PRODUCT SPECIFICATION

Part Number

PLH35CA-WCU01

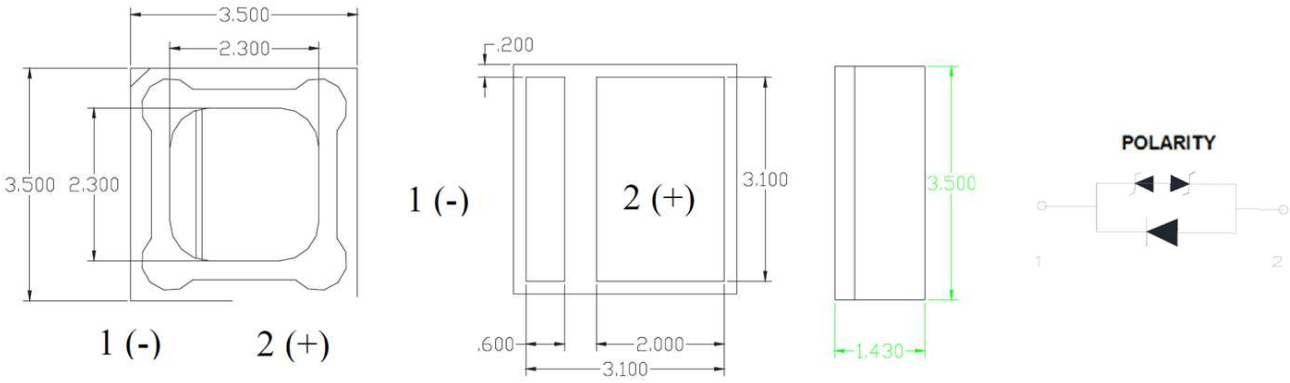
Details

- 3535 UV-C Surface Mount LED
- Max 1000 Piece Reels

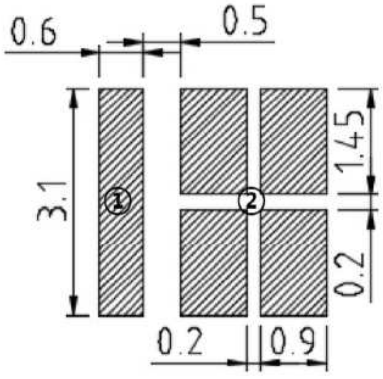
Features

- RoHS & REACH Compliant
- MSL 3 qualified according to J-STD 020
- ESD 8KV

Outline Dimensions



Recommended Soldering Pad Dimensions



Notes:
1. Dimensions in millimeters unless otherwise noted
2. Specifications subject to change without notice

Absolute Maximum Ratings at Ta=25℃

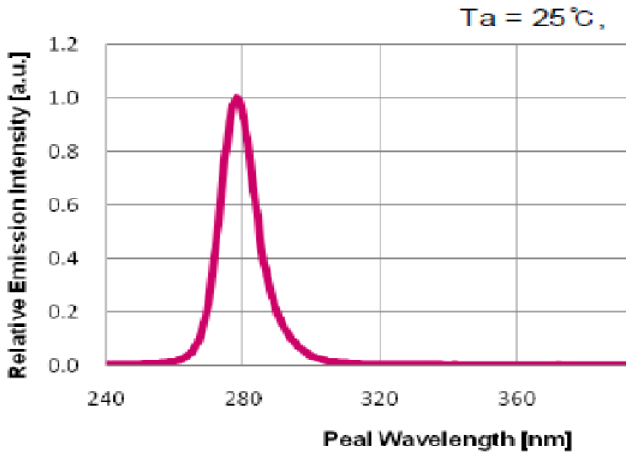
Characteristics	Symbol	Min.	Typ.	Max.	Unit
DC Forward Current	IF	--	15	20	mA
Pulse Current (@1/10 duty)	IP	--	--	25	mA
Forward Voltage	VF	5.0	--	9.0	V
Reverse Voltage	VR	--	-10	--	V
Leakage Current (5V)	IR	--	--	10	μA
Junction Temperature	Tj	--	--	85	℃
Storage Temperature Range	Tstg	-40	--	80	℃
Soldering Temperature	Tsol	--	--	260	℃
Thermal Resistance Junction / Solder Point	RTH	--	45	--	℃/W
Viewing Angle	2θ1/2	--	130	--	Deg

Notes:

