

SPECIFICATION FOR UVC3535 LED

Part No: UVC3535-V01A

Description:

3.5*3.5mm SMD LED

Confirmed by Customer: _____

Approved by

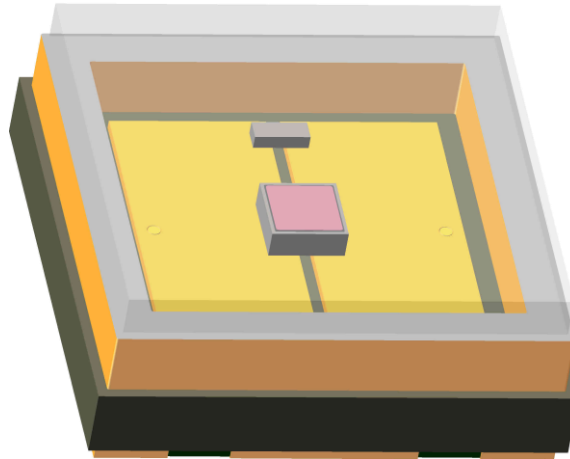
Checked by

Prepared by



UVC3535-V01A

UVC Series



Introduction

The **UVC series**: Full-inorganic package UVC LED;High reliability;Long lifetime;
Low thermal resistance

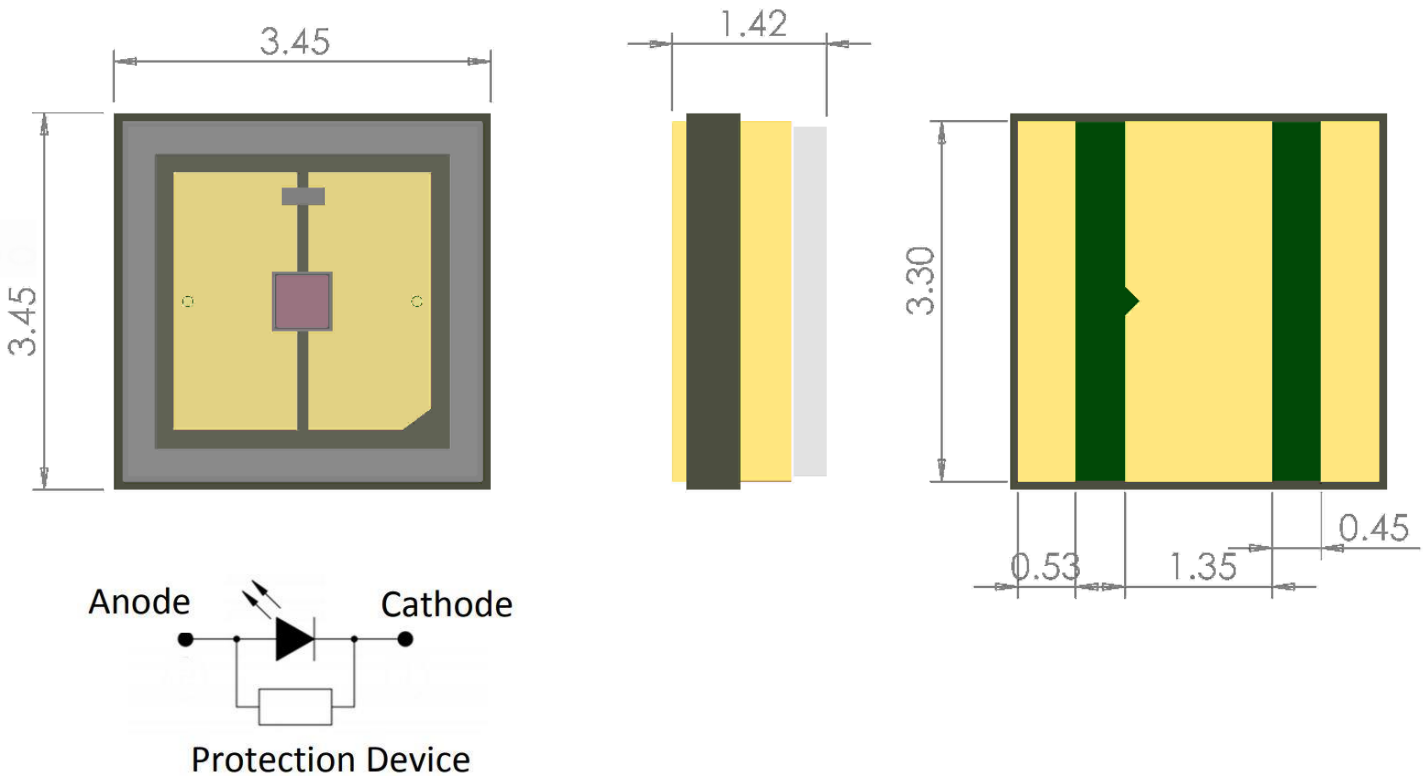
Features:

