

Laser Module

LC-LMD-650-02-T60

Ø 6.2 mm, 650 nm Laser Module, high operating temperature

Features

1. APC (auto power control) IC inside
2. Low current consumption of the APC circuit
3. Surge current protection
4. High quality lens for output beam
5. Operating temperature up to 60 °C



Part No. Indication

LC-LMD – 650 – 02 – 01 – A – T60

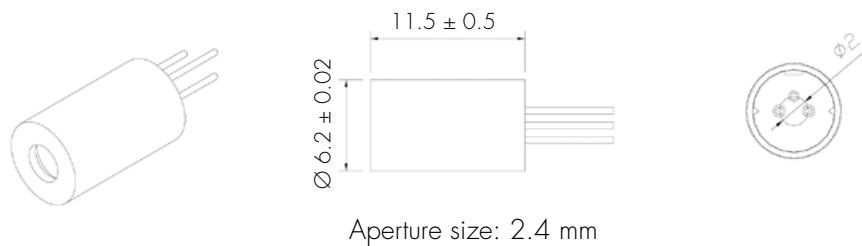
Absolute Maximum Ratings

Item	Symbol	Rating	Unit
Power supply voltage	V_{CC}	3.0	V
Laser module optical output power	P_o	< 1	mW
Operation temperature	T_{opr}	-10 ~ 60	°C
Storage temperature	T_{stg}	-10 ~ 60	°C

Electrical and Optical Characteristics ($T_c = 25^\circ\text{C}$)

Item	Symbol	Min.	Typ.	Max	Unit	Condition
Wavelength	λ	650	655	660	nm	$P_o = < 1 \text{ mW}$
Output power	P_{out} 01	0.5	-	0.9	mW	$V_{cc} = 3 \text{ V}$
Operation current	I_{op}	-	20	30	mA	$P_o = 0.6 \text{ mW}$
						$V_{cc} = 3 \text{ V}$
Operation voltage	V_{op}	2.5	-	3.3	Volt	
Laser beam spot size at 10 m				< 20 mm		
Divergence angle				2 mrad		
Mean time to failure (MTTF) 1 mW 25 °C				>10000 hrs		

Outline Dimensions (Units: mm)



Pin Assignment

Pin 1: V_{cc}
Pin 2: GND
Pin 3: NC



A type: Heat sink stand (-)

Laser Module LC-LMD-650-07-T60

Ø 3.3 mm, 650 nm Laser Module, High Operating Temperature

Features

1. APC (auto power control) IC inside
2. Low current consumption of the APC circuit
3. Much smaller LD module
4. Surge current protection
5. High quality glass lens for output beam
6. Operating temperature up to 60 °C



Part No. Indications

LC-LMD – 650 – 07 – 01 – A – T60

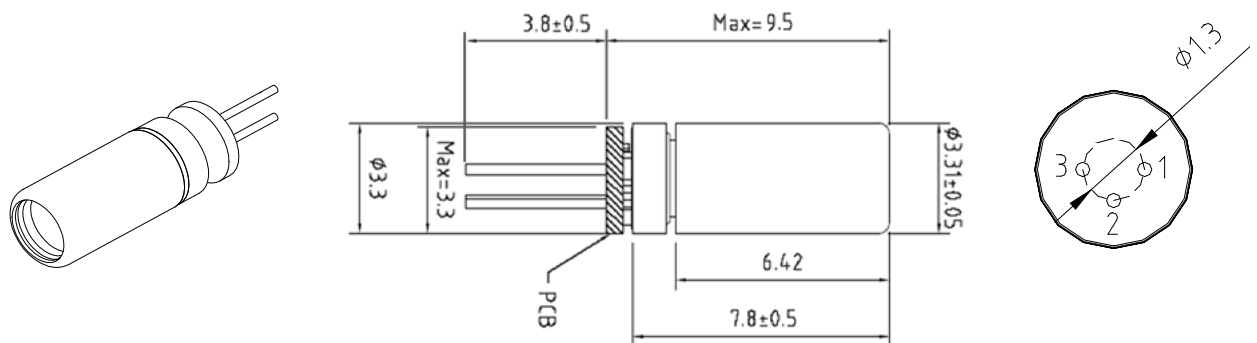
Absolute Maximum Ratings

Item	Symbol	Rating	Unit
Power supply voltage	V_{CC}	3.3	V
Laser Module optical output power	P_o	< 0,9	mW
Operation temperature	T_{opr}	-10 ~ +60	°C
Storage temperature	T_{stg}	-40 ~ +85	°C

Electrical and Optical Characteristics ($T_c = 25\text{ }^\circ\text{C}$)

Item	Symbol	Min.	Typ.	Max	Unit	Condition
Wavelength	λ	650	655	660	nm	$P_o = < 0.9\text{ mW}$
Output power	P_{out} 01	0.5	-	0.9	mW	$V_{cc} = 3\text{ V}$
Operation current	I_{op}	-	-	35	mA	$P_o = 0.9\text{ mW}$ $V_{cc} = 3\text{ V}$
Operation voltage	V_{op}	2.5	-	3.3	Volt	
Laser beam spot size at 5 m		< 10 mm				
Divergence angle		2 mrad				
Mean time to failure (MTTF) 1 mW 25 °C		>10000 hrs				

Outline Dimensions (Units: mm)



Pin Assignment

Pin 1: V_{cc}
 Pin 2: GND
 Pin 3: NC

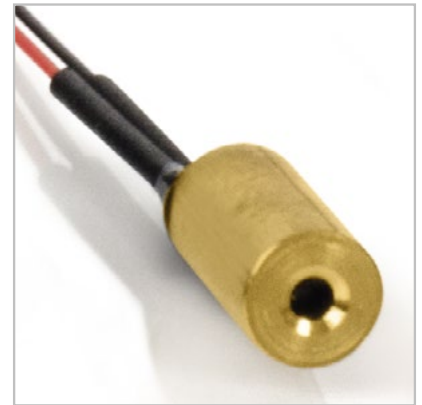
Laser Module

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

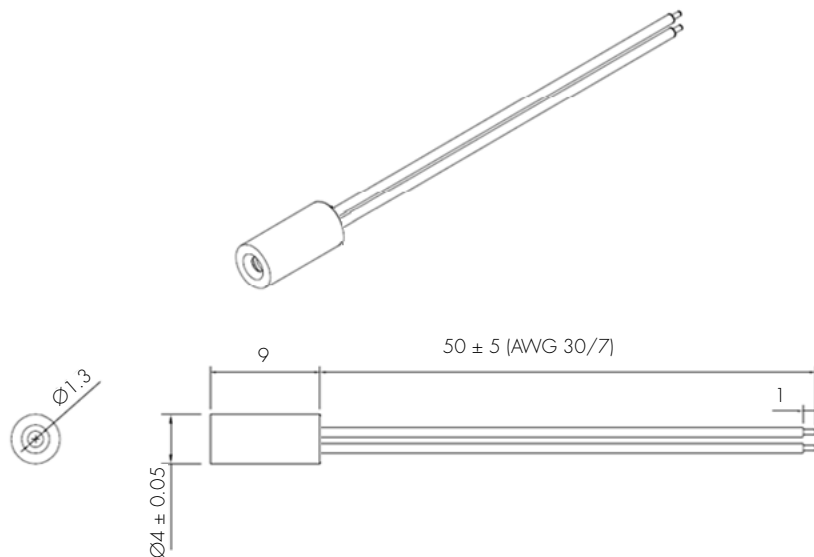
Absolute Maximum Ratings

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	λ	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