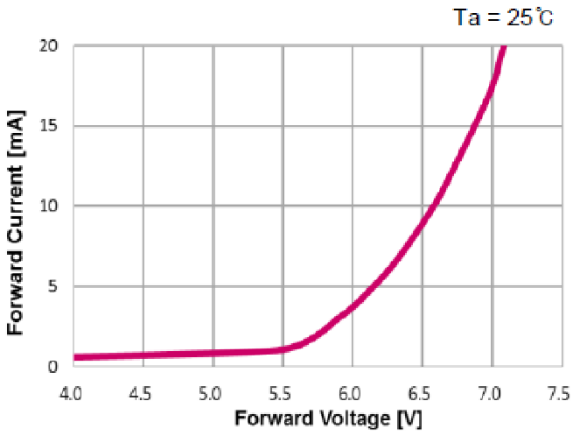
1. When operating at other than ambient temperature, maximum allowable current depends on derating curves.
2. Pulse width = 0.01s & duty factor = 1/10.
3. When operating at maximum allowable current, Tj must be below 85 ℃.
4. Viewing angle tolerance is ± 10°.

Typical Electrical / Optical Characteristic Curves

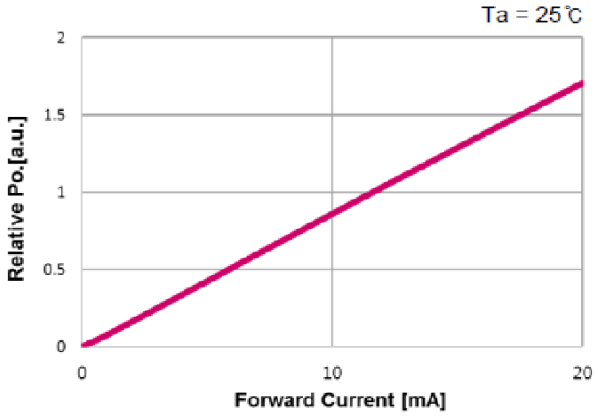
Relative Spectral Power Distribution



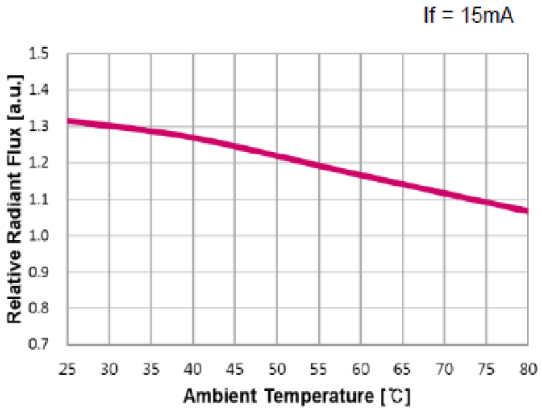
Forward Current vs. Forward Voltage (Ta=25℃)



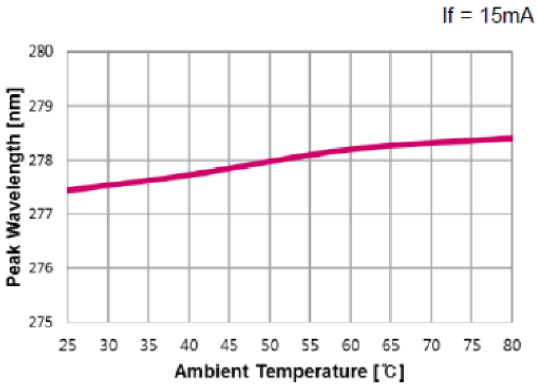
Relative Radiant Flux vs. Forward Current (Ta=25℃)



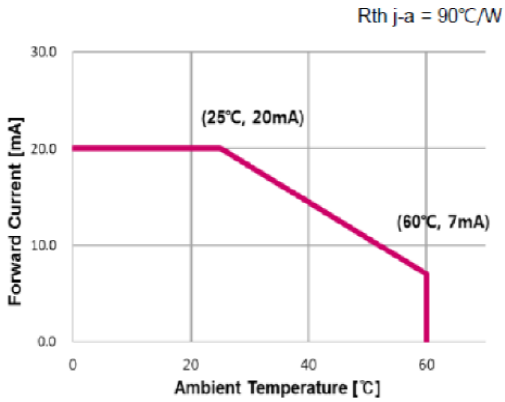
Relative Radiant Flux vs. Ambient Temperature (IF=15mA)



