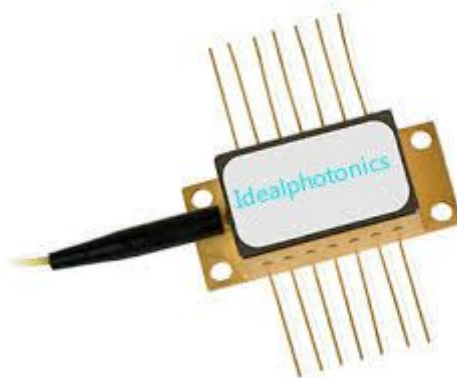


## 1690nm Superluminescent LED



### Description

The Ideal Photonics SLD-876 series is a broadband SLED that operates in a true inherent superluminescent mode. This superluminescent property generates broader band at higher drive currents in contrast to other conventional SLEDs which are ASE-based, where high drive tends to give narrower band. Its low coherence reduces Rayleigh backscattering noise. Coupled with high power and large spectral width, it offsets photoreceiver noise and improves spatial resolution (in OCT) and measurand sensitivity (in sensors). The SLED is available in 14-pin BTF package. It is compliance with the requirements of Bellcore Document GR-468-CORE.

Enabled by IDP PICTM spread spectra bandgap engineering technology, future generations of Ideal Photonics SLEDs promise higher chip powers (up to 50mW possible), and broader spectral bands (beyond 120nm). Higher levels of integration may feature integrated SLEDs with phase modulators, optical couplers and photodetectors into a complete optical sensor chipset.

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

### Feature

- Ex-fiber output power of >10mW
- 3dB bandwidth of >45nm
- Spectral modulation of <0.5dB
- 14-pin BTF package
- Single mode fiber

### Application

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

**Packages:**

DIL, BUT; others on request

**Additional & customized:**

PM fiber pigtails (slow axis alignment; 45 degree orientation upon request)  
 FC/APC terminated pigtails

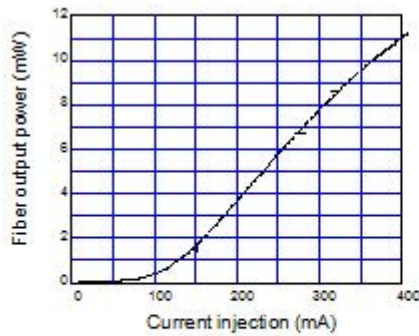
**Specification**

**ABSOLUTE MAXIMUM RATINGS**

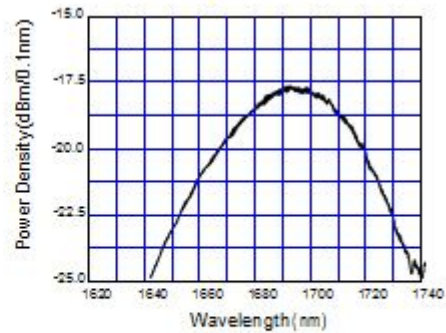
Parameter	Symbol	Condition	Min	Max	Unit
Reverse voltage	VR			2	V
Forward current	IF			450	mA
Forward voltage	VF	Iop		3	V
Case temperature	Tc	Iop	-40	65	°C
SLED temperature1	TSLED	Iop	0	70	°C
Thermoelectric cooler voltage	VTEC			3.56	V
Thermoelectric cooler current	ITEC			2.6	A
Storage temperature	Tstg	Unbiased	-40	85	°C
Storage humidity			5	85	%RH
Electro static discharge (ESD)	VESD	Human body model		500	V
Lead soldering temperature	Stemp			260	°C
Lead soldering time	Stime			10	sec

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Operating current	Iop				400	mA
Forward voltage	VF	Iop			2	V
Power in SMF	Po	Iop	10			mW
Central wavelength	$\lambda$	Iop	1680	1690	1700	nm
Bandwidth	BFWHM	Iop	45			nm
Spectrum modulation	R	Iop			0.5	dB
Thermistor resistance	Rtherm	T = 25 °C	9.5	10	10.5	k $\Omega$
Thermoelectric cooler voltage	VTEC	Iop			3	V
Thermoelectric cooler current	ITEC	Iop			1.8	A

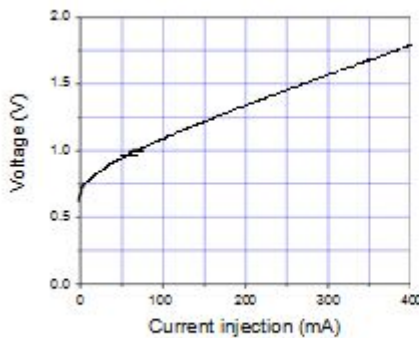
## PERFORMANCE EXAMPLES



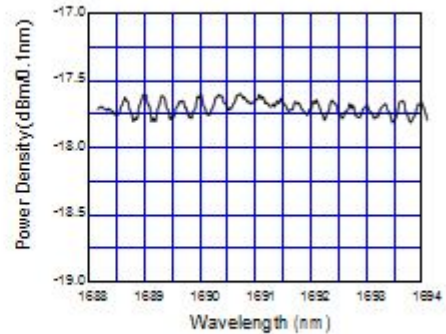
**P-I Curve**



**Spontaneous Emission Spectrum**



**I-V Curve**



**Spectrum Modulation**

### Ordering Information :

SLD-876-LP-(c)-(d),

where:c – package type,d – SM (isotropic) or PM (polarization maintaining).

Example: SLD-876-LP-DBUT-SM.