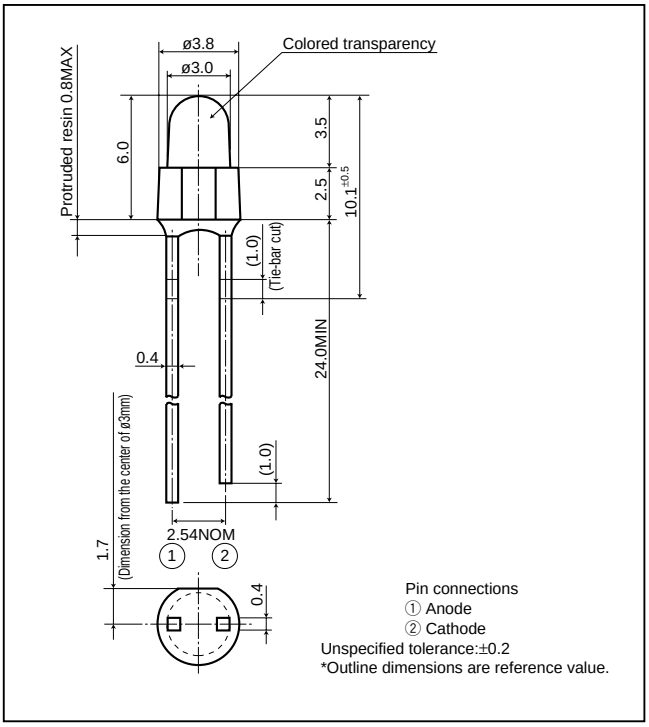
GL3J❑404B0SE series
(Under development)

Viewing Angle: 40˚ (2θ1/2) ø3mm, Cylinder Type, Colored Transparency High-luminosity LED Lamps for Outdoor Use

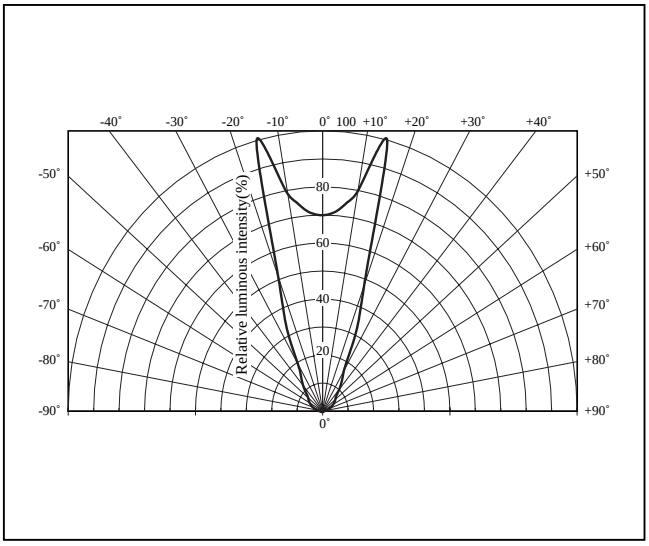
■ Outline Dimensions

(Unit : mm)



■ Radiation Diagram

(Ta=25˚C)



■ Absolute Maximum Ratings

(Ta=25˚C)

Model No.	Radiation color	Radiation material	Power dissipation P (mW)	Forward current I_F (mA)	Peak forward current I_{FM}*1 (mA)	Derating factor (mA/˚C)		Reverse voltage V_R (V)	Operating temperature T_{opr} (˚C)	Storage temperature T_{stg} (˚C)	Soldering temperature T_{sol}*2 (˚C)
						DC	Pulse				
GL3JJ404B0SE	Orange	A1GaInP on GaAs	78	30	50	0.40	0.67	5	-40 to +85	-40 to +100	260
GL3JS404B0SE	Sunset orange	A1GaInP on GaAs	78	30	50	0.40	0.67	5	-40 to +85	-40 to +100	260
GL3JV404B0SE	Amber	A1GaInP on GaAs	78	30	50	0.40	0.67	5	-40 to +85	-40 to +100	260

