PRODUCT SPECIFICATION

Part Number

PLH3535-WCUV02

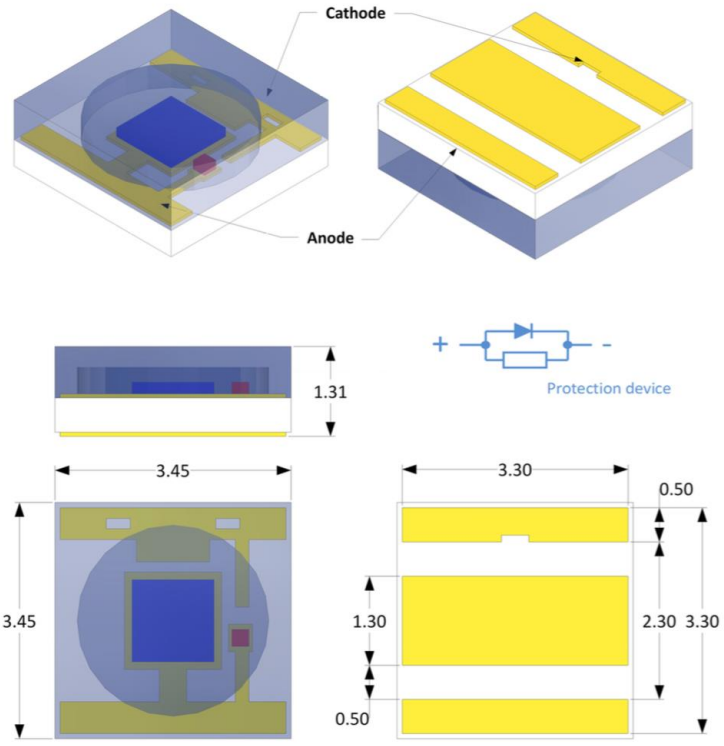
Details

- 3535 Ultraviolet Surface Mount LED
- 3.45 x 3.45 x 1.3 mm
- Aluminum Nitride substrate
- Packaged on 1,000 piece reel

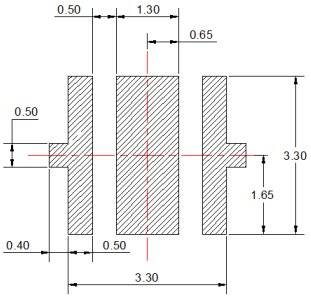
Features

- Durable and Rugged
- RoHS Compliant
- High Power

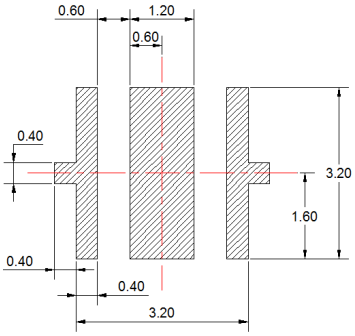
Outline Dimensions



Recommend Soldering Pad Design



Recommend Stencil Pattern Design
(Marked Area is Opening)



Notes:
1. Dimensions in millimeters unless otherwise noted
2. Tolerance is ±0.13mm unless otherwise noted.
3. Specifications subject to change without notice

Device Selection Guide

Model Number	Chip		Resin
	Material	Emitting Color	Clear
PLH3535-WCUV02	InGaAiN	Ultraviolet (UV)	

Radiometric Power and Forward Voltage

Part Number	Color	Performance at Test Current 500mA					Calculated Performance at 700mA
		Group	Radiometric Power (mW)		V_f		Min. Radiometric Power (mW)
			Min.	Max.	Min.	Max.	
PLH3535-WCUV02	U2B (390~400nm)	NC5	180	200	3.4	4.4	250
		ND1	200	240	3.4	4.4	280
		ND2	240	280	3.4	4.4	335
		ND3	280	320	3.4	4.4	390
	U3A (400~410nm)	NC5	180	200	3.4	4.4	250
		ND1	200	240	3.4	4.4	280
		ND2	240	280	3.4	4.4	335
		ND3	280	320	3.4	4.4	390

Notes: 1. Radiometric power is measured with an accuracy of ±10%.
2. The forward voltage is measured with an accuracy of ±0.2V.

