M529RGC

Light Emitting Diode

Description

- Size: 2x5mm rectangular package.
- Emitting color: Two-color (super red and green).
- Lens color: Water clear.
- Lead type: Radial leads.

Main Features

- Instant light less than 100ns turn on time.
- Superior resistance to moisture.
- Low drive current, recommend forward current: IF= 10- 20mA.
- Cool beam, safe to touch.
- Mixing with amber color.
- Common anode type.
- **Pb-Free.**
- Wide viewing angle.
- Reliable and rugged.

Absolute Maximum Rating TA=25℃

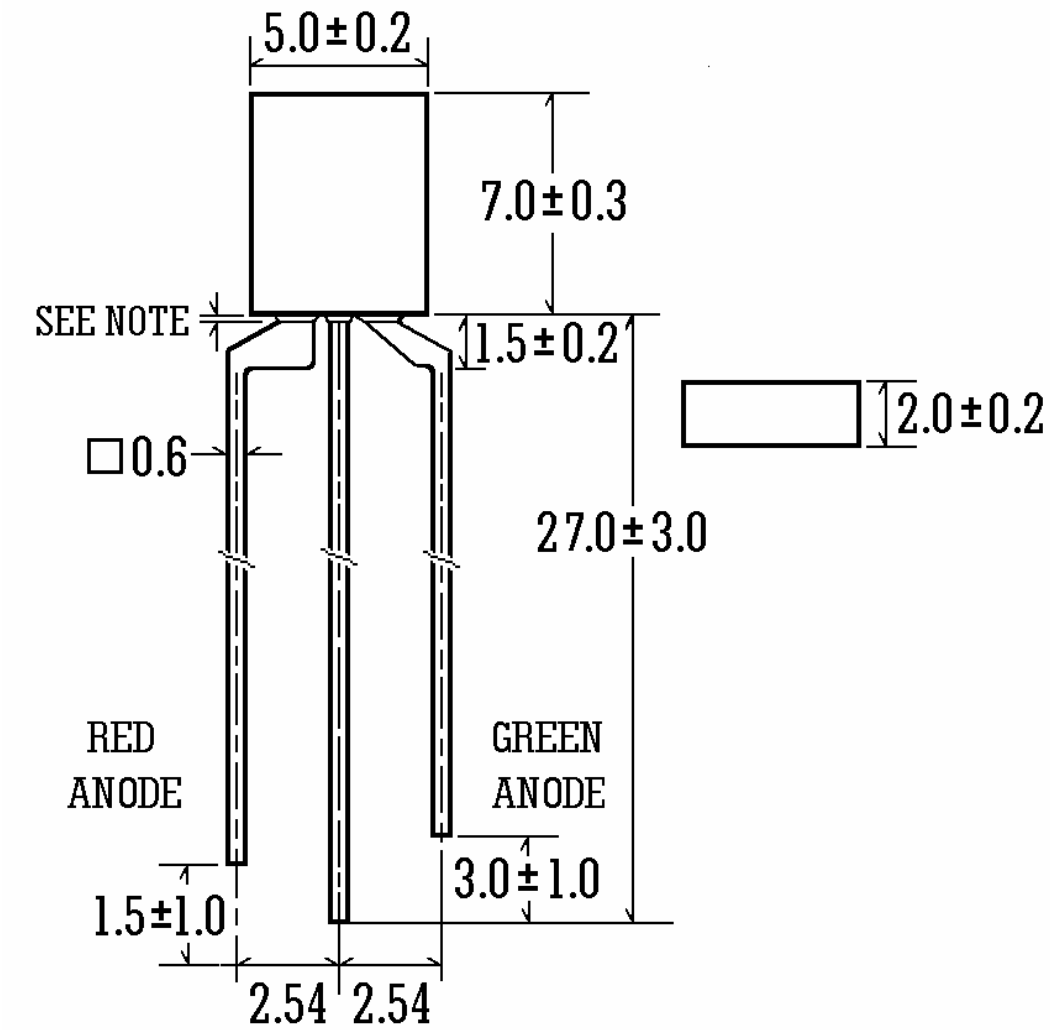
Parameter	Symbol	Rating		Unit	Notice
Power Dissipation	Pd	RED	85	mW	---
		GREEN	85		
DC Forward Current	IF	RED	25	mA	----
		GREEN	25		
Pulse Forward Current	IF (PEAK)	RED	80	mA	Duty 1/10 @ 1KHz
		GREEN	80		
Derating Linear From 50℃	--	0.4		mA / ℃	----
Reverse Voltage	VR	5		V	Under 100uA
Operating Temperature Range	T OPR	-20 to +80		℃	----
Storage Temperature Range	T STG	-20 to +80		℃	Humidity should be under 50%
Lead Soldering Temperature	T SOL	260 +/-5		℃	4mm (0.157") from mold body Less then 5 Second

Part Selection Electrical / Optical Characteristics At TA-25℃							
Characteristic	**Symbol**	**Test Condition**	**Color**	**Min.**	**Typ.**	**Max.**	**Unit.**
Forward Voltage	V_F	I_F =20mA	RED	1.6	2.0	2.6	V
			GREEN	1.7	2.2	2.6	
Reverse Current	I_R	V_R =5V	RED	—	—	10	uA
			GREEN	—	—	10	
Luminous Intensity (Note 1)	I_V	I_F =20mA	RED	9	20	40	mcd
			GREEN	25	50	90	
Peak Emission Wavelength	λ_p	I_F =20mA	RED	635	640	645	nm
			GREEN	560	565	570	
Spectral Line Half Width	$\Delta\lambda$	I_F =20mA	RED	25	30	35	nm
			GREEN	35	40	45	
Dominant Wavelength (Note 2)	λ_d	I_F =20mA	RED	625	630	635	nm
			GREEN	565	570	575	

Note 1 : Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.