- ◇ Long operating life,lumen maintenance of greater than 70% after 50,000 hours
- ◇ Instant light (less than 100ns)
- ◇ Lead Free product, RoHS compliant
- ◇ Pb-Free
- ◇ Peak Wavelength:265nm/280nm
- ◇ Surface Mount Type :3.5×3.5×1.42(L×W×H) [Unit : mm]

Application

- ◇ Disinfection
- ◇ Medical
- ◇ Phototherapy
- ◇ Fluorescent Spectroscopy
- ◇ Bio-Analysis
- ◇ Counterfeit Detectors,

Package Dimensions:



UVC3535-V01A

Absolute Maximum Ratings at Ta=25°C:

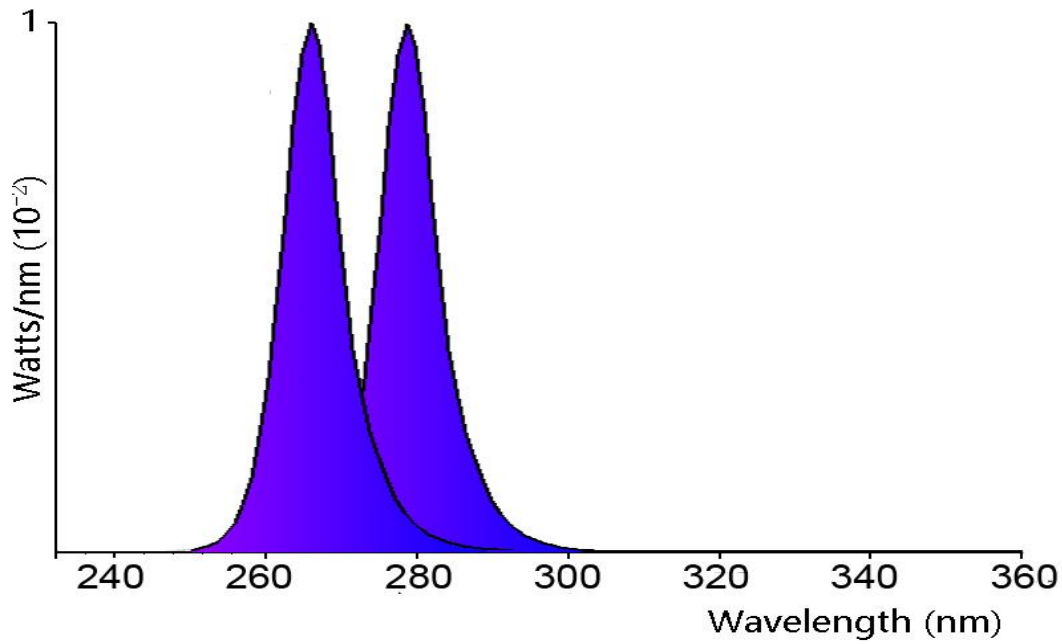
Parameter	Part No.	Symbol	Value	Unit	
Power Dissipation	UVC3535-V01A	Pd(max.)	1.02	W	
Peak Forward Current (1/10 Duty Cycle,0.1ms Pulse Width)		If (max.)	150	mA	
Continuous Forward Current		If (Typ.)	100	mA	
LED junction temperature		Tj	125	°C	
Reverse Voltage		Vr	-5	V	
Thermal Resistance, junction to case	UVC3535-V01A	Rθ j-c	2.5	°C/W	
Soldering Temperature °C	5 seconds, 260°C or lower				
Operating temperature range		Topr	-30°C to + 85°C		
Storage Temperature Range		Tstg	-40°C to + 100°C		

● **Electro-optical characteristics at Ta=25°C**

Parameter	Part No.	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Power Dissipation	UVC3535-V01A	Pd	If=100mA		630		mW
Peak Wavelength		λp	If=100mA	260	265	270	nm
Radiant Flux		Φe	If=100mA		9		mW
Viewing Angle		2θ1/2	If=100mA		120		deg
Forward Voltage		Vf	If=100mA	5.8	6.3	6.8	V
Reverse Current		Ir	Vr=-5V			10	uA
Spectrum Half Width		Δλ	If=100mA		11		nm

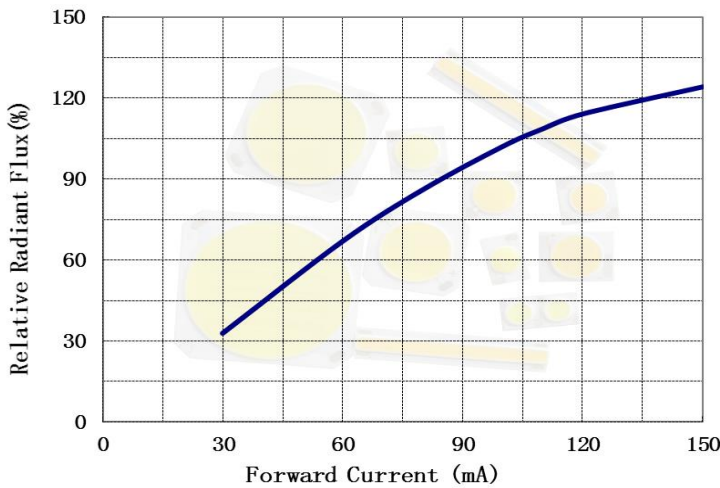
Parameter	Part No.	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Power Dissipation	UVC3535-V01A	Pd	If=100mA		630		mW
Peak Wavelength		λp	If=100mA	270	277	280	nm
Radiant Flux		Φe	If=100mA		9		mW
Viewing Angle		2θ1/2	If=100mA		120		deg
Forward Voltage		Vf	If=100mA	5.8	6.3	6.8	V
Reverse Current		Ir	Vr=-5V			10	uA
Spectrum Half Width		Δλ	If=100mA		11		nm