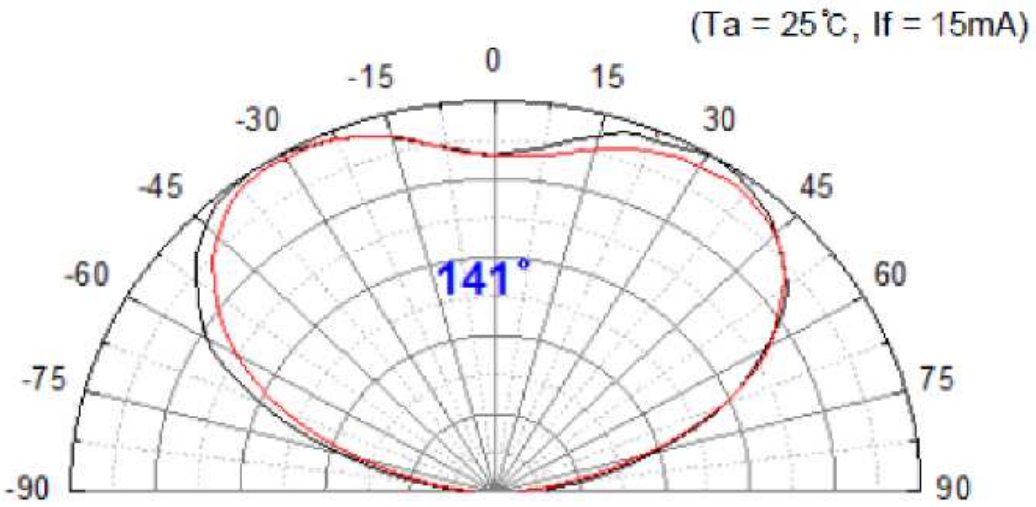
Relative Radiant Flux vs.Peak wavelength



Derating



Typical Characteristic Curves – Radiation Pattern



Ordering Information

Peak Wavelength Range	Beam Angle	Forward Voltage(V)		Part Number
		Min	Max	
U1: 265~285nm	130°	5.0	9.0	PLH35CA-WCU01

Notes:
1. Forward voltage (VF) ±0.5V, Radiometric Power (Po) ±15%.

Forward Voltage Binning

Voltage unit: V@15mA			
Peak Wavelength	**Bin Code**	**Min**	**Max**
U1 265nm-285nm	A	5.0	6.0
	B	6.0	7.0
	C	7.0	8.0
	D	8.0	9.0

Notes:

1. Binning current is 15 mA

Radiant Flux (Power) Binning

Bin Code (15mA)	**Min. Po (mW)**	**Typ. Po (mW)**	**Max. Po (mW)**
P1	1	1.5	2
P2	2	2.5	3
P3	3	3.5	4

Notes:

