



Pb-free
HEAT



JUR112LU

PLCC Side Viewing Type LED

Features

Package	Side Viewing Type, Milky White resin
Product Features	<ul style="list-style-type: none">• Outer Dimension 2.8 x 1.2 x 0.8mm (L x W x H)• Temperature Range Storage Temperature : -40°C~100°C Operating Temperature : -30°C~ 85°C• Lead-Free Soldering Compatible• RoHS Compliant
Dominant Wavelength	Red : 626 nm (JUR)
Spatial Distribution	$\theta_x = 110 \text{ deg.}$, $\theta_y = 105 \text{ deg.}$
Die Materials	AlGaInP
Rank Grouping Parameter	Sorted by luminous intensity and chromaticity per rank taping
Assembly method	Auto pick & place machine (Auto Mounter)
Soldering methods	Recommendation of Reflow soldering /Flow soldering (Dip soldering) is impossible
Taping and reel	3,000pcs per reel in a 8mm width tape. (Standard) Reel diameter: Φ 180mm

Recommended Applications

- Cellular Phone, Mobile Equipment, Electric Household Appliances, Other General Applications

Color and Luminous Intensity

(Ta=25°C)

Part No.	Material	Emitted Color	Lens Color	Dominant Wavelength		Luminous Intensity		
				λd(nm)		Iv (mcd)		
				TYP.	I _F	MIN.	TYP.	I _F
JUR112LU	AlGaInP	Red	Milky White	626	20	360	420	20

※Note: The above luminous intensity (Iv) is the setup values of the setup values of the sorting machine.

(Tolerance : IV...±10%)

Absolute Maximum Ratings

(Ta=25°C)

Item	Symbol	Absolute Maximum Ratings	Unit
Power Dissipation	P_d	110	mW
Continuous Forward Current	I_F	40	mA
Repetitive Peak Forward Current ^{※1}	I_{FRM}	100	mA
Derating (Ta=40°C or higher)	ΔI_F	0.66	mA/°C
	ΔI_{FRM}	1.33	mA/°C
Revers Voltage	V_R	5	V
Operating Temperature	T_{opr}	-30~+85	°C
Storage Temperature	T_{stg}	-40~+100	°C

※1 I_{FRM} Measurement condition / Pulse Width $\leq 1ms$., Duty $\leq 1/20$

Electro-Optical Characteristics

(Ta=25°C)

Item	Condition	Symbol	Characteristics		Unit
			TYP.	MAX.	
Forward Voltage※1	I _F =20mA	V _F	TYP.	2.2	V
			MAX.	2.6	
Reverse Current	V _R =5V	I _R	MAX.	50	μA
Peak Wavelength	I _F =20mA	λ _p	TYP.	631	nm
Dominant Wavelength	I _F =20mA	λ _d	TYP.	626	nm
Spectral Line Half width	I _F =20mA	Δλ	TYP.	20	nm
Half Intensity Angle	I _F =20mA	2θ 1/2	TYP.	110(θ _x)	deg.
				105(θ _y)	

※1 Forward Voltage Tolerance Range : ±0.1V

Luminous Intensity (Unit : mcd)

(Ta=25°C)

Intensity Tolerance each Rank : +/-10%

Rank	I _v (mcd)		Condition
	MIN.	MAX.	
R1	360	430	I _F =20mA
R2	430	500	
S1	500	600	

※Please contact our sales staff concerning rank designation.

Color Tone Groups (λ_d)

