

ET-3014 0.1W PINK Series Datasheet



Features :

- High luminous Intensity and high efficiency
- Based on Blue : InGaN technology
- Wide viewing angle : 120°
- Excellent performance and visibility
- Suitable for all SMT assembly methods
- IR reflow process compatible
- Environmental friendly; RoHS compliance

Typical Applications :

- Signal and Symbol Luminaire
- Indoor Displays

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General Information

Introduction

Ultra high luminous efficacy, combined with the flexibility in design due to its slim and miniature size, PLCC LED Series are optimized to be used as lighting for signboard.

Ordering Code Format

<u>2</u>	<u>T</u>	<u>01</u>	<u>X1</u>	<u>PX</u>	<u>xx</u>	<u>000</u>	<u>xxx</u>
X1	X2	X3-X4	X5-X6	X7-X8	X9-X10	X11-X13	X14-X16

X1	X2		X3-X4		X5-X6		X7-X8		
Type	Component		Series		Wattage		Color		
2	Emitter	T	PLCC	01	3014	X1	0.1W	PX	Pink

X9-X10	X11-X13	X14-X16
Internal code	PCB Board	Serial Number
18	-	000
	-	-

Absolute Maximum Ratings

Parameter	Symbol	Value	Units
Forward Current	I_F	30	mA
Pulse Forward Current (tp<=100μs, Duty cycle=0.25)	I_{pulse}	100	mA
Reverse Current	I_R	10	uA
Reverse Voltage	V_R	5	V
LED Junction Temperature	T_J	125	°C
Operating Temperature	-	-40 ~ +85	°C
Storage Temperature	-	-40 ~ +125	°C
ESD Sensitivity	V_B	2,000	V
Soldering Temperature	T_s	Reflow Soldering : 255~260°C/10~30sec Manual Soldering : 350°C/3sec	

Absolute maximum ratings ($T_a=25^{\circ}\text{C}$)

Notes:

1. Proper current derating must be observed to maintain junction temperature below the maximum at all time.
2. LEDs are not designed to be driven in reverse bias.

Characteristics

Parameter	Symbol	Value	Units
Viewing Angle	(Typ.) $2\theta_{1/2}$	120	Degree
Forward Voltage	(Typ.) V_F	3.4	V
Thermal resistance	-	40	°C/W
CRI	-	80	-
Target Color coordinate	(X) (Y)	0.379 0.314	-

Note:

$2\theta_{1/2}$ is the off-axis angle where the luminous intensity is half of the axial luminous intensity.

Luminous Flux Characteristic

Luminous Flux Characteristics, $I_f=30\text{mA}$ and $T_j=25^\circ\text{C}$

Color	Group	Min Luminous Flux(lm)	Max Luminous Flux(lm)	Forward Current(mA)	Order Code
Pink	27	7.5	7.8	30	2T01X1PX1800001
	28	7.8	8.1		
	29	8.1	8.7		

Note:

The luminous flux performance is guaranteed within published operating conditions. Edison Opto maintains a tolerance of $\pm 10\%$ on flux measurements.

Voltage Bin Structure

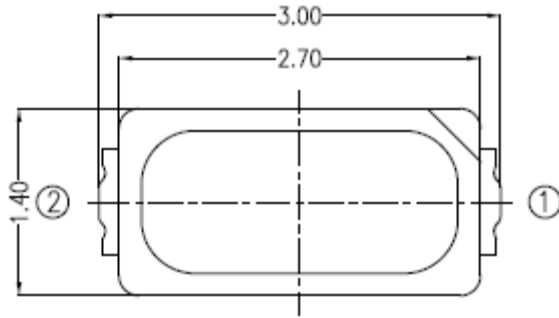
Group	Min Voltage (V)	Max Voltage (V)
VA1	2.8	2.9
VB1	2.9	3.0
VC1	3.0	3.1
VA2	3.1	3.2
VB2	3.2	3.3
VC2	3.3	3.4
VA3	3.4	3.5
VB3	3.5	3.6

Note:

Forward voltage measurement allowance is $\pm 0.1\text{V}$.