1. Binning current is 15mA

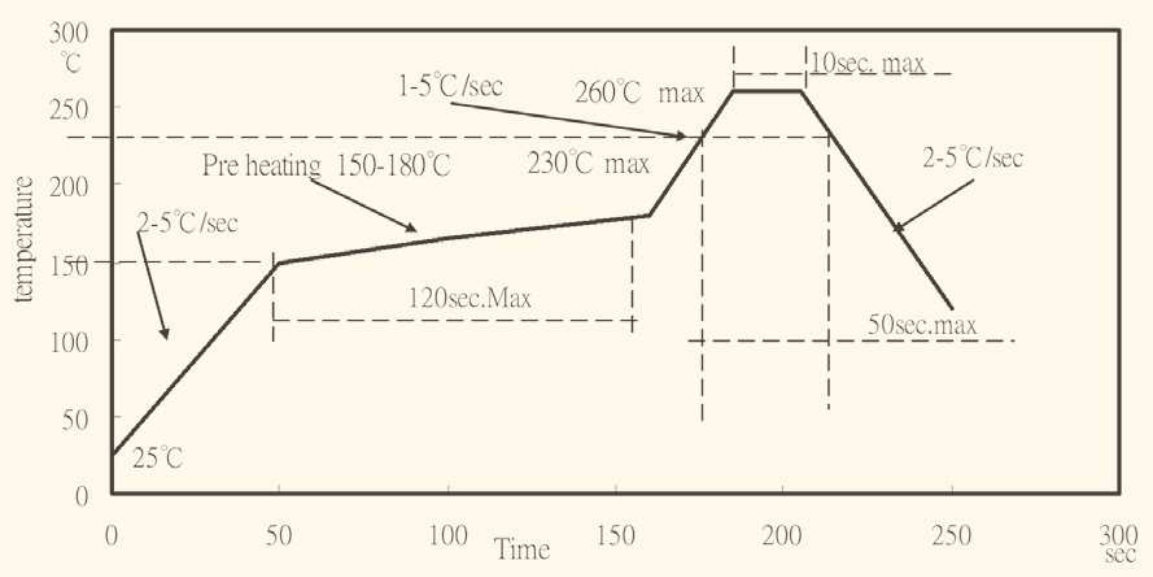
Peak Wavelength Binning Reference Table

Bin code (15mA)	**Min. Wp (nm)**	**Max. Wp (nm)**
W280	265.0	285.0

Notes:

1. Peak-wavelength (Wp) tolerance: ± 2.0nm
2. Testing Current 15mA

Reflow Soldering



Soldering Iron

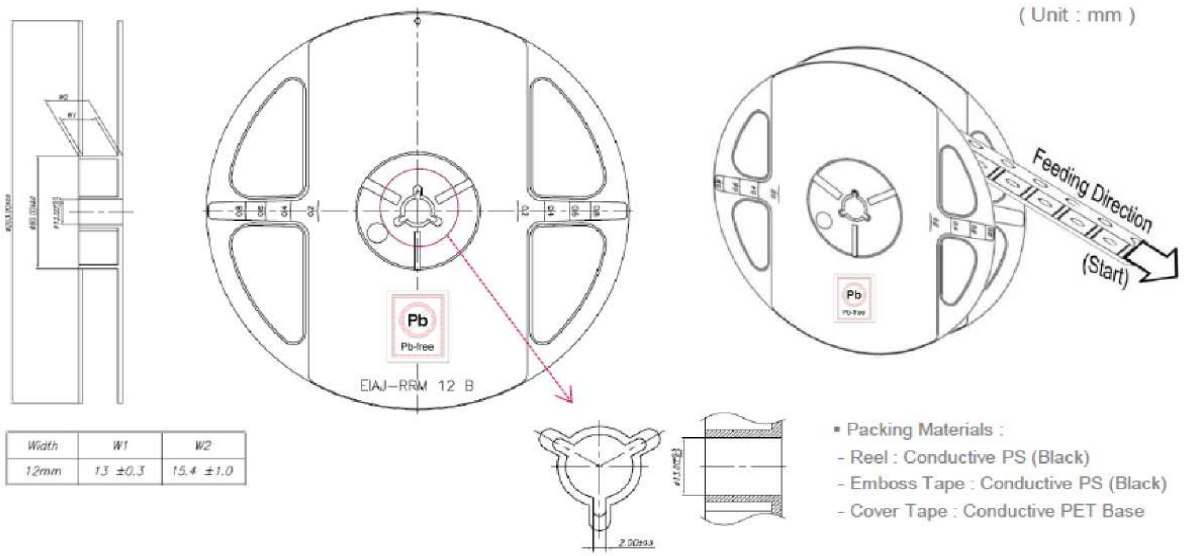
Basic Spec is ≦ 4 sec. when 260°C (+10°C □ -1 second). Power dissipation of Iron should be less than 15W. Surface temperature should be under 230°C

Rework

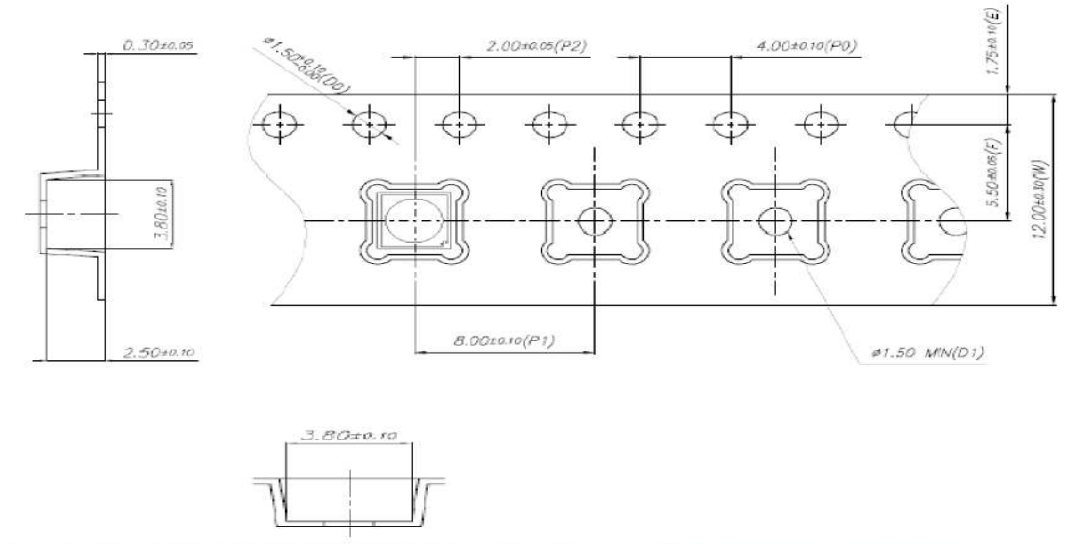
Rework should be completed within 4 second under 245°C

