<0.10	-	dB
Thermistor Resistance TEC	R_{THTEC}	T_{OP} = 25˚C	9.5	10.0	10.5	kΩ
Power Dissipation (see note 10)	P_{DISS}	I_{OP}	-	0.42	-	W

Notes:

5. *There may be differences in typical values of output power, power stability, wavelength and bandwidth, due to coupling efficiency. These values are references and there is no guarantee that each particular SLED module will have EXACTLY the typical values shown on the previous chart. The specification lists the operating temperature for the electrical/optical characteristics, which is the temperature of the SLED during the time that the specifications were measured. Variation in temperature beyond what is specified can have a significant effect on the optical characteristics, like changes in wavelength or drop in output power.*
6. *Center Wavelength is defined as the center point of the 3dB bandwidth of the SLED.*
7. *SLED FWHM is defined as the -3dB bandwidth from the center wavelength.*
8. *Resolution of 0.1nm.*
9. *Polarization Extinction Ration is defined as the ratio of optical powers of perpendicular polarizations, expressed in decibels (dB).*
10. *Power dissipation when SLED is on CW, required heat dissipation.*

DAYY Photonics Corporation, 4030 8 St SE, Calgary, Canada, T2G 3A7
sales@dayyphotonics.com, +1(587)328-0739, www.dayyphotonics.com

F. MECHANICAL DIAGRAM



DAYY Photonics Corporation, 4030 8 St SE, Calgary, Canada, T2G 3A7
sales@dayyphotonics.com, +1(587)328-0739, www.dayyphotonics.com

G. FIBER SPECIFICATIONS

780-HP, Select Cutoff SM Optical Fiber	
Fiber Core	Single Mode
Core Diameter	5 ± 0.5 µm
Wavelength	780 – 970 nm
Core NA	0.13
Claddings	Single
Cladding Diameter	125 ± 1.5 µm
Coating	Acrylate
Coating Diameter	245 ± 15 µm
Long Term Bend Radius	≥ 13 mm
Furcation Tubing	900 µm
Fiber Length	>1m

H. SAFETY

All statements regarding safety of operation and technical data will only apply when the unit is operated correctly. This SLED is a Class 1M laser product. It is safe for all conditions of use except when passed through magnifying optics such as microscopes and telescopes. It produces a beam that is divergent. If light is re-focused use protective eye wear.

DAYY Photonics Corporation, 4030 8 St SE, Calgary, Canada, T2G 3A7
sales@dayyphotonics.com, +1(587)328-0739, www.dayyphotonics.com