

TOSHIBA LED LAMP InGaA/P RED/GREEN LIGHT EMISSION

TLRMHGH48M(F)

○ BI-COLOR HIGH LUMINOSITY INDICATOR

Unit: mm

- Lead(Pb) free(Sn-Ag-Cu)
- High Luminous Intensity.
- 5mm package
- InGaA/P Red/Green LED, the cathode is common to two colors.
- All plastic mold type.
- Milky white, diffusion lens.

Absolute Maximum Ratings (Ta = 25°C)

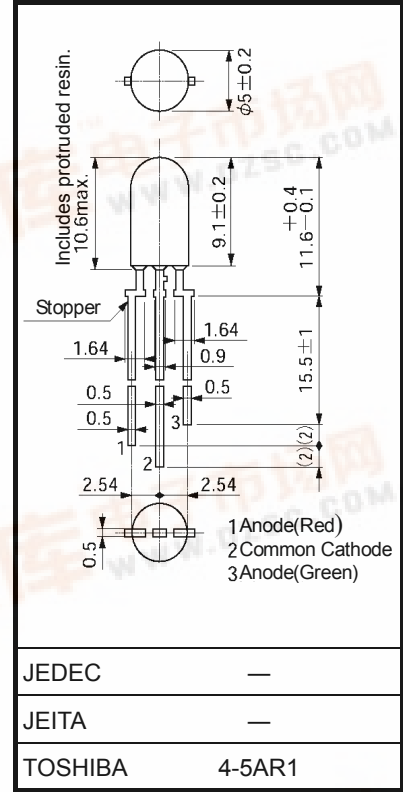
CHARACTERISTICS	SYMBOL	RATING	UNIT
FORWARD CURRENT	I _F	50 (Note)	mA
REVERSE VOLTAGE	V _R	4	V
POWER DISSIPATION	T _{opr}	-40~100	°C
OPERATING TEMPERATURE	T _{stg}	-40~120	°C

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Note1: Maximum rating of "forward current - atmospheric temperature (i.e. I_F-T_a graph in the next page)" is for each component.

In case two components lightening, total current should be within the rating.



Weight: 0.37 g (typ.)

PRECAUTIONS

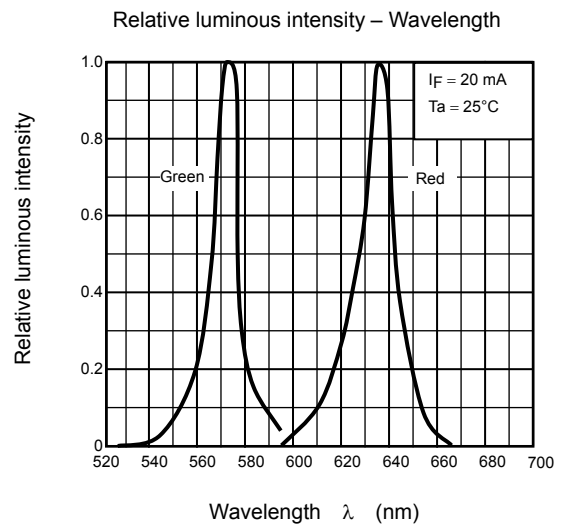
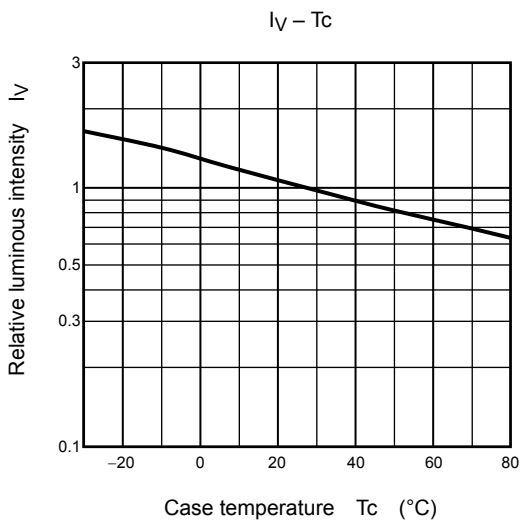
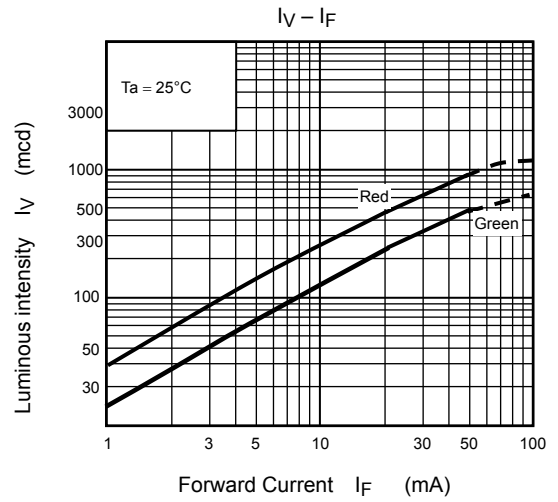
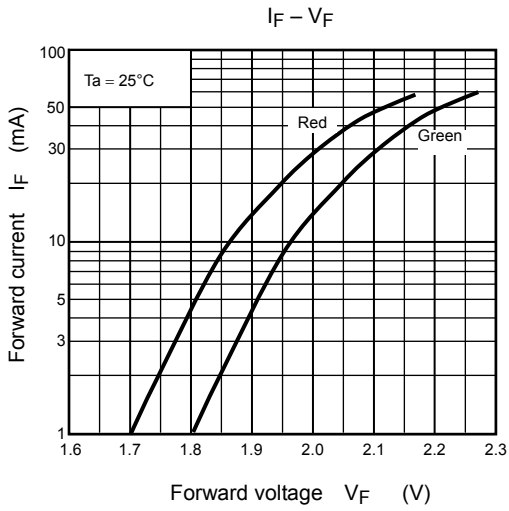
Please be careful of the followings