Mechanical Dimensions

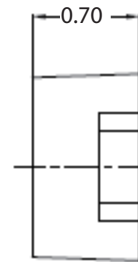
Emitter Type Dimension



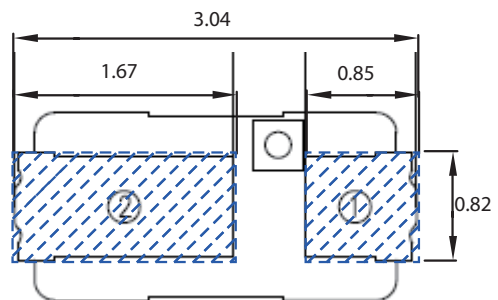
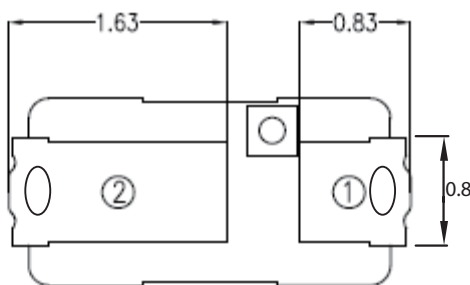
Circuit



Polarity



Solder Pad

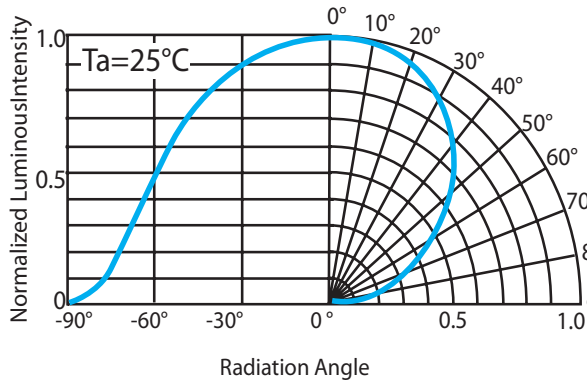


Notes:

1. All dimensions are measured in mm.
2. Tolerance : ± 0.20 mm

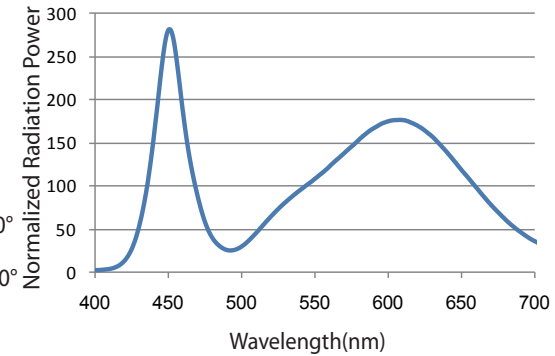
Characteristic Curve

Radiation Diagram



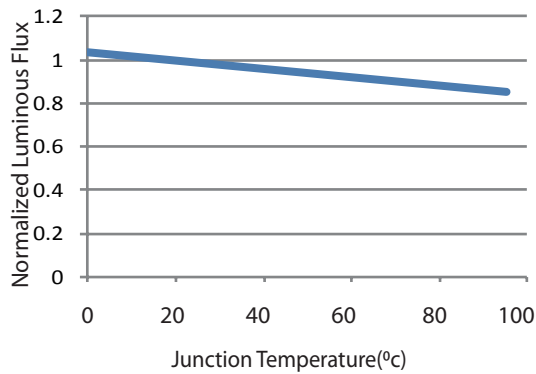
Emission Angle for PLCC 3014 series

Color Spectrum



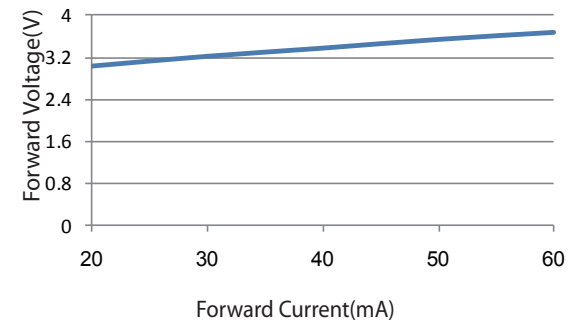
Color Spectrum for PLCC 3014 series

Luminous Flux VS Junction Temperature



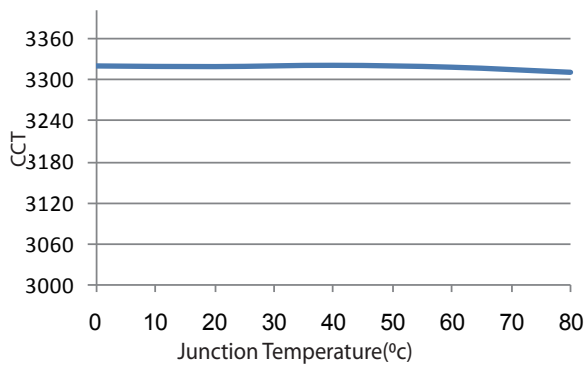
Junction temperature and Luminous Flux for PLCC 3014 series