Absolute Maximum Ratings at Ta=25°C

Parameter	Rating
DC Forward Current (mA)	700mA
LED Junction Temperature	150°C
LED Operating Temperature	-20°C ~ 80°C
Storage Temperature	-40°C ~ 100°C
Soldering Temperature	Max. 260°C / Max. 10 sec. (JEDEC 020c)
ESD Sensitivity	2000 V HBM (JESD-22A-114-B)

Notes:
1. This device isn't designed to be driven in reverse bias.
2. Please confirm the junction temperature is under maximum rating.

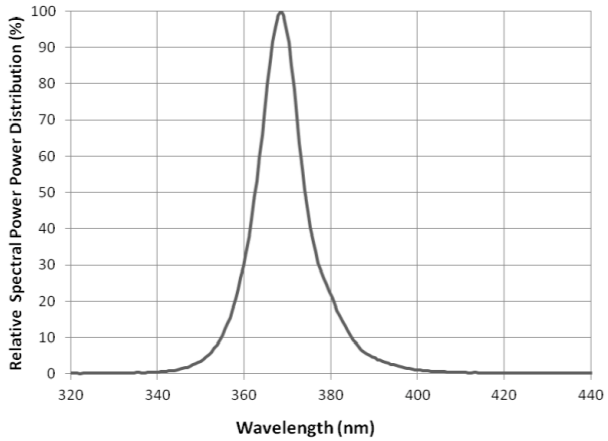
General Characteristics at 500mA

Part Number	Color	Peak Wavelength λp		$2\theta_{1/2}$	Temperature Coefficient of Vf (mV/°C)	Thermal Resistance Junction to Pad (°C/W)
		Min.	Max		ΔVF/ΔTJ	$R\Theta_{J-L}$
PLH3535-WCUV02	U2B	365	370	110	-2~-4	4.4
	U3A	370	375	110	-2~-4	4.4

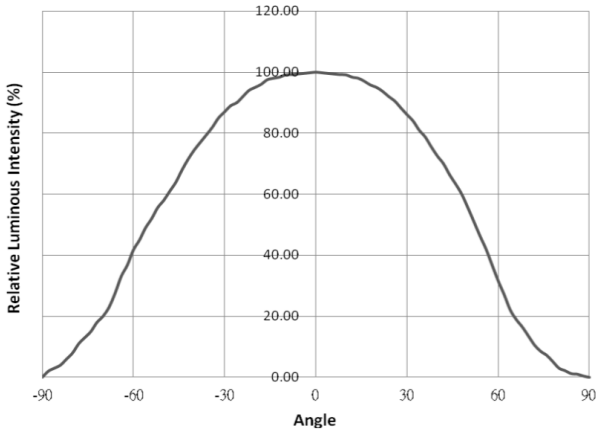
Notes:1. The peak wavelength is measured with an accuracy of ±1nm.

Electrical and Optical Curves

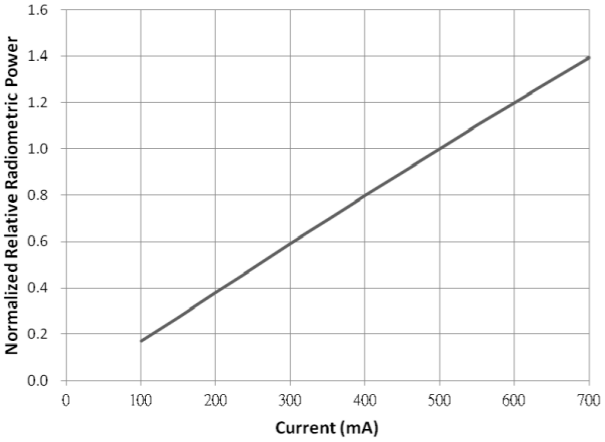
Relative Spectral Power Distribution, T_j=25°C



