

# UVC3535O1JLA-D0 1W UV Power LED

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### Features

- High efficiency
- Viewing Angle =  $\pm 15^{\circ}$
- Best thermal material solution of the world
- Thermal resistance (junction to Slug): 15°C/W
- RoHS compliance

### **Description**

The UVC3535O1JLA-D0 is 1W UV LED housed in a miniature SMD package. The device has a peak wavelength of 265-280nm

# Applications

- Disinfection
- Phototherapy
- Bio-Analysis/Detection

### **Package Outline**



### Schematic





# Absolute Maximum Rating at 25°C

Symbol	Parameters	Ratings	Units	Notes
IF	Continuous Forward Current	150	mA	
T <sub>opr</sub>	Operating Temperature	-40 ~ +60	0C	
T <sub>stg</sub>	Storage Temperature	-40 ~ +85	0C	
T <sub>sol</sub>	Soldering Temperature	260	0C	1
N-	Reverse Voltage	Not designed to be	V	
VR Reve		driven in reverse bias	v	
PD	Power Dissipation at(or below) 25°C Free Air Temperature	1	W	
ESD	Human Body Model	±4000	V	
RTHJL	Junction to Slug Thermal Resistance	15	°C/W	



### **Electro-Optical Characteristics** *TA* = 25°C (unless otherwise specified)

#### **Optical Characteristics**

Symbol	Parameters	Test Conditions	Min	Тур	Max	Units	Notes
Po	Total Radiated Power	I⊧=100mA	8.5	10	-	mW	2
λр	Peak Wavelength	I⊧=100mA	265	275	280	nm	3
Δλ	Spectral Bandwidth	I <sub>F</sub> =100mA	-	12	-	nm	
θ1/2	Angle of Half Intensity	I⊧=100mA	-	±15	-	deg	

#### **Electrical Characteristics**

Symbol	Parameters	Test Conditions	Min	Тур	Max	Units	Notes
VF	Forward Voltage	I⊧=100mA	5.0	6.8	8.0	V	4

#### Notes:

- 1. Soldering time  $\leq$  5 seconds.
- 2. ProLight maintains a tolerance of  $\pm 10\%$  on flux and power measurements.
- 3. Wp Bin Rank :

Bin Code	Min	Max
А	265	270
В	270	275
С	275	280

ProLight maintains a tolerance of ±3nm for peak wavelength measurements.

#### 4. VF Bin Rank :

Bin Code	Min	Max
А	5.0	5.5
В	5.5	6.0
С	6.0	6.5
D	6.5	7.0
E	7.0	7.5
F	7.5	8.0

ProLight maintains a tolerance of  $\pm 0.1V$  for Voltage measurements.



UVC353501JLA-D0 1W UV Power LED

# **Typical Characteristic Curves**







UVC353501JLA-D0 1W UV Power LED

# **Typical Characteristic Curves**







### Package Dimension All dimensions are in mm, unless otherwise stated





#### Notes:

- 1. The cathode side of the device is denoted by the chamfer on the part body.
- 2. Electrical insulation between the case and the board is required. Do not electrically connect either the anode or cathode to the slug.
- 3. Drawing not to scale.
- 4. All dimensions are in millimeters.
- 5. Unless otherwise indicated, tolerances are  $\pm$  0.10mm.
- 6. Please do not solder the emitter by manual hand soldering, otherwise it will damage the emitter.
- 7. Please do not use a force of over 3kgf impact or pressure on the lens of the LED, otherwise it will cause a catastrophic failure.

\*The appearance and specifications of the product may be modified for improvement without notice



# Recommended Soldering Mask All dimensions are in mm, unless otherwise stated



- All dimensions are in millimeters.
- Electrical isolation is required between Slug and Solder Pad.



# **Ordering Information**

Part Number	Description	Quantity
UVC3535O1JLA-D0	Tape & Reel	500 pcs

# Reel Dimension All dimensions are in mm, unless otherwise stated



#### Notes:

- 1. Empty component pockets sealed with top cover tape.
- 2. Drawing not to scale.
- 3. All dimensions are in millimeters.



### Tape Dimension All dimensions are in mm, unless otherwise stated



#### Notes:

- 1. Drawing not to scale.
- 2. All dimensions are in millimeters.
- 3. Unless otherwise indicated, tolerances are  $\pm$  0.10mm.



### **Label Form Specification**



Part no: CTM Production Number Serial no: Production Number Lot no: Lot number Q'ty: Packing Quantity Date Code: Manufacture Date Bin Code: Po Ranks MADE IN CHINA: Production Place

# **Precaution for Use**

### • Storage

Please do not open the moisture barrier bag (MBB) more than one week. This may cause the leads of LED discoloration. We recommend storing ProLight's LEDs in a dry box after opening the MBB. The recommended storage conditions are temperature 5 to 30°C and humidity less than 40% RH. It is also recommended to return the LEDs to the MBB and to reseal the MBB.

- LEDs are ESD (electrostatic discharge) sensitive; static electricity and surge voltages seriously damage UV LEDs and can result in product failure.
- (1) Ensure that tools, jigs and machines being used are properly grounded
- (2) LED mounting equipment should include protection against voltage surge
- (3) Use proper ESD protection, including grounded wrist straps, ESD footwear and clothes

• We recommend using the M705-S101-S4 solder paste from SMIC (Senju Metal Industry Co., Ltd.) for lead-free soldering.

• Do not use solder pastes with post reflow flux residue>47%. (58Bi-42Sn eutectic alloy, etc) This kind of solder pastes may cause a reliability problem to LED.





### **Reflow Profile**



Profile Feature	Pb-Free Assembly Profile
Temperature Min. (Tsmin)	150°C
Temperature Max. (Tsmax)	200°C
Time (ts) from (Tsmin to Tsmax)	60-120 seconds
Ramp-up Rate (t <sub>L</sub> to t <sub>P</sub> )	3°C/second max.
Liquidous Temperature (T <sub>L</sub> )	217°C
Time ( $t_L$ ) Maintained Above ( $T_L$ )	60 – 150 seconds
Peak Body Package Temperature	260°C +0°C / -5°C
Time (t <sub>P</sub> ) within 5°C of 260°C	30 seconds
Ramp-down Rate $(T_P \text{ to } T_L)$	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.



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