



RC650-TO46FW

- Red Resonant Cavity Light Emitting Diode
- 650 nm, 1 mW
- No Threshold
- TO-46 Can
- Flat window cap



Description

RC650-TO46FW is a Resonant Cavity Light Emitting Diode, emitting at typically 650 nm with rated output power of 1 mW cw, mounted into a standard TO-46 package and sealed with a flat window cap.

Maximum Ratings

Parameter	Symbol	Values		Unit
		Min.	Max.	
Forward Current	I_F		30	mA
Reverse Voltage (@ 10 μ A)	V_F		5	V
Operating Temperature	T_{CASE}	- 20	+ 70	$^{\circ}$ C
Storage Temperature	T_{STG}	- 40	+ 100	$^{\circ}$ C
Lead Solder Temperature *	T_{SLD}		+ 260	$^{\circ}$ C

* must be completed within 10 seconds

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

Parameter	Symbol	Min.	Values	Max.	Unit
			Typ.		
Emission Wavelength	λ_{Peak}	640	650	660	nm
Spectral Width	$\Delta\lambda$		7		nm
Radiant Power	Φ_E		1.0	1.5	mW
Radiant Intensity	I_E	0.2	0.3		mW/sr
Forward Current	I_F		20		mA
Forward Voltage	V_F		2.0	2.2	V
Beam Divergence	Θ		90		deg
Rise Time	t_R		3		ns
Fall Time	t_F		3		ns
Data Rate	T_{DATA}		155		Mbps

Thermal Characteristics

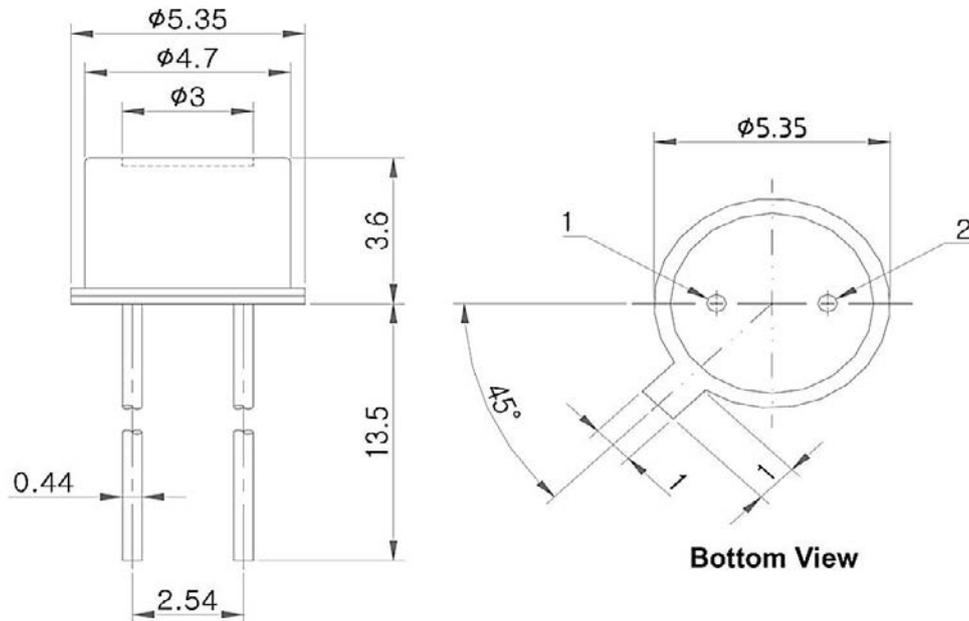
Parameter	Symbol	Min.	Values	Max.	Test Conditions	Unit
			Typ.			
P _O Temperature Variation	$\Delta P_O / \Delta T$		-0.6		T _C =-20 to 70 $^{\circ}$ C,20mA	%/ $^{\circ}$ C
λ_P Temperature Variation	$\Delta\lambda / \Delta T$		0.07		T _C =-20 to 70 $^{\circ}$ C,20mA	nm/ $^{\circ}$ C



Outline Dimensions

TO46FW

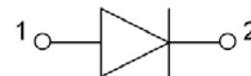
TO-46 with flat window



All Dimensions in mm

Electrical Connection

Lead	Description
Pin 1	RCLED Anode
Pin 2	RCLED Cathode





Precautions

Static Electricity:

RCLEDs are **sensitive to electrostatic discharge (ESD)**. Precautions against ESD must be taken when handling or operating these RCLEDs. Surge voltage or electrostatic discharge can result in complete failure of the device.



Safety Advice:

This RCLED emits concentrated red light which can be **hazardous to the human eye and skin**.

Operation:

Do *only* operate RCLEDs with a current source.

Running these LEDs from a voltage source will result in complete failure of the device.

Current of a LED is an exponential function of the voltage across it. Usage of current regulated drive circuits is mandatory.