*1 Duty ratio=1/10, Pulse width=0.1ms

*2 5s or less(At the position of 1.6mm or more from the bottom face of resin package)

■ Electro-optical Characteristics

(I_F=20mA,T_a=25˚C)

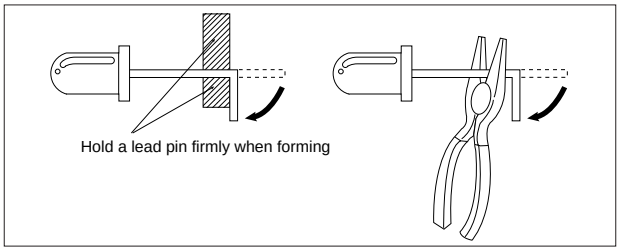
Lens type	Model No.	Forward voltage V_F(V)		Peak emission wavelength λ_P(nm)	Dominant wavelength λ_d(nm)	Target luminous intensity I_V(mcd)	Spectrum radiation bandwidth Δλ(nm)	Reverse current		Terminal capacitance		Page for characteristics diagrams
		TYP	MAX	TYP	TYP	TYP	TYP	I_R(μA) MAX	V_R (V)	C_t(pF) TYP	(MHz)	
Colored transparency	GL3JJ404B0SE	2.0	2.6	627	618	200	15	100	4	30	1	—
	GL3JS404B0SE	2.0	2.6	609	605	280	15	100	4	30	1	—
	GL3JV404B0SE	2.0	2.6	591	588	280	15	100	4	30	1	—

A: Lead Pin Type

■ Lead Forming Method

Avoid forming a lead pin with the lead pin base as a fulcrum: be sure to hold a lead pin firmly when forming.

Lead pins should be formed before soldering.



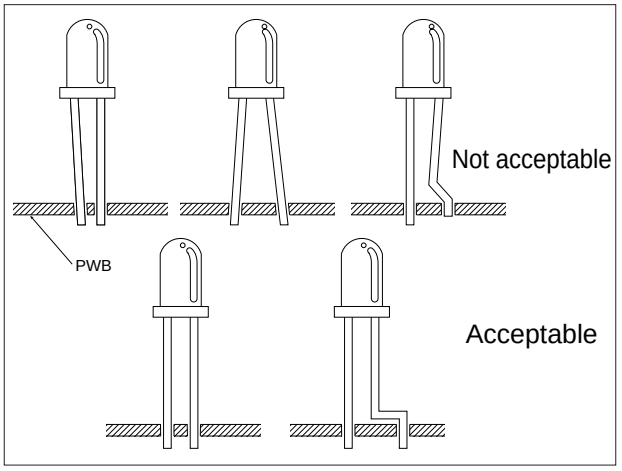
■ Installation

(1) Installation on a PWB

When mounting an LED lamp on a PWB, do not apply physical stress to the lead pins.

(Notes) ● The lead pin pitch should match the PWB pin-hole pitch: absolutely avoid widening or narrowing the lead pins.

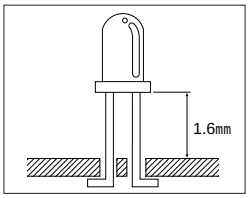
● When positioning an LED lamp, basically employ an LED with tie-bar cut or use a spacer.



(2) When an LED lamp is mounted directly on a PWB

If the bottom face of an LED lamp is mounted directly on single-sided PWB, the base of the lead pins may be subjected to have physical stress due to PWB warp, cutting or clinching of lead pins. Prior to use, be sure to check that no disconnection inside of the resin or damage to resin etc., is found.

