

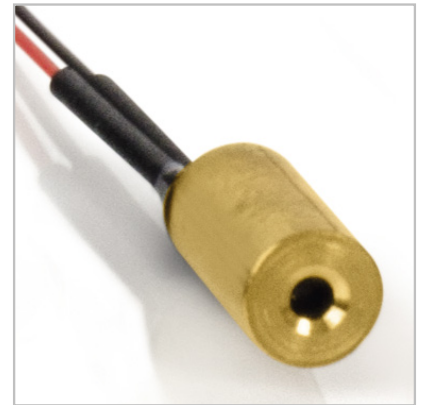
# Laser Module

## LC-LMD-650-01-T60-AX

Ø 4 mm, 650 nm Laser Module

### Features

1. APC (auto power control) IC inside
2. Low current consumption of the AP circuit
3. High quality lens for output beam
4. Operating temperature up to 60 °C
5. The output beam is aligned to the center-line of the module, the tolerance is less than 0.6°



### Part No. with 50 mm Flying Leads

LC-LMD — 650 — 01 — 01 — A — T60 — AX — C

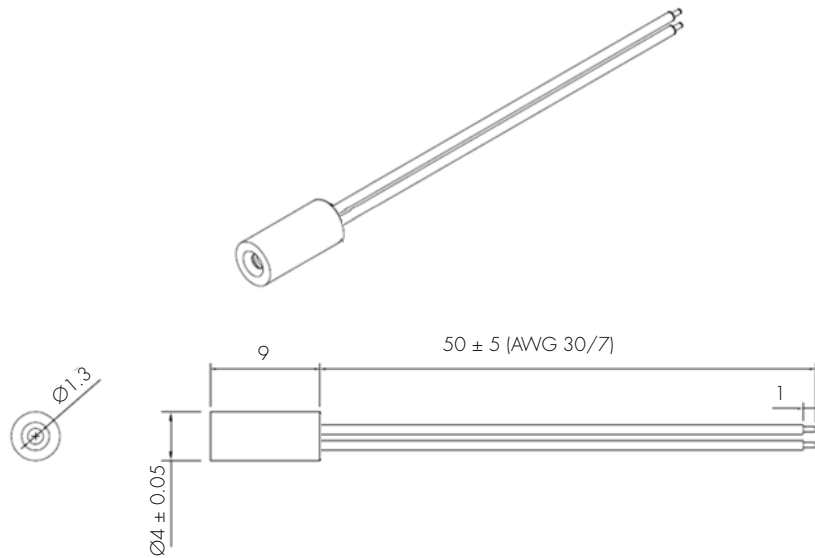
### Absolute Maximum Ratings

Item	Symbol	Rating	Unit
Power supply voltage	$V_{CC}$	3	V
Laser module optical output power	$P_o$	< 1	mW
Operation temperature	$T_{opr}$	-5 ~ 60	°C
Storage temperature	$T_{stg}$	-5 ~ 60	°C

Electrical and Optical Characteristics (TC = 25 °C)

Item	Symbol	Min.	Typ.	Max	Unit	Condition
Wavelength	$\lambda$	645	655	660	nm	$P_o = < 3 \text{ mW}$
Output power	$P_{out}$ 01	-	0.6	0.9	mW	$V_{cc} = 3 \text{ V}$
Operation current	$I_{op}$	-	15	25	mA	$P_o = 3 \text{ mW}$ $V_{cc} = 3 \text{ V}$
Operation voltage	$V_{op}$	2.5	-	3.3	Volt	
laser beam spot size at 10 m		< 20 mm				
Divergence angle		2.0 mrad				
Coaxial precision		$\theta < 0.6 \text{ degree}$				
Mean time to failure (MTTF) 1 mW 25 °C		>10000 hrs				
Leads		50+/- 5 mm AWG 30/7				

Dimensions (Units: mm)



Black wire: GND  
Red wire: Vcc