Note 2 : The dominant wavelength (λ d) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

Package Dimensions



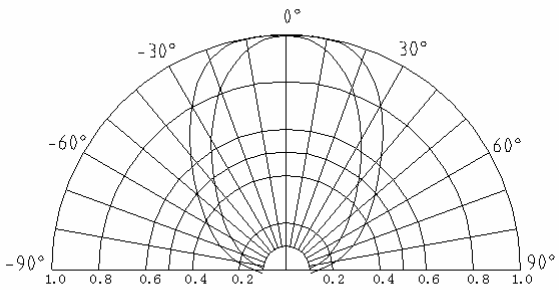
Lens Color	Water Clear	Viewing Angle	90+/- 10 Deg.	
		Emitting Color	Long lead	Red
			Short lead	Blue

NOTES:

- All dimensions are in millimeters (inches).
- Tolerance is ±0.25 mm (.010") unless otherwise noted.
- Protruded resin under flange is 1.0mm(.04") max
- Lead spacing is measured where the leads emerge from the package.
- Specifications are subject to change without notice.

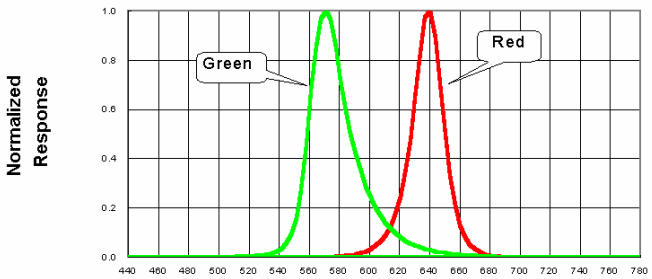
Typical Electrical / Optical Characteristic Curves At 25℃ Ambient Temperature

Beam Pattern

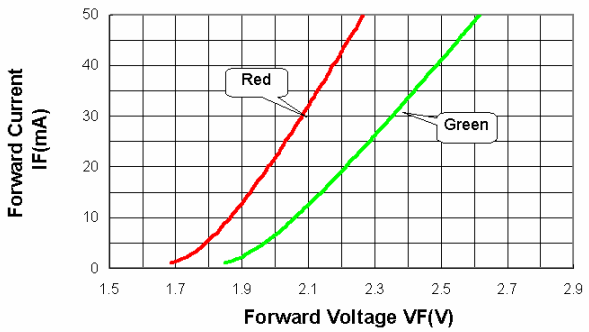


Relative Intensity (LOP @ MAX=1)

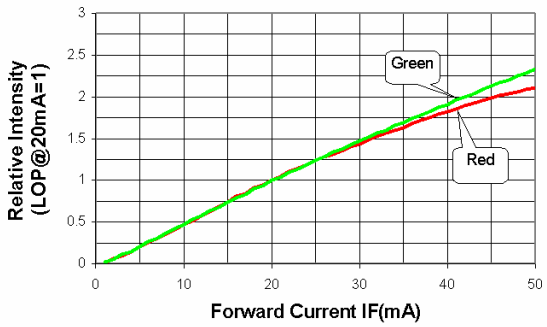
Spectral Radiance Green Peak @ 568nm
Red Peak @ 640nm



Forward Current
vs Forward Voltage

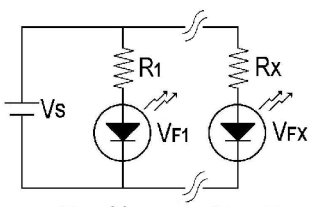


Relative Luminous Intensity
vs Forward Current



NOTE:

- $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
- Clean only in isopropanol, ethanol, Freon TF (or equivalent).
- When using this product, Please observe the absolute maximum rating and the instructions for use outlined from use of the product, which does not comply with the absolute maximum rating and the instructions included in these specification sheet.
- Q.A Outgoing inspection standard:
  Major Defect 0.65 A.Q.L. Minor Defect 1.5 A.Q.L
- **Lead Forming:**
  If forming is required, it must be done before soldering. Form pin leads by securing under 5mm from body and bedding with radio pliers or the equivalent to avoid pressure on resin. When the LED is mounted into a P.C.board, pitch spacing should be aligned to prevent cause any stress to the resin. Any unsuitable stress applied to resin may break bonding wire in LED, which will cause failure.
- Check at a distance of 30cm from the LED to the eye defects.
- **Over-current-proof:**
  Customer must apply resistor for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).
- **Parallel connection:**
  Customer must apply series resistor in **EACH LED** under parallel connection. Otherwise VF tolerance will cause LED array brightness uneven.
- Specifications are subject to change without notice.



$R1 = \frac{Vs - VF1}{IF}$ $Rx = \frac{Vs - VFx}{IF}$