Forward Voltage VS Forward Current



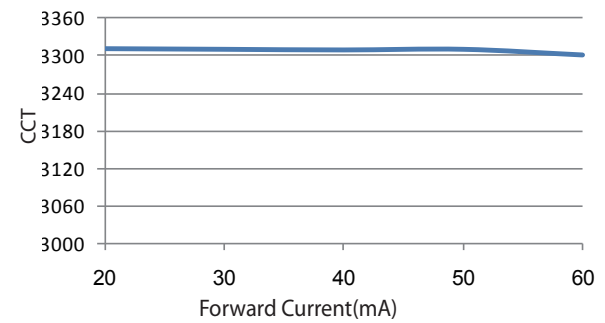
Forward voltage and forward current for PLCC 3014 series

Junction Temperature VS CCT



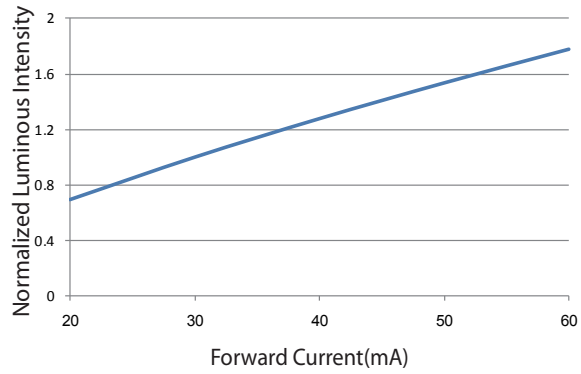
Junction temperature and CCT for PLCC 3014 series

Forward Current VS CCT



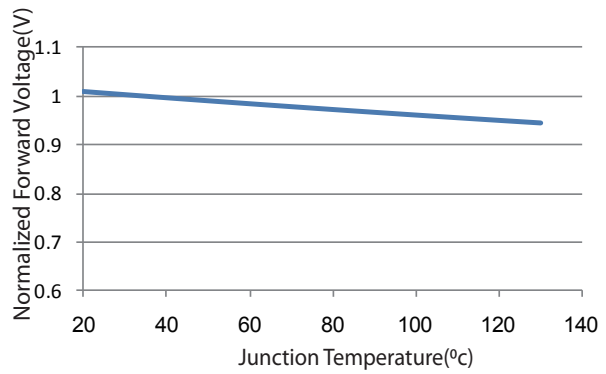
Forward current and CCT for PLCC 3014 series

Forward Current VS Luminous Intensity



Forward Current & Luminous Intensity for PLCC 3014 series

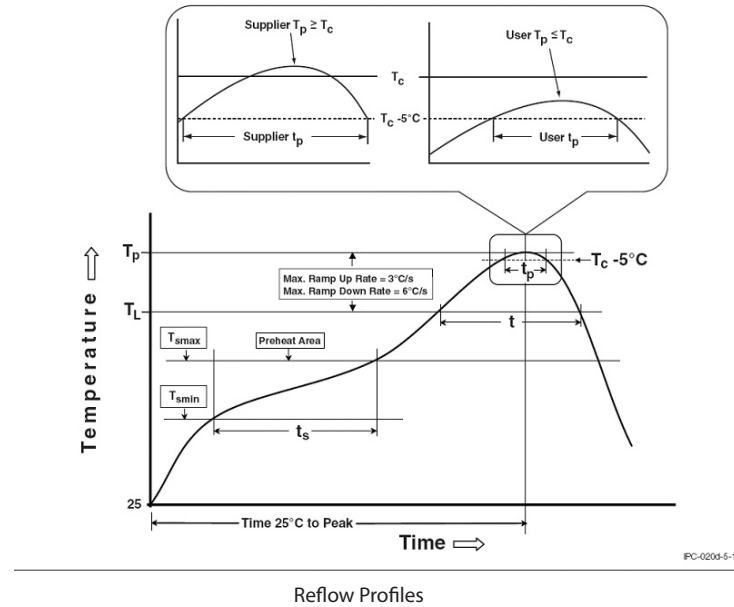
Junction Temperature & Forward Voltage



Junction Temperature & Forward Voltage for PLCC 3014 series

Reflow Profile

The following reflow profile is from IPC/JEDEC J-STD-020D which provided here for reference.