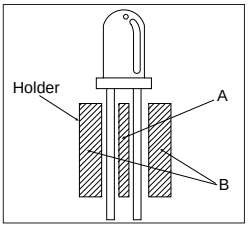
When an LED lamp is mounted on a double-sided PWB, the heat during soldering affects the resin; therefore, keep the LED lamp more than 1.6mm afloat above the PWB.



(3) Installation using a holder

During an LED lamp positioning, in case of using a holder, holder A should be designed to be smaller than the inside diameter of lead pins. Holder B should be designed to be larger than the outside diameter of lead pins.

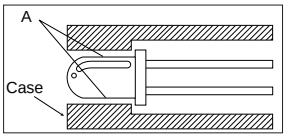
(Notes) ● Pay attention to the thermal expansion coefficient of the material used for the holder. Since the holder expands and contracts due to preheat and soldering heat, mechanical stress may be applied to the lead pins, resulting in disconnection.



(4) Installation to the case

Do not fix part A with adhesives when fixed to the case as shown in the figure.

A hole of the case should be designed not to be smaller than the outside diameter of LED lamp resin.



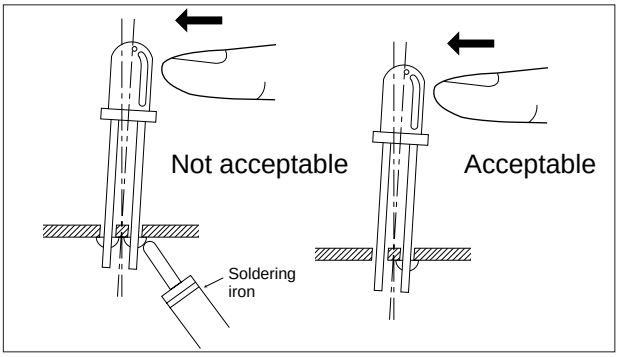
■ Soldering Conditions

Solder the lead pins under the following conditions.

Type of Soldering	Conditions
1. Manual soldering	295˚C ± 5˚C, within 3 seconds
2. Wave soldering	260˚C ± 5˚C, within 5 seconds
3. Reflow soldering	Preheating 70˚C to 80˚C, within 30 seconds Soldering 245˚C ± 5˚C, within 5 seconds

(Notes) ● Avoid dipping resin into soldering bath.

● Avoid applying stress to lead pins while they are heated. For example, when the LED lamp is moved with the heat applied to the lead pins during manual soldering or solder repair, disconnection may occur.



■ Cleaning

(1) Solvents

The package resin may be penetrated by solvents used in cleaning. Refer to the table below for usable solvents.

Solvent	Usable
Ethyl alcohol	○
Isopropyl alcohol	○
Chlorosen	×
Acetone	×
Trichloroethylene	×

○ : Acceptable

× : Not acceptable

(Notes) ● There is a world-wide movement to restrict the use of chrolofluorocarbon (CFC) based solvents and we recommend that you avoid their use. However, before using a CFC substitute solvent, carefully check that it will not penetrate the package resin.

(2) Cleaning Methods

Cleaning Method	Usable	Remarks
Solvent cleaning	○	Immersion up to one minute at room temperature
Ultrasonic cleaning	△	Test the cleaning under actual conditions and check for abnormalities before actual use.

○ : Acceptable

△ : Acceptability depends on device type and conditions

(Notes) ● The affect on the device from ultrasonic cleaning differs depending on the size of the cleaning bath, ultrasonic output, duration, board size and device mounting method. Test the cleaning method under actual conditions and check for abnormalities before actual use.

● Cleaning with water is not allowed with the lead pins resin-tubulated: water may remain, thus causing rust to the lead pins.

● Please contact our representative before using a cleaning solvent or method not given above.