- Soldering temperature : 260 max Soldering time :3 s max (Soldering portion of lead : below the lead stopper of the device)
- If the lead is formed, the lead should be formed up to below the lead stopper of the device without Formed stress to the resin. Soldering should be performed after lead forming.
- The visible LED lamp also emits some IR light.
If a photodetector is located near the LED lamp, please ensure that it will not be affected by the IR light.

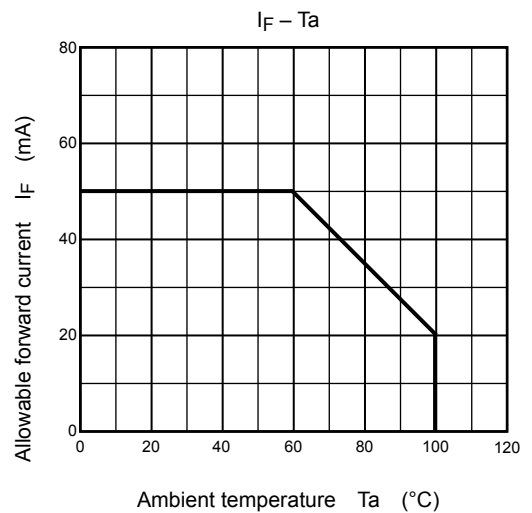
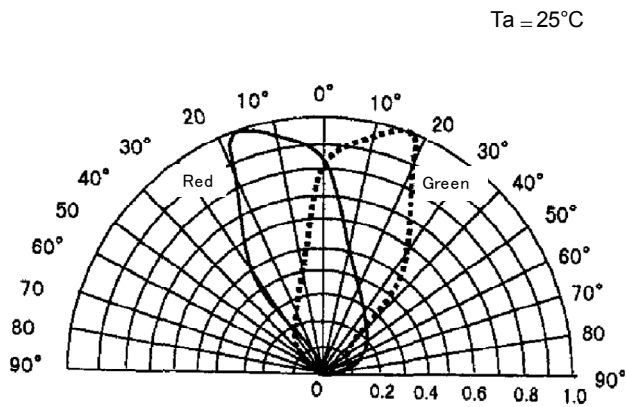
ELECTRICAL AND OPTICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
FORWARD VOLTAGE	Red	I _F = 20mA	—	1.95	2.4	V
	Green		—	2.05	2.4	
REVERSE CURRENT	Red	V _R = 4V	—	—	50	uA
	Green		—	—	50	
LUMINOUS INTENSITY	Red	I _F = 20mA	272	450	—	mcd
	Green		153	220	—	
SPECTRAL LINE HALF WIDTH	Red	I _F = 20mA	—	13	—	nm
	Green		—	13	—	
DOMINANT WAVELENGTH	Red	I _F = 20mA	—	626	—	nm
	Green		—	571	—	





Radiation pattern



RESTRICTIONS ON PRODUCT USE

20070701-EN

- The information contained herein is subject to change without notice.
- TOSHIBA is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such TOSHIBA products could cause loss of human life, bodily injury or damage to property.
In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent TOSHIBA products specifications. Also, please keep in mind the precautions and conditions set forth in the "Handling Guide for Semiconductor Devices," or "TOSHIBA Semiconductor Reliability Handbook" etc.
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- GaAs(Gallium Arsenide) is used in this product. The dust or vapor is harmful to the human body. Do not break, cut, crush or dissolve chemically.
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