TOSHIBA TLSU268G(F), TLRME68TG(F), TLYE68TG(F), TLGE68TG(F)

TOSHIBA InGaA{P LED

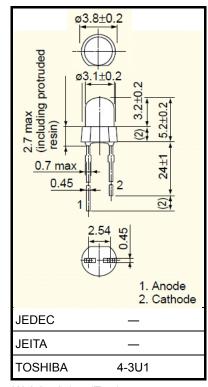
TLSU268G(F),TLRME68TG(F),TLYE68TG(F),TLGE68TG(F)

LED Lamps for mounting on through-hole PCB using an automatic insertion machine

- Lead(Pb)-free products (lead: Sn-Ag-Cu)
- 3mm package wide viewing angle
- Can be mounted on a PCB using an automatic insertion machine (please refer to mounting Precautions Using an Automatic Insertion Machine)
- InGaAlP
- Emitted colors: red, yellow and green
- Transparent lens
- Applications: Various types of information panels, indicators for amusement equipment and panel backlighting illumination sources

Lineup

Product Name	Color	Material
TLSU268G(F)	Red	
TLRME68TG(F)	Red (high-brightness)	InGaAℓP
TLYE68TG(F)	Yellow	moarti
TLGE68TG(F)	Green	



Weight: 0.15 g(Typ.)

Absolute Maximum Ratings (Ta = 25°C)

Product Name	Forward Current I _F (mA)	Reverse Voltage V _R (V)	Power Dissipation P _D (mW)	Operating Temperature T _{opr} (°C)	Storage Temperature Tstg (°C)
TLSU268G(F)	30	4	72	-30~85	-40~120
TLRME68TG(F)	50	4	120		
TLYE68TG(F)	50	4	120	-40~100	-40~120
TLGE68TG(F)	50	4	120		

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).

Unit: mm

Typ. Emission Waveleng		ngth	Luminous Intensity I _V		Forward Voltage V _F		Reverse Current I _R					
	λ_{d}	λP	Δλ	١ _F	Min	Тур.	١ _F	Тур.	Max	١ _F	Max	VR
TLSU268G(F)	623	(636)	17	20	47.6	130	20	2.0	2.4	20	50	4
TLRME68TG(F)	626	(636)	23	20	85	330	20	2.0	2.4	20	50	4
TLYE68TG(F)	587	(590)	17	20	85	340	20	2.0	2.4	20	50	4
TLGE68TG(F)	571	(574)	17	20	47.6	155	20	2.0	2.4	20	50	4
Unit		nm		mA	m	cd	mA	١	/	mA	μA	V

Electrical and Optical Characteristics (Ta = 25°C)

Precautions

- These LED lamps made of $InGaA\ell P$ will also emit some IR light. If a photodetector is located near an LED lamp, please ensure that it will not be affected by this IR light.
- Manual soldering should be performed within 3 s at a maximum temperature of 300°C or 5 s at a maximum temperature of 260°C.
- When forming the leads, bend each lead without applying any forming stress. Soldering must be performed after the leads have been formed.

Mounting Precautions Using an Automatic Insertion Machine

(1) These newly designed LED lamps are intended for mounting on both through-hole PCBs by means of an automatic mounting machine. Compared to conventional \$\$\phi3\$-mm LED lamps, they are less prone to the effects of stress during automatic mounting (such as mechanical stress within the package resin transmitted via the leads). This reduced mechanical stress results in a lower incidence of damage to the package resin and lower emission failure rates. If one of these lamps is subjected to excessive stress, however, the resin part may break or the lamp may be damaged in such a way that it will not emit light.

Please take the following precautions when mounting these devices.

• Toshiba recommends the use of a 0.9-mm PCB hole diameter. However, this recommendation is subject to the type of automatic mounting machine used, the board material and the way in which the board material has been processed. Please evaluate the mounting process carefully before actually using the automatic mounting machine to mount these LED lamps.

The use of PCB holes with a diameter larger than 0.9 mm may result in increased stress when soldering is performed (depending on the lead cutting shape and the clinching method), and devices may easily be malfunction.

- The insertion pressure and clinching angle must both be minimized so as to minimize the lead-cutting stress and clinch stress applied to the LED lamps.
- Soldering Conditions

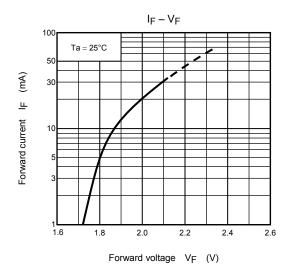
	Preheating	Soldering Flow			
Temperature	120~150°C	No more than 260°C			
Time	Within 60 seconds	Within 5 seconds			

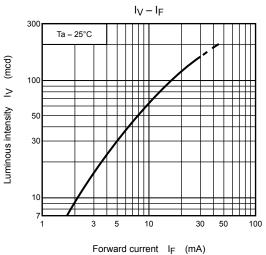
 Precautions when using Panasert radial-Taping automatic mounting machine: Two-lead LED lamps are suitable for mounting using an anvil due to its movable-blade structure. When using three-lead type, please take the following precautions.

- Synchronize the strokes of the two movable blades to one another as closely as possible.
- Adjust the timings of the movable blades so as to minimize the difference between them. In addition, do not set the anvil in such a way that the anvil's center blade will pull the leads, as this will result in excessive mechanical stress to the LED lamps, which might damage them.
- Avoid any blade which is defective or which shows signs of excessive wear.
 - * For using other than Panasert, please refer to the specifications for the automatic mounting machine which is to be used.

