



SL Series – 635nm-650nm Compact Laser Diode Modules *4mm Diameter with APC and Surge Current Protection*



Overview

The Lasermate SL series laser diode module is available in wavelengths 635nm and 650nm, and with compact size of 4mm diameter.

Features

- Compact laser diode module
- Automatic Power Control (APC) IC inside
- Low current consumption of APC circuit
- Surge current protection
- High quality glass lens for output beam
- Dimensions: Dia. 4mm x L. 8.5mm

Applications

- Pointing
- Leveling
- Sensing

Product Overview

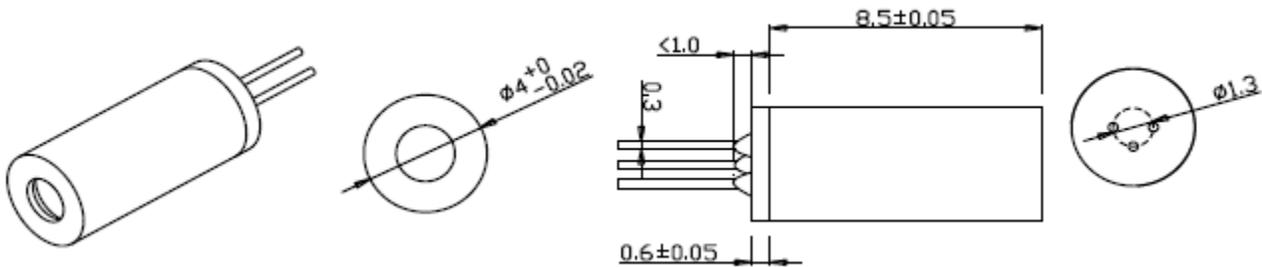
Part Number	Wavelength (nm)	Optical output power (mW)	Laser class	Operating current (mA)	Operating voltage typical (V DC)	Operating temperature (°C)
SL36353F3-A	635	<5	IIIa	<35	3	0 to 40
SL36501F3-A	650	<1	II	<35	3	0 to 40
SL36503F3-A	650	<5	IIIa	<35	3	0 to 40

Specifications of SL Series Laser Diode Modules

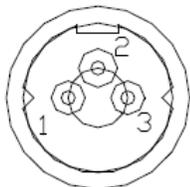
Absolute Maximum Ratings			
Parameter	Symbol	Rating	Unit
Power supply voltage	V_{CC}	3.3	V
Optical output power	SL36501F3-A	P_o	mW
	SL36353F3-A, SL36503F3-A		
Operation temperature	T_{opr}	0 to 40	°C
Storage temperature	For 635nm	T_{stg}	°C
	For 650nm		
		0 to 60	

Electrical and Optical Characteristics							
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions	
Wavelength	For 635nm	λ	630	635	640	nm	$P_o = 3mW$
	For 650nm		645	655	660		$P_o < 3mW$
Output power	SL36501F3-A	P_{out}	0.4	0.6	0.99	mW	$V_{CC} = 3V$
	SL36353F3-A		2	-	3		
	SL36503F3-A		2.2	-	3		
Operation current	I_{op}	-	-	35	mA	$P_o = 3mW, V_{CC} = 3V$	
Operation voltage	V_{op}	2.5	-	3.3	Volt		
Laser beam spot size at 10m	<18mm for 635nm, <20mm for 650nm						
Divergence angle	2mrad						
Mean time to failure (MTTF) @ 3mW, 25°C	>10,000hrs for 650nm						

Outline Dimensions of SL Series Laser Diode Modules (unit: mm)



Pin Configuration



Pin 1: V_{CC}

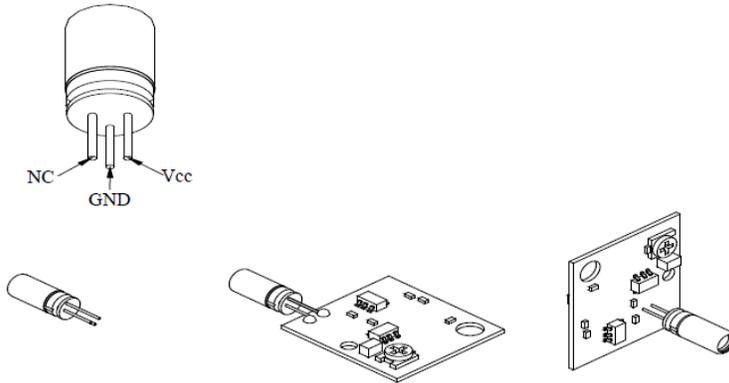
Pin 2: GND

Pin 3: NC

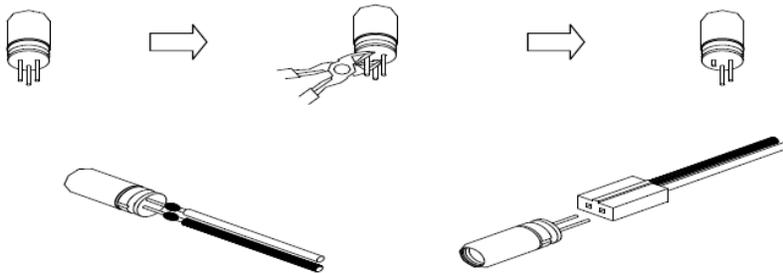
Note: Brass case is negative.

Instruction Manual for SL Series Laser Diode Modules

1. DC Power connection mode 1



2. DC Power connection mode 2



Laser Safety Precautions

1. Do not look directly into the laser beam. The laser beam may cause severe damage to human eye.
2. Do not contaminate lens by soiling, oil, or chemicals.

Additional Notes

- The SL series laser modules are designated solely as OEM components for incorporation into the customer's end products. Therefore, it is the customer's responsibility to comply with the appropriate requirements of FDA 21CFR, section 1040.10 and 1040.11 for complete laser products. For the code of FDA regulations, please refer to [FDA Performance Standards for Light-Emitting Products](#) for detailed information.
- Specifications are subject to change without notice.



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