

Superluminescent Emitting Diodes Broadband Source

Precision. Stability. Performance. — SpectraCore™ SLED broadband source for fiber optic sensing, optical test instruments, and OCT systems

AVAILABLE MODEL

STANDARD

PLUS



PRODUCT OVERVIEW

Maxer Photonics SLED broadband source is designed for fiber optic sensing, optical test instruments and OCT systems. It features a high precision controller for stable high output power and spectrum. An integrated temperature controller and low-noise CW current driver ensure excellent performance and reliability.

KEY FEATURES

- Highly stable power output and active power control
- Single +5 V power supply
- Fiber pigtail output with FC/APC connector
- Built-in current driver and temperature controller
- Integrated optical isolator
- High wall-plug efficiency

APPLICATIONS

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

ELECTRICAL CHARACTERISTICS

$T = 25^{\circ}\text{C}$ unless otherwise noted

PARAMETER	SYMBOL	CONDITION	MIN	TYP	MAX	UNIT
Input Power Supply	V_S	—	4.7	5	5.5	V
Input Current	I_S	—	—	—	2	A
Total Power Consumption	P_S	—	—	—	10	W
Power Output Stability	ΔP	Full temperature range, -40 to 60°C	—	—	< 2	%
ANALOG OUTPUT MONITOR — PIN 6						
Output Voltage	V_{OUT}	$R_X = \text{infinite}$	0	—	2.5	V
Output Impedance	R_{OUT}	—	—	150	—	Ω
Source Current	$ I_{OUT} $	$V_{OUT} = 2.5\text{ V}$	—	—	4	mA
ANALOG INPUT CONTROL — PIN 9						
Voltage	P_{SET}	—	0.3	—	2.5	V
Input Impedance	R_{IN}	—	—	—	1000	Ω
Sink Current	$ I_{IN} $	$V_{IN} = 2.5\text{ V}$	—	—	2.5	mA

OPTICAL & ENVIRONMENTAL CHARACTERISTICS

Unless otherwise specified, are performed at T_{Op} , all storage temperature

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Power in PMF	Po	—	—	< 10	mW
Central Wavelength	λ	1530	1550	1570	nm
Bandwidth	B _{FWHM}	≥ 35	—	—	nm
Spectrum Modulation	R	—	0.2	0.4	dB
Polarization Extinction Ratio	PER	≥ 15 dB	—	—	—
Storage Temperature	T _{STG}	−40	—	+65	°C
Storage Humidity	—	5	—	75	%RH

TECHNICAL DRAWING (mm)

- Dimensions: 85 × 110 mm
- Height: 18 mm (or customized)
- Enclosure: Metal case, air-cooled
- Optical output: 1 m PM Panda fiber, 900 μm loose tube with FC/APC
- Electronic interface: 10-way single-row HE14 shrouded header

PIN ASSIGNMENT & FUNCTION

HE14 shrouded header pin layout — Pin 1 nearest to PMF output

PIN	SYMBOL	POWER / CONTROL / MONITOR	ANALOG / DIGITAL	INPUT / OUTPUT	DESCRIPTION
1	PGND	P	—	—	Power Supply Ground
2	PGND	P	—	—	Power Supply Ground
3	VS	P	—	—	+5 V DC
4	VS	P	—	—	+5 V DC
5	NC	—	—	—	Not Connected
6	TMON	M	A	O	Monitor Temperature in SLED
7	NC	—	—	—	Not Connected
8	PREF	—	—	—	Internal Reference Power Check
9	PSET	C	A	I	SLED Optical Output Power
10	AGND	—	—	—	Ground for Control and Monitor

Connect Pin 9 (PSET) to Pin 8 (PREF) to check internal factory optical power setting. Leave Pin 8 (PREF) unconnected for external power control through Pin 9 (PSET).