



## SPL1390-2-9-PD



### TECHNICAL DATA

## Pigtailed Coaxial Laser Diode

#### Features

- 1390 nm
- SM Fiber
- Coaxial package
- Built-in PD

#### Applications

- Optical Bidi Module and Optical Receiver
- Optical Transmitter



#### Electrical Connection

Pin Configuration		Bottom View										
	<table border="1"> <thead> <tr> <th>PIN</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>PD Cathode</td> </tr> <tr> <td>2</td> <td>PD Anode</td> </tr> <tr> <td>3</td> <td>LD Anode, GND</td> </tr> <tr> <td>4</td> <td>LD Cathode</td> </tr> </tbody> </table>	PIN	Function	1	PD Cathode	2	PD Anode	3	LD Anode, GND	4	LD Cathode	
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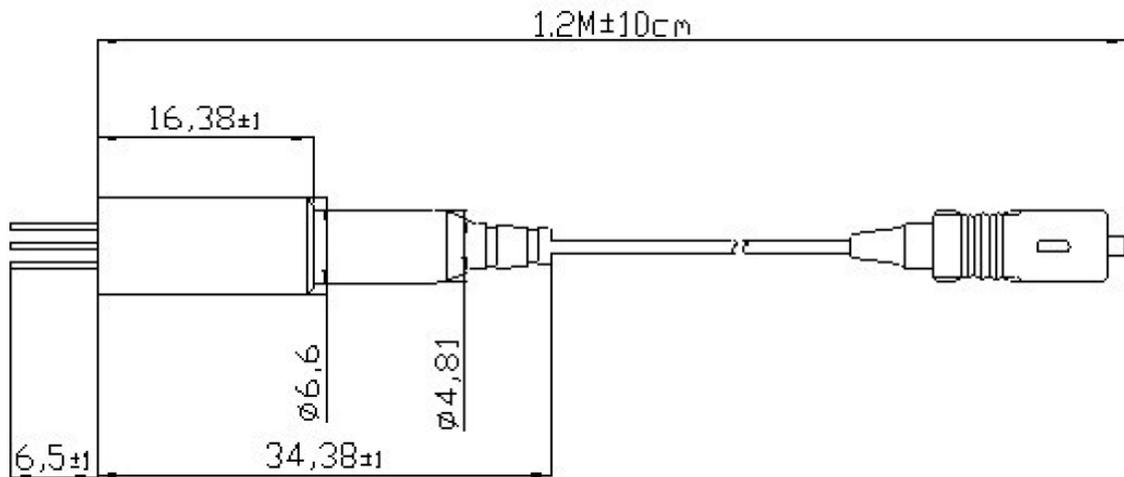
#### Specifications (25°C)

Type	Min.	Typ.	Max.	Unit
<b>Optical Specification</b>				
Output Power $P_F$	1	2	-	mW
Center Wavelength $\lambda_C$	1387	1390	1393	nm
Spectral Width $\Delta\lambda$	-	0,3	-	nm
<b>Fiber Characteristics</b>				
Fiber Kind	-	9	-	$\mu\text{m}$
Fiber Length	-	0.8	1.0	m
Connector	FC/SC/ST/LC/MU			
<b>Electrical Specification</b>				
Slope Efficiency $E_S$	-		-	mW/mA
Threshold Current $I_{th}$	5	11	15	mA
Operation Current $I_O$	-	30	35	mA
Operation Voltage $V_f$	-	1.1	1.6	V
Monitor Current $I_m$	0.1	-	-	mA
PD Reverse Voltage	-	15	-	V
PD Capacitance	-	10	15	pF
PD Dark Current	-	-	0.1	$\mu\text{A}$
Side Mode Suppression Ratio	30	35	-	dB
Data Rate	1.25			Gb/s
Package Style	Coaxial			
<b>Absolute Maximum Ratings</b>				
Reverse Voltage $V_r$	2.0			V
Operating Temperature $T_{Op}$	-10 ... +85			$^{\circ}\text{C}$
Storage Temperature $T_{stg}$	-40 ... +85			$^{\circ}\text{C}$
Lead Soldering Temperature (10 sec.)	260			$^{\circ}\text{C}$

The above specifications are for reference purpose only and subjected to change without prior notice.



## Package Dimensions (Unit: mm)



## Safety of Laser light

- Laser Light can damage the human eyes and skin. Do not expose the eye or skin directly to any laser light and/or through optical lens. When handling the LDs, wear appropriate safety glasses to prevent laser light, even any reflections from entering to the eye. Focused laser beam through optical instruments will increase the chance of eye hazard.
- These LDs are emitting invisible light.



## Cautions

### 1. Operating method

- This LD shall change its forward voltage requirement and optical output power according to temperature change. Also, the LD will require more operation current to maintain same output power as it degrades. In order to maintain output power, use of APC (Automatic Power Control) is recommended. Which use monitor feedback to adjust the operation current.
- Confirm that electrical spike current generated by switching on and off does not exceed the maximum operating current level specified herein above as absolute maximum rating. Also, employ appropriate countermeasures to reduce chattering and/or overshooting in the circuit.

### 2. Static Electricity

- Static electricity or electrical surges will reduce and degrade the reliability of the LDs. It is recommended to use a wrist trap or anti-electrostatic glove when handling the product.

### 3. Absolute Maximum Rating

- Active layer of LDs shall have high current density and generate high electric field during its operation. In order to prevent excessive damage, the LD must be operated strictly below absolute maximum rating.



**NOTE**  
LASERDIODE  
MUST BE COOLED