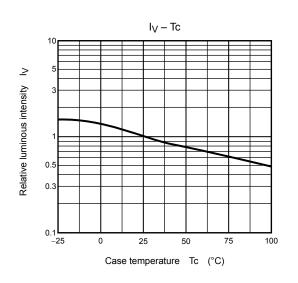
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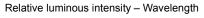
TLSU268G(F)

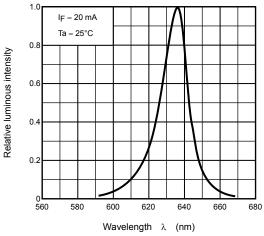






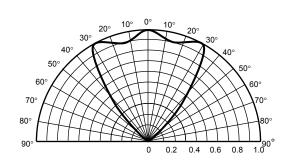


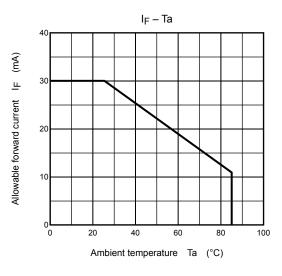




Radiation pattern

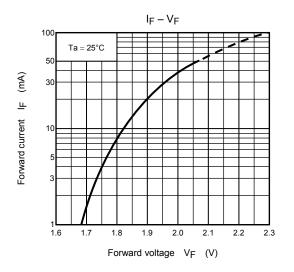
Ta = 25°C

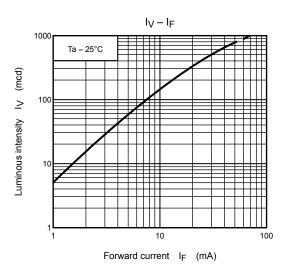




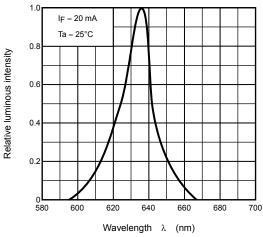
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TLRME68TG(F)



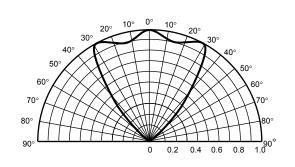


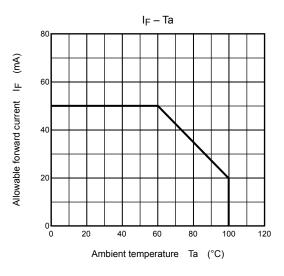
Relative luminous intensity - Wavelength



Radiation pattern

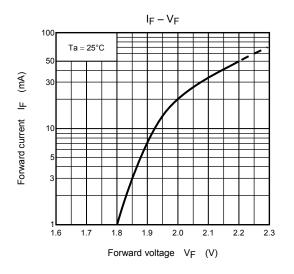
Ta = 25°C

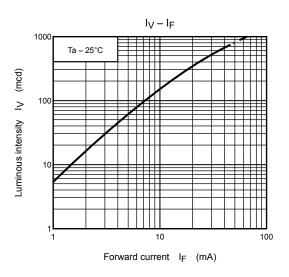


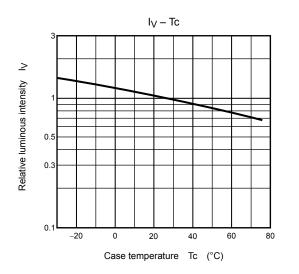


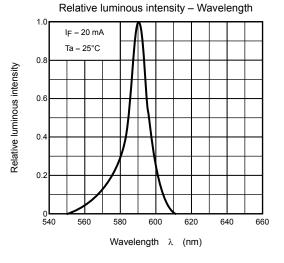
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TLYE68TG(F)



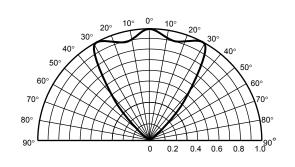


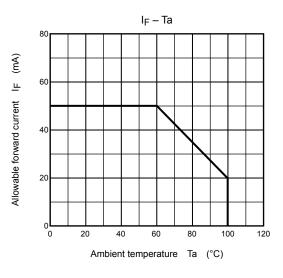




Radiation pattern

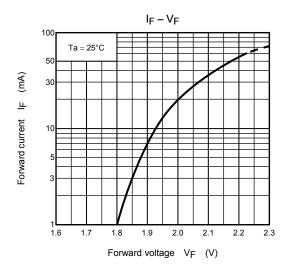
Ta = 25°C

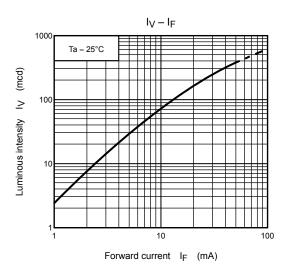


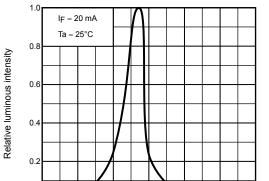


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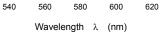
TLGE68TG(F)







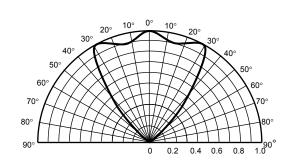
Relative luminous intensity - Wavelength

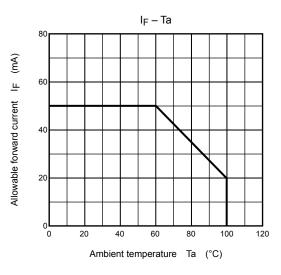


0 520

Radiation pattern

Ta = 25°C





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RESTRICTIONS ON PRODUCT USE

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