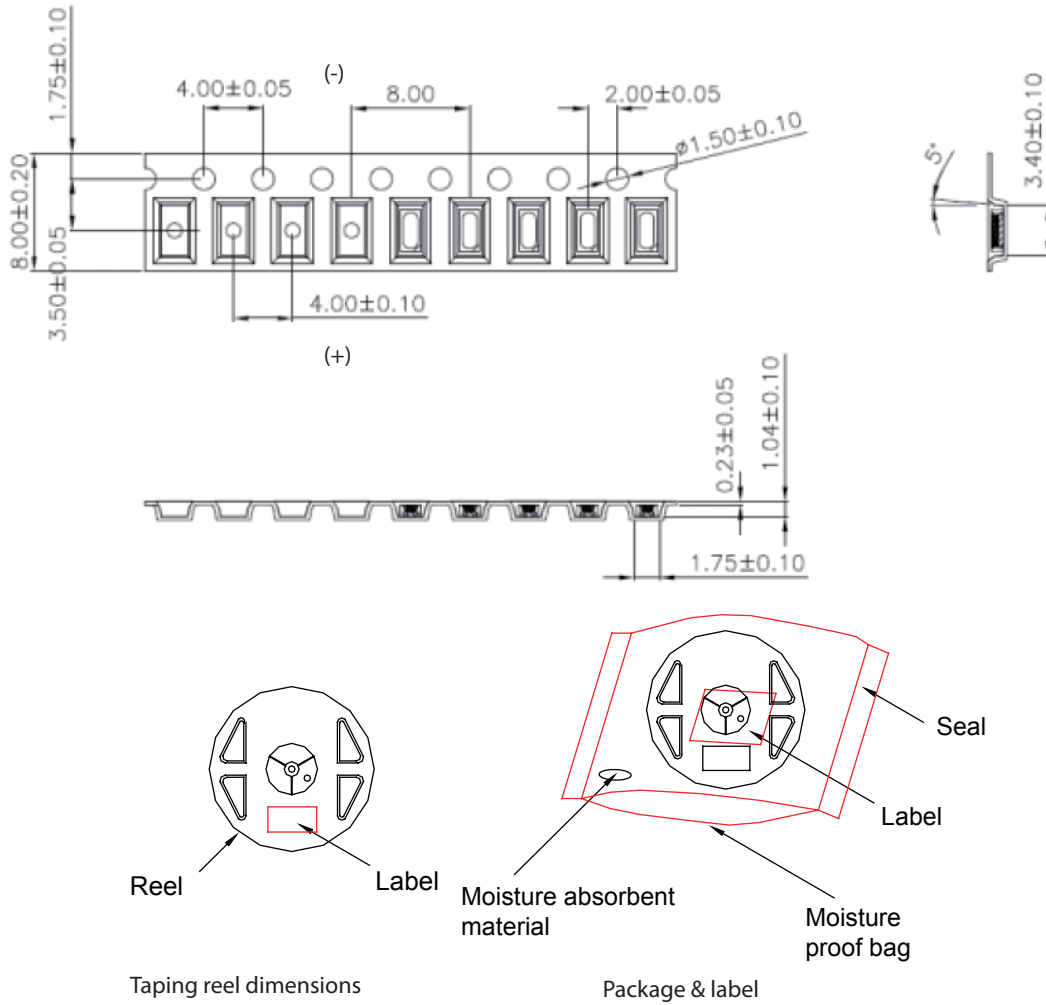
Classification Reflow Profiles

Profile Feature	Pb-Free Assembly
Preheat & Soak	
Temperature min (T_{smin})	150 °C
Temperature max (T_{sm})	200 °C
Time (T_{smin} to T_{sm}) (t_s)	60-120 seconds
Average ramp-up rate (T_{sm} to T_p)	3 °C/second max.
Liquidous temperature (T_L)	217 °C
Time at liquidous (t_L)	60-150 seconds
Peak package body temperature (T_p)*	255 °C ~260 °C *
Classification temperature (T_c)	260 °C
Time (t_p)** within 5 °C of the specified classification temperature (T_c)	30** seconds
Average ramp-down rate (T_p to T_{sm})	6°C/second max.
Time 25°C to peak temperature	8 minutes max.

Notes:

- * Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.
- ** Tolerance for time at peak profile temperature (t_p) is defined as a supplier minimum and a user maximum.

Product Packaging Information



Item	Quantity	Total	Dimensions(mm)
Reel	4,000pcs	4,000pcs	R=178
Carton	50 reels	200,000pcs	353*254*256
Starting with 50pcs empty, and 50pcs empty at the last			

Revision History

Versions	Description	Release Date
1	Establish order code information	2013/01/11

About Edison Opto

Edison Opto is a leading manufacturer of high power LED and a solution provider experienced in LDMS. LDMS is an integrated program derived from the four essential technologies in LED lighting applications- Thermal Management, Electrical Scheme, Mechanical Refinement, Optical Optimization, to provide customer with various LED components and modules. More Information about the company and our products can be found at www.edison-opto.com

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