Relative Spectral Power Distribution

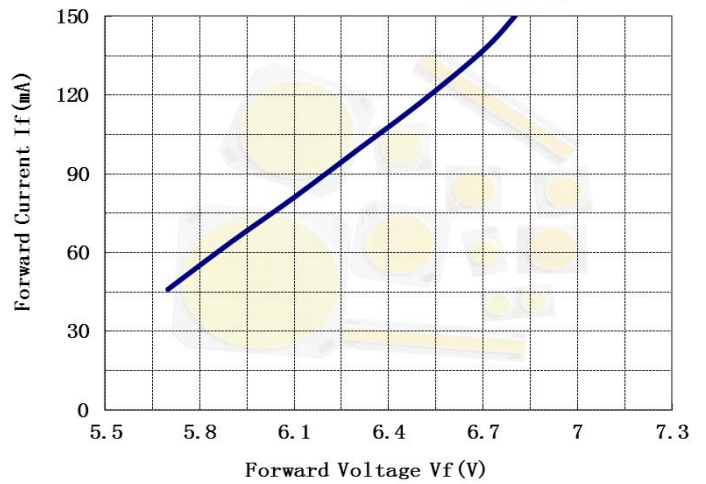


Electrical Characteristics

Relative Radiant Flux VS. Forward Current (Tc=25°C)



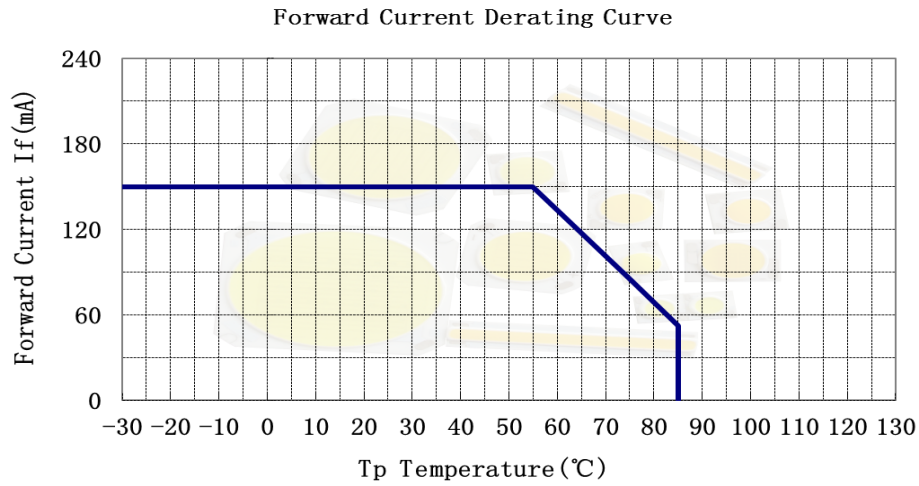
Forward Current VS. Forward Voltage (Tc=25°C)



Please ensure the maintenance of heat radiation not to exceed T_j temperature over the rating in operation.

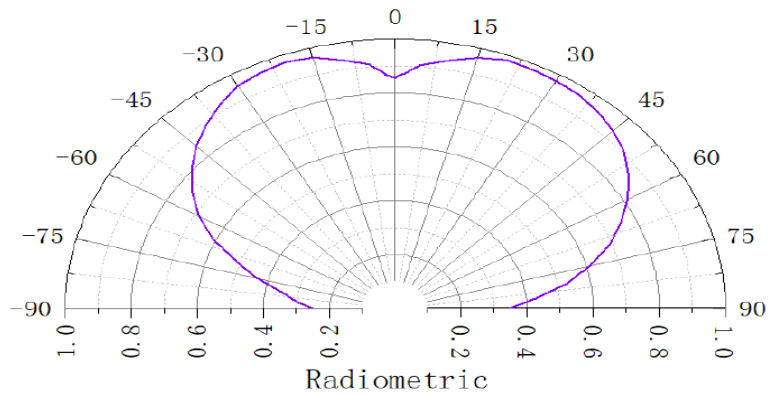


Derating Curves characteristics



To keep Tp temperature lower than rating enough heat-radiation performance needs to be secured by using an adequate heat sink.

Typical Polar Radiation Pattern



Typical Spatial Radiation Pattern

Reliability Test

Test Items