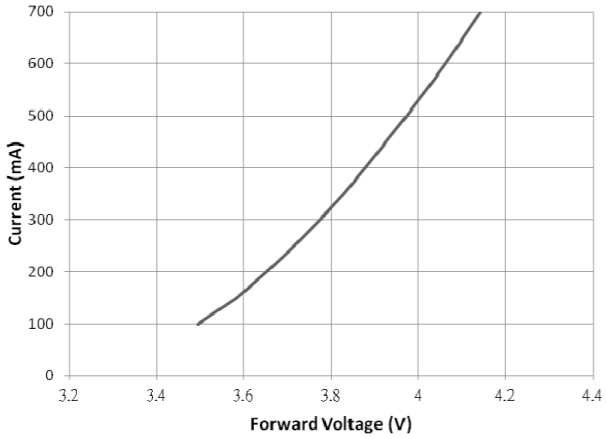
Typical Spatial Radiation Pattern



Typical Forward L-I Characteristics, T_j=25°C

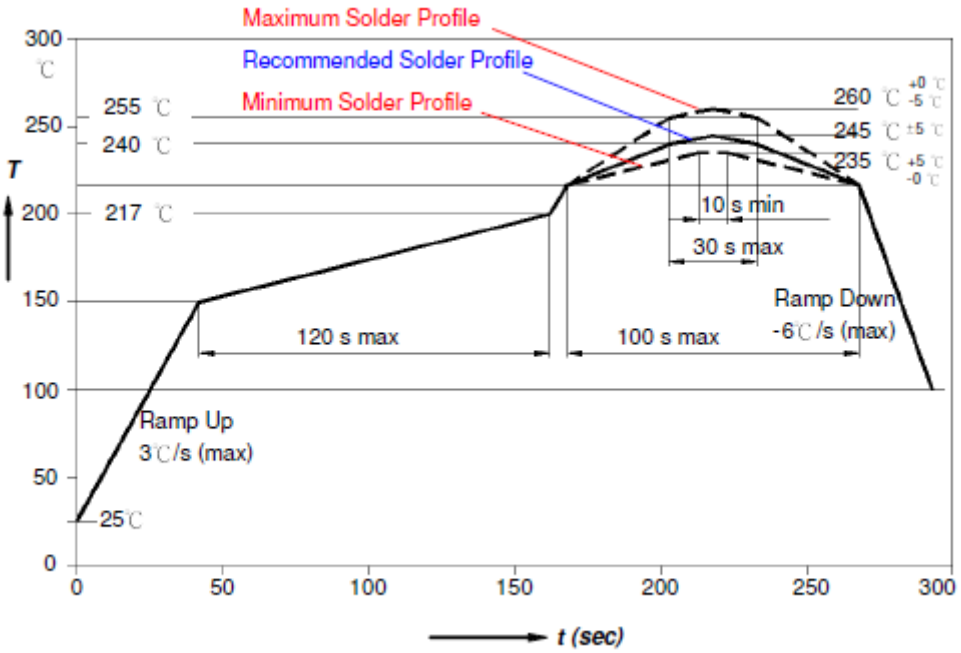


Typical Forward I-V Characteristics, T_j=25°C



Reflow Soldering

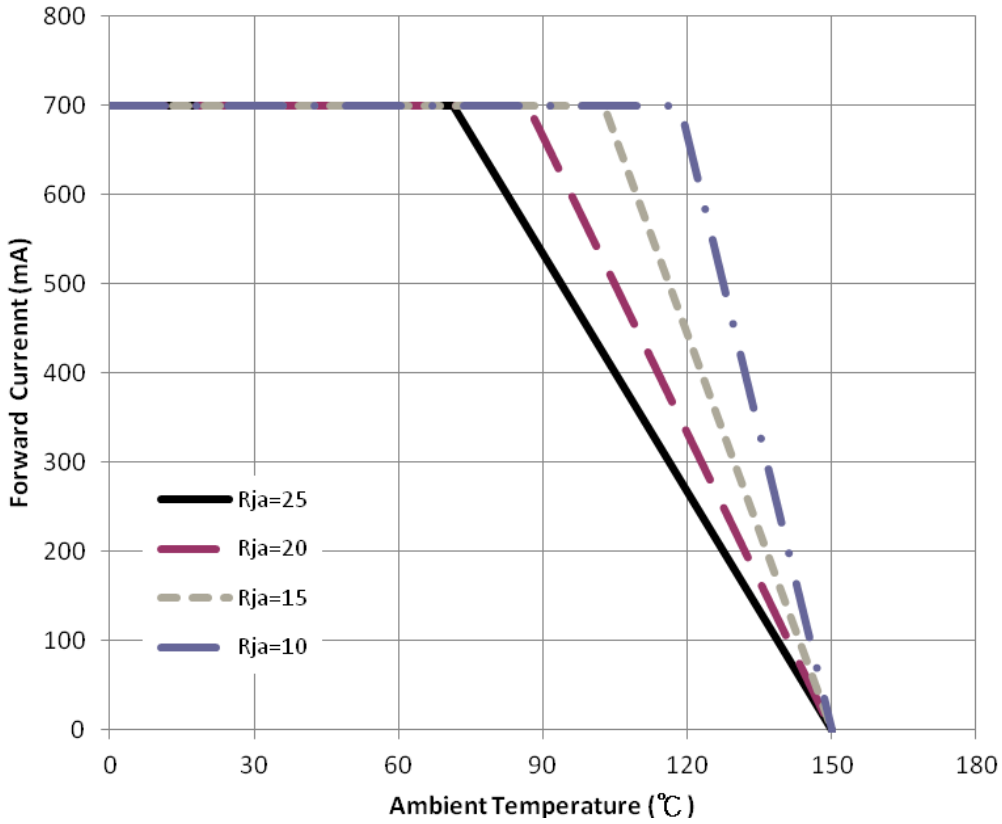
The LEDs can be soldered using the parameter listed below. As a general guideline, the users are suggested to follow the recommended soldering profile provided by the manufacturer of the solder paste. Although the recommended soldering conditions are specified in the list, reflow soldering at the lowest possible temperature is preferred for the LEDs.



Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Average Ramp-up Rate (Tsmax to Tp)	3℃/second max.	3℃/second max.
Preheat - Temperature Min(Tsmin) - Temperature Max(Tsmax) - Time(tsmin to tsmax)	 100℃ 150℃ 60-120 seconds	 150℃ 200℃ 60-180 seconds
Time maintained above: - Temperature(TL) - Time(tL)	 183℃ 60-150 seconds	 217℃ 60-150 seconds
Peak/classification Temperature(Tp)	215℃	260℃
Time within 5℃ of actual Peak Temperature(tp)	10-30 seconds	20-40 seconds
Ramp-Down Rate	6℃/second max.	6℃/second max.
Time 25℃ to Peak Temperature	6 minutes max.	8 minutes max.

Thermal Design

Thermal design of the end product is important. The thermal resistance between the junction and the solder point (RΘJ-P) and the end product should be designed to minimize the thermal resistance from the solder point to ambient in order to optimize the emitter life and optical characteristics. The plot of Allowable Forward Current vs. Ambient Temperature determines the maximum operation current.