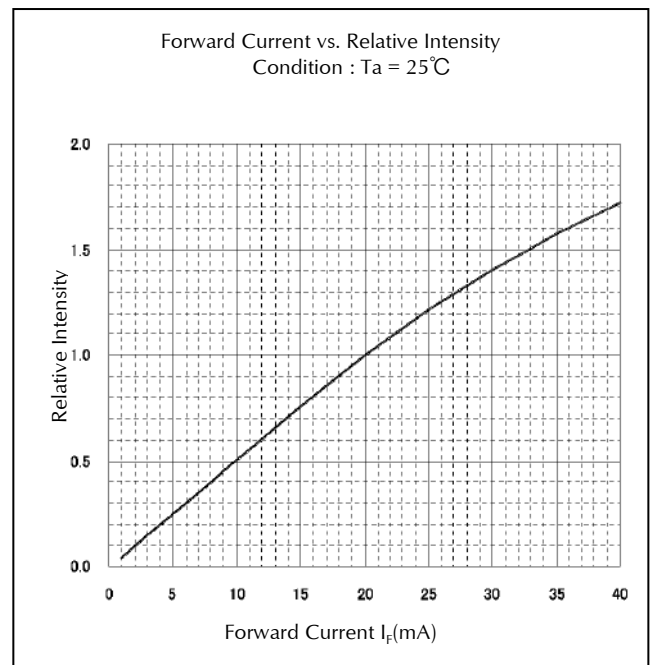
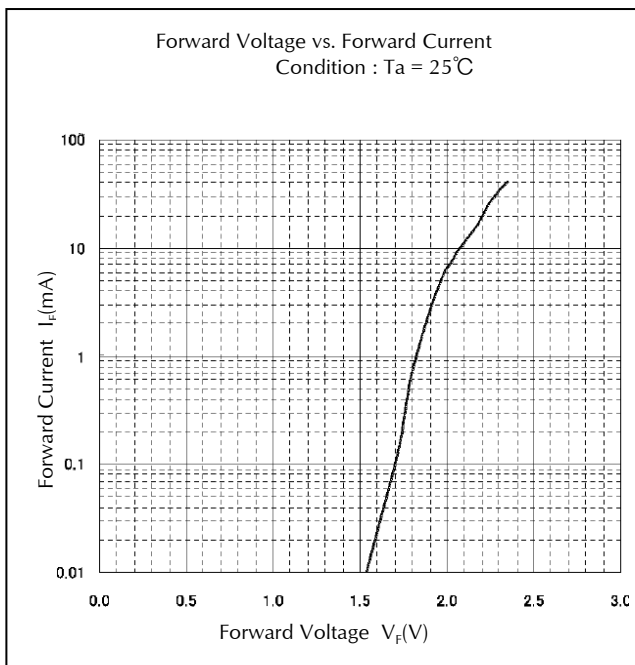
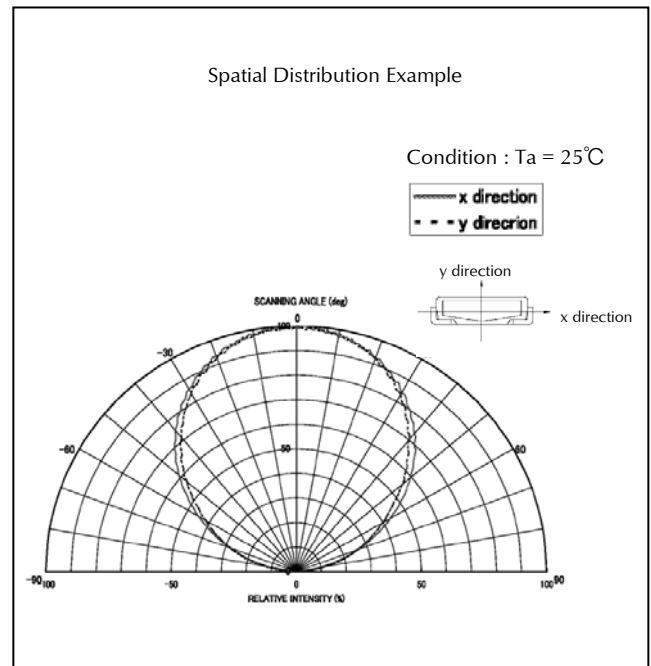
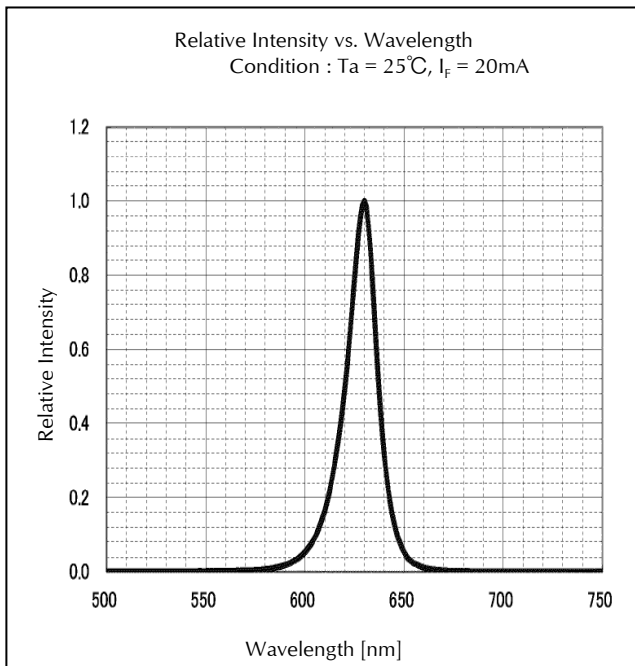
(Ta=25°C)