Packing

Reel



Tape



Notes:

1. Each Reel (minimum number of pieces is 100 and maximum is 1000 (130D) is packed in a moisture-proof bag along with 2 packs of desiccant and a humidity indicator card;
2. Part No., Lot No., quantity should be indicated on the label of the moisture-proof bag and the cardboard box.

Precautions

1. Recommendation for using LEDs

1.1 The lens of LEDs should not be exposed to dust or debris. Excessive dust and debris may cause a drastic decrease in the luminosity.

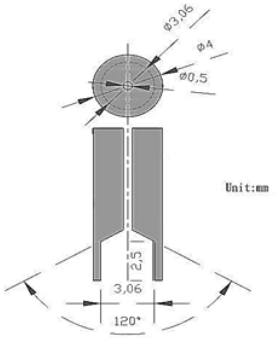
1.2 Avoid mechanical stress on LED lens.

1.3 Do not touch the LED lens surface. It would affect the optical performance of the LED due to the LED lens' damage.

1.4 Pick & place tools are recommended for the remove of LEDs from the factory tape & reel packaging.

2. Pick & place nozzle

The pickup tool was recommended and shown as below:



3. Lens handling

Please follow the guideline to pick LEDs:

3.1 Use tweezers to pick LEDs.

3.2 Do not touch the lens by using tweezers.

3.3 Do not touch lens with fingers.

3.4 Do not apply more than 4N of force (400g) directly onto the lens.

4. Lens cleaning

In the case which a small amount of dirt and dust particles remain on the lens surface, a suitable cleaning solution can be applied.

4.1 Try gently wiping with a dust-free cloth.

4.2 If needed, use a dust-free cloth and isopropyl alcohol to gently remove the dirt from the lens surface.

4.3 Do not use other solvents as they may react with the LED assembly.

4.4 Do not use ultrasonic cleaning which will damage the LEDs.

Test Items and Results of Reliability

Test Item	Test Conditions	Duration/ Cycle	Number of Damage	Reference
Thermal Shock	–40℃ 30min ↑↓5min 125℃ 30min	100 cycles	0/22	AECQ101
High Temperature Storage	Ta=100℃	500 hrs	0/22	EIAJ ED-4701 200 201
Humidity Heat Storage	Ta=85℃ RH=85%	500 hrs	0/22	EIAJ ED-4701 100 103
Low Temperature Storage	Ta=-40℃	500 hrs	0/22	EIAJ ED-4701 200 202
Life Test	Ta=25℃ If=15mA	500 hrs	0/22	Tested with factory standard
High Humidity Heat Life Test	85℃ RH=85% If=15mA	500 hrs	0/22	Tested with factory standard
High Temperature Life Test	Ta=85℃	500 hrs	0/22	Tested with factory standard
ESD(HBM)	8KV at 1.5kΩ;100pf	3 Times	0/22	MIL-STD-883

Criteria for Judging the Damage				
Item	Symbol	Condition	Criteria for Judgment	
			Min	Max
Forward Voltage	VF	If=15mA	LSL ×0.9	USL ×1.1
Reverse Current	IR	VR =5V	_	100μA
Luminous Intensity	Iv	If=500mA	LSL ×0.7	USL ×1.2

Notes:

1. USL: Upper specification level
2. LSL: Lower specification level

PLH35CA-WCU01 Customer Approval Signatures	Approved By	Checked By	Prepared By

Record of Revisions			
Rev.	**Comments**	**Page**	**Date**
0	Released Spec	--	5/13/20