



RC-LED-650-02

- Resonant Cavity LED Module
- 650 nm, 0.2 mW
- No Threshold
- Focusable Glass Lens



Description

RC-LED-650-02 is a Resonant Cavity LED module emitting at 660 nm with rated output power of about 185 μ W. The module's body is made of black anodized aluminium, enclosing RC-LED and an adjustable 3-glass collimator lens.

Maximum Ratings

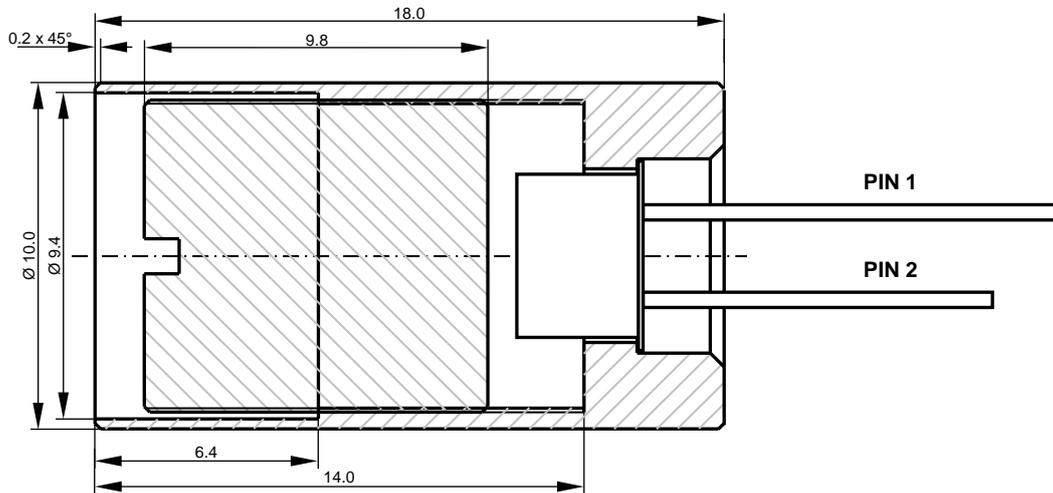
Parameter	Symbol	Values		Unit
		Min.	Max.	
Forward Current	I_F		30	mA
Reverse Voltage	V_R		5	V
Reverse Current	I_R		10	μ A
Operating Temperature	T_{CASE}	- 20	+ 75	$^{\circ}$ C
Storage Temperature	T_{STG}	- 40	+ 100	$^{\circ}$ C
Soldering Temperature	T_{SOLD}		260	$^{\circ}$ C

Specifications ($T_{CASE}=25^{\circ}$ C)

Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Peak Wavelength	λ_P	640	650	660	nm
Optical Power	P_O	170	185	200	μ W
Spectral Width	$\Delta\lambda$		7		nm
Output Aperture			$\varnothing 5$		mm
Beam Character			Round		
Forward Current	I_F		20		mA
Forward Voltage	V_F		2.0	2.2	V
Rise Time (10 - 90%)	t_R		3		ns
Fall Time (10 - 90%)	t_F		3		ns
Wavelength Shift	$\Delta\lambda/\Delta T$		0.07		nm/ $^{\circ}$ C
Power Drift	$\Delta P_O/\Delta T$		-0.6		%/ $^{\circ}$ C
Focus			adjustable		
Lens Type			3-glass lens, AR coated		
Material Body			Aluminium, black anodized		
Dimensions			$\varnothing 10 \times 18$		mm
PIN Leads			$\varnothing 0.25 \times 13.5$ and ~ 10 (short pin)		mm



Drawing



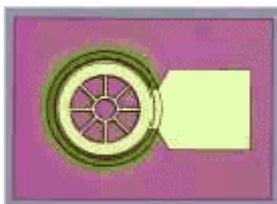
All dimensions units are mm

Electrical Connection

Lead	Description
PIN 1	Anode
PIN 2	Cathode



Additional Information



RC-LED chip structure



Collimated far field beam pattern



Precaution for Use

1. Cautions

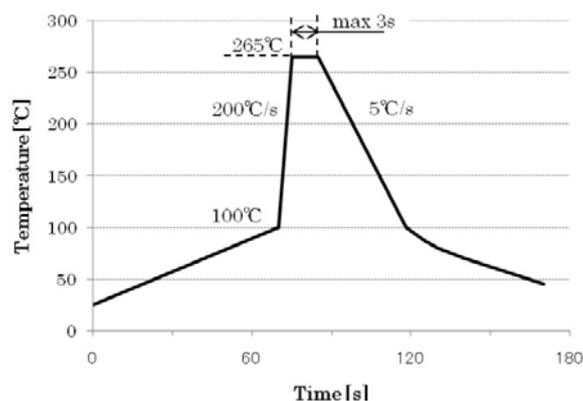
DO NOT look directly into the emitted light or look through the optical system. To prevent in adequate exposure of the radiation, wear protective glasses.

2. Lead Forming

- When forming leads, the leads should be bent at a point at least 3 mm from the base of the lead. DO NOT use the base of the lead frame as a fulcrum during lead forming.
- Lead forming should be done before soldering.
- DO NOT apply any bending stress to the base of the lead. The stress to the base may damage the LED's characteristics or it may break the LEDs.
- When mounted the LEDs onto the printed circuit board, the holes on the circuit board should be exactly aligned with the leads of LEDs. If the LEDs are mounted with stress at the leads, it causes deterioration of the lead and it will degrade the LEDs.

3. Soldering Conditions

- Solder the LEDs no closer than 3 mm from the base of the lead.
- DO NOT apply any stress to the lead particularly when heat.
- The LEDs must not be reposition after soldering.
- After soldering the LEDs, the lead should be protected from mechanical shock or vibration until the LEDs return to room temperature.
- When it is necessary to clamp the LEDs to prevent soldering failure, it is important to minimize the mechanical stress on the LEDs.
- Cut the LED leads at room temperature. Cutting the leads at high temperature may cause the failure of the LEDs.



4. Static Electricity

- The LEDs are very sensitive to Static Electricity and surge voltage. So it is recommended that a wrist band or an anti-electrostatic glove be used when handling the LEDs.
- All devices, equipment and machinery must be grounded properly. It is recommended that precautions should be taken against surge voltage to the equipment that mounts the LEDs.