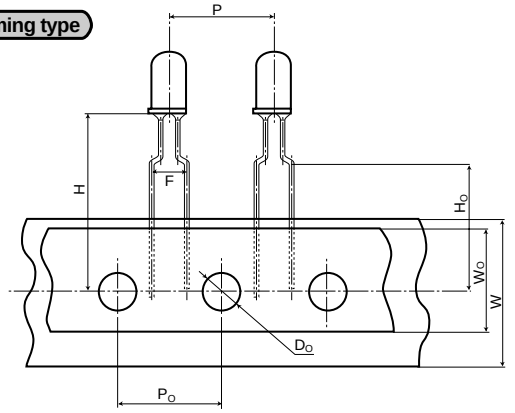
Tape-packaged Products

■ General Description

Sharp can supply tape-packaged LED lamps for automatic mounting. They will contribute to the high-efficiency mounting, high-precision, power saving. Please confirm before use because some products are not available in taping package.

■ Taping specification(Unit : mm)

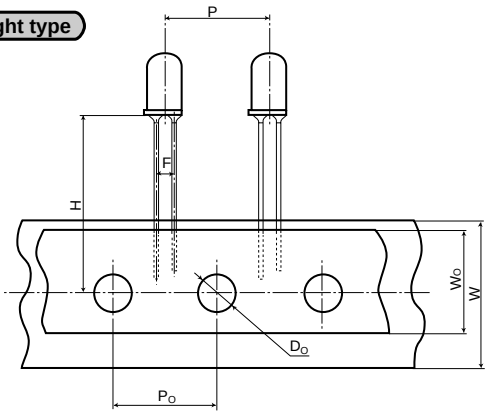
Forming type



Parameter	Symbol	A	B	D
Case end height	H^{*1}	23.35	19.5	21.5
Lead clinch height	H_O	$16.0^{\pm0.5}$		
Tape width	W	$18.0^{+1}_{-0.5}$		
Adhesive tape width	W_O	$13.0^{\pm0.3}$		
Product pitch	P	$12.7^{\pm1}$		
Sprocket hole pitch	P_O	$12.7^{\pm0.3}$		
Lead pitch	F	$5.0^{+0.8}_{-0.2}$		
Sprocket hole diameter	D_O	$\phi4.0^{\pm0.2}$		

*1. Tolerance : ±1mm

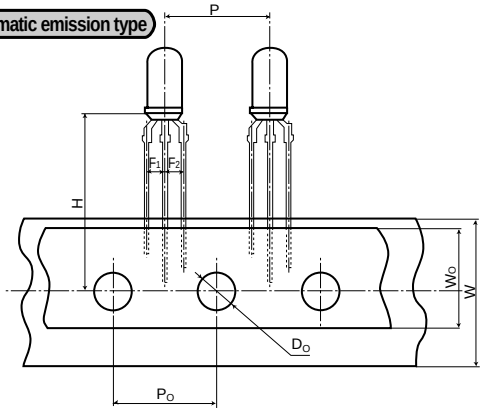
Straight type



Parameter	Symbol	P	W
Case end height	H^{*1}	18.0	23.35
Lead clinch height	H_O	—	
Tape width	W	$18.0^{+1}_{-0.5}$	
Adhesive tape width	W_O	$13.0^{\pm0.3}$	
Product pitch	P	$12.7^{\pm1}$	
Sprocket hole pitch	P_O	$12.7^{\pm0.3}$	
Lead pitch	F	2.54NOM	
Sprocket hole diameter	D_O	$\phi4.0^{\pm0.2}$	

*1. Tolerance : ±1mm

Dichromatic emission type



Parameter	Symbol	Size (mm)
Case end height	H^{*1}	$19.5^{\pm1.0}$
Lead clinch height	H_O	—
Tape width	W	$18.0^{+1.0}_{-0.5}$
Adhesive tape width	W_O	$13.0^{\pm0.3}$
Product pitch	P	$12.7^{\pm1.0}$
Sprocket hole pitch	P_O	$12.7^{\pm0.3}$
Lead pitch	F_1 , F_2	2.54NOM
Sprocket hole diameter	D_O	$\phi4.0^{\pm0.2}$

*1. Tolerance : ±1mm

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