Tolerance : +/-1nm

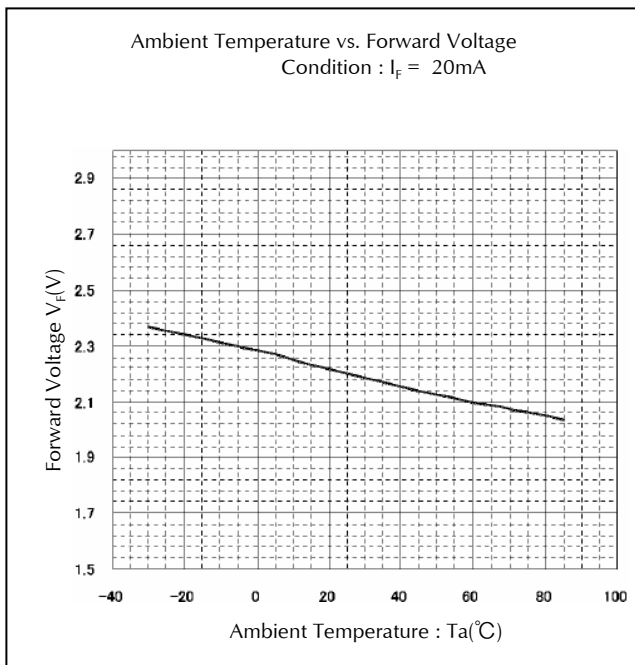
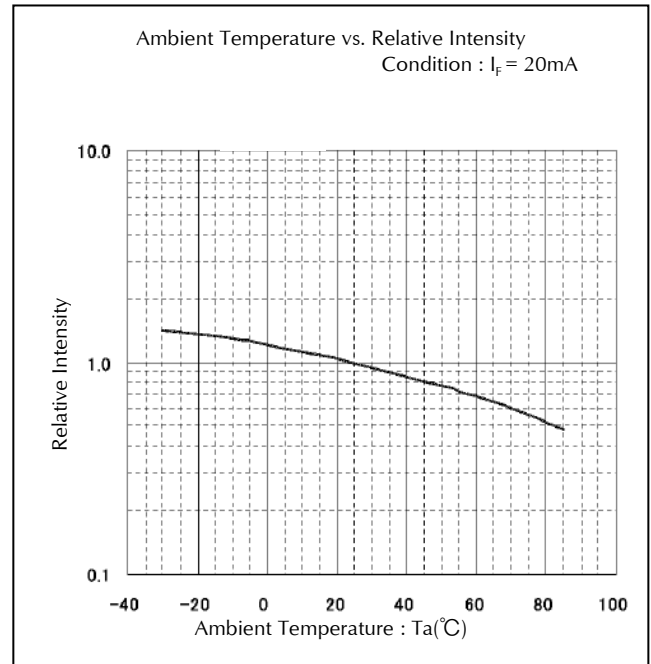
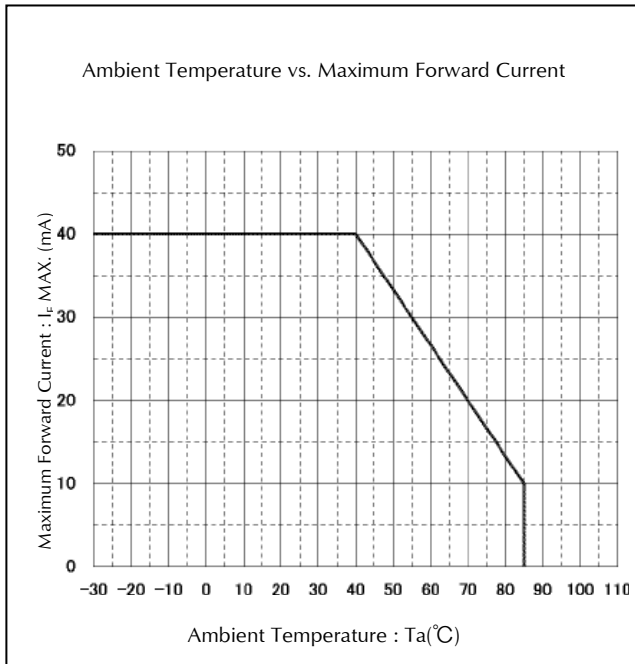
Rank	Dominant Wavelength λ _d (nm)		Condition
	MIN.	MAX.	
A	616	624	I _F =20mA
B	624	632	