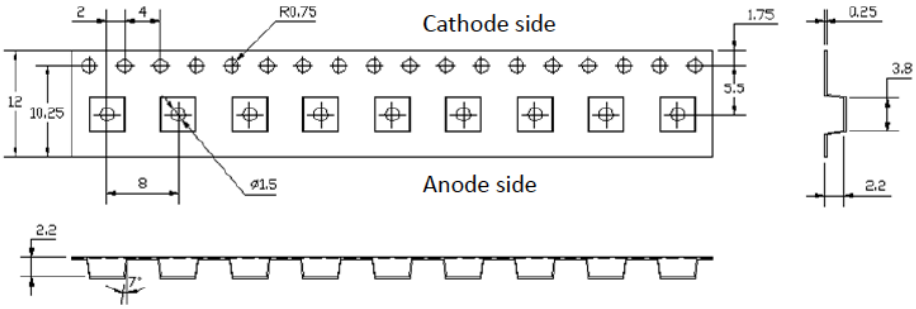


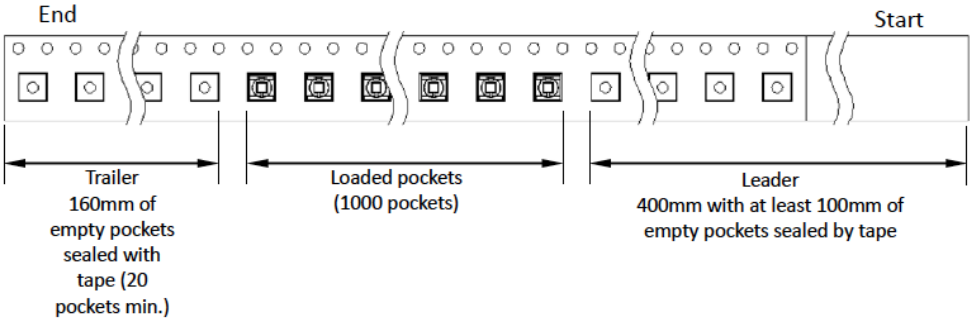
The junction temperature can be correlated to the thermal resistance between the junction and ambient (Rja) by the following equation.

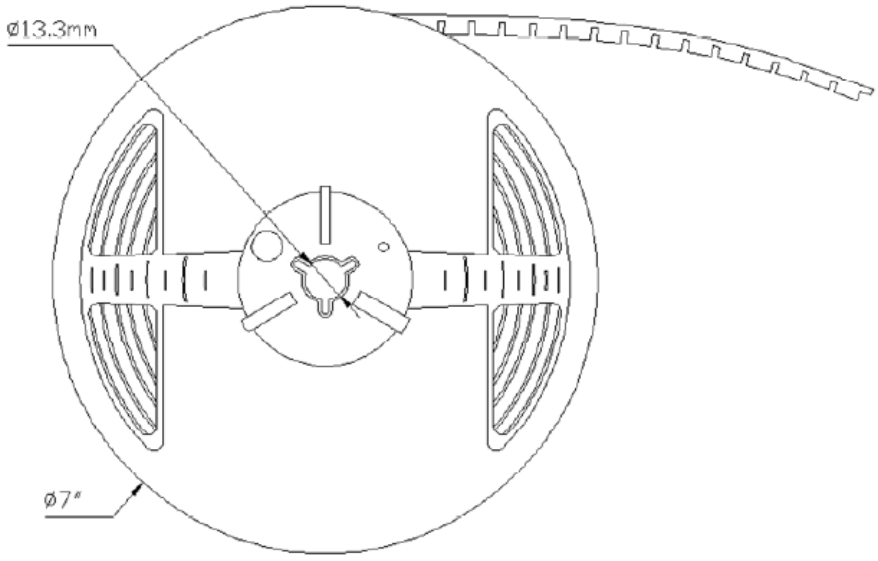
Tj=Ta + Rja*W Tj: LED junction temperature Ta: Ambient temperature Rja: Thermal resistance between the junction and ambient W: Input power (IF*VF)

Packing Information

The carrier tape is conformal to EIA-481D







Note: All Dimensions are in millimeters

PLH3535-WCUV02 Customer Approval Signatures	Approved By	Checked By	Prepared By

Record Of Revisions			
Rev.	**Description**	**Date**	**Page**
0	Released Spec	08/28/15	--