※Please contact our sales staff concerning rank designation.

Technical Data



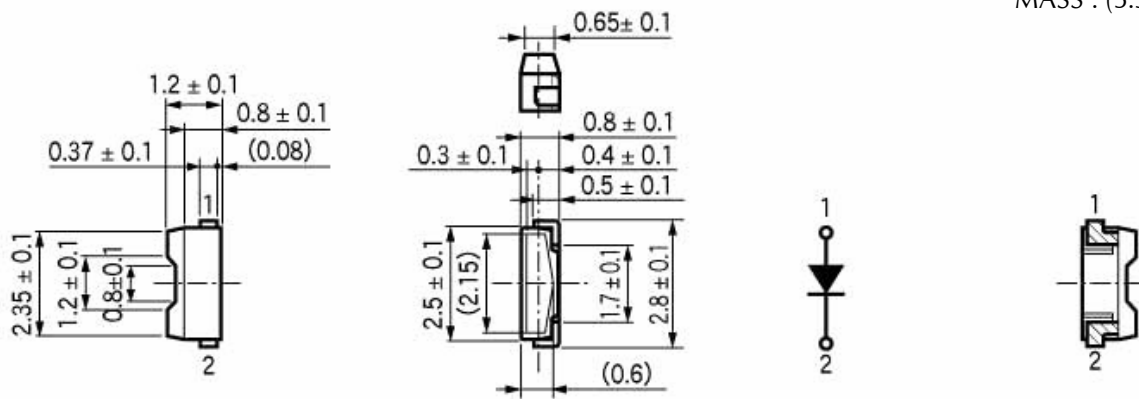
Technical Data



Package Dimensions

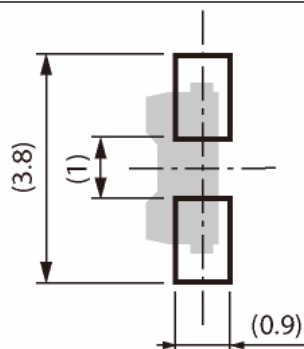
(Unit : mm)

MASS : (5.3)mg



Recommended Soldering Pattern

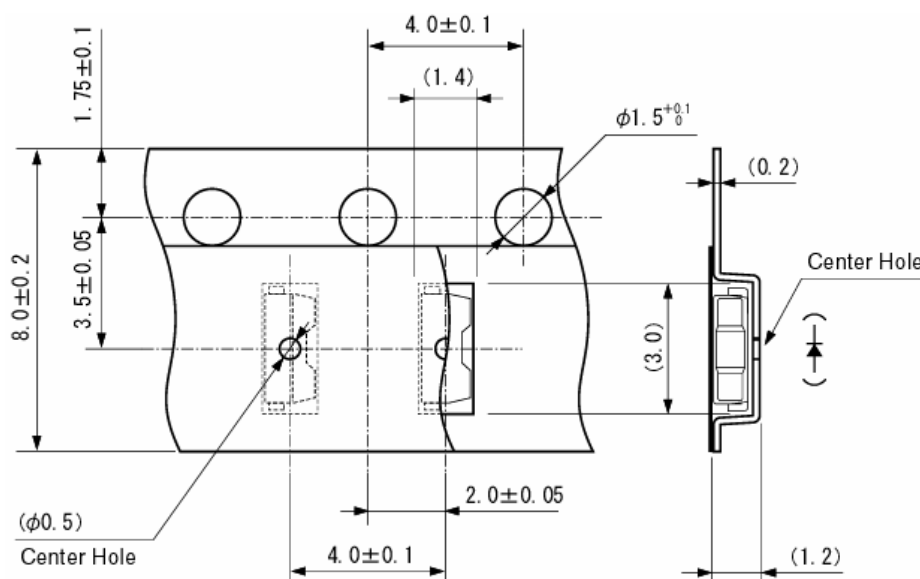
(Unit : mm)



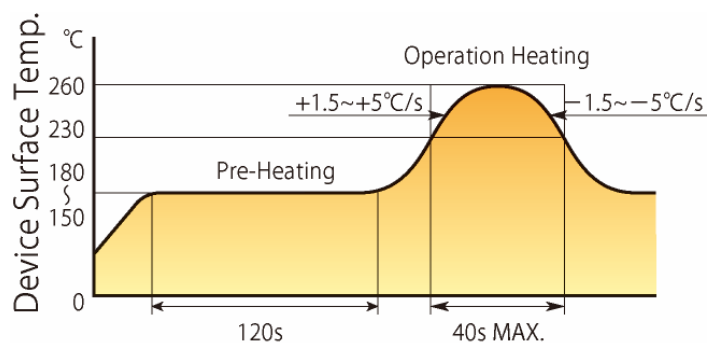
Taping Specification

(Unit : mm)

※Quantity : 3,000pcs/reel(standard)



Reflow Soldering Conditions



- 1) The above profile temperature gives the maximum temperature of the LED resin surface. Please set the temperature so as to avoid exceeding this range.
- 2) Total times of reflow soldering process shall be no more than 2 times. When the second reflow soldering process is performed, intervals between the first and second reflow should be short as possible (while allowing some time for the component to return to normal temperature after the first reflow) in order to prevent the LED from absorbing moisture.

Manual Soldering Condition

Iron tip temp	350°C (MAX)
Soldering time and frequency	3s (MAX) 1 time (MAX)

Reliability Testing Result

Reliability Testing Result	Applicable Standard	Testing Conditions	Duration	Failure
Room Temp. Operating Life	EIAJ ED-4701/100(101)	Ta = 25°C, If = 40mA	1,000 h	0/20
High Temp. Operating Life	EIAJ ED-4701/100(101)	Ta = 85°C, If = 10mA	1,000 h	0/20
Low Temp. Operating Life	EIAJ ED-4701/100(101)	Ta = -30°C, If = 40mA	1,000 h	0/20
Wet High Temp. Operating Life	EIAJ ED-4701/100(102)	Ta = 60°C, 90%, If = 26mA	1,000 h	0/20
Wet High Temp. Storage Life	EIAJ ED-4701/100(103)	Ta = 60°C, 90%	1,000 h	0/20
Thermal Shock	EIAJ ED-4701/100(105)	Ta = -40°C ~ 100°C (each 15min.)	200 cycles	0/20
High Temp. Storage Life	EIAJ ED-4701/200(201)	Ta = 100°C	1,000 h	0/20
Low Temp. Storage Life	EIAJ ED-4701/200(202)	Ta = -40°C	1,000 h	0/20
Cycled Temp. Humidity Life	EIAJ ED-4701/200(203)	Ta = -10°C ~ 65°C, 95%, 24h/cycle	10 cycles	0/20
Resistance to Reflow soldering	EIAJ ED-4701/300(301)	Preheat : 150 ~ 180°C(120s Max.) Soldering Temp : 260°C(5s) Moisture Soak : 30°C, 70%, 72h	Twice	0/20
Electrostatic Discharge (ESD)	EIAJ ED-4701/300(304)	C = 100pF, R2 = 1.5KΩ, ±1,000V	once each polarity	0/20
Vibration, Variable Frequency	EIAJ ED-4701/400(403)	98.1m/s ² (10G), 100 ~ 2KHz, 20min, each direction	XYZ 2 h	0/20

Failure Criteria

Items	Symbols	Conditions	Failure criteria
Luminous Intensity	Iv	If=20mA	Testing Mn.Value < Spec.Mn.Value × 0.7
Forward Voltage	Vf	If=20mA	Testing Max.Value ≥ Spec.Max.Value × 1.2
Reverse Current	Ir	Vr=5V	Testing Max.Value ≥ Spec.Max.Value × 2.5
Cosmetic Appearance	-	-	Occurrence of notable decoloration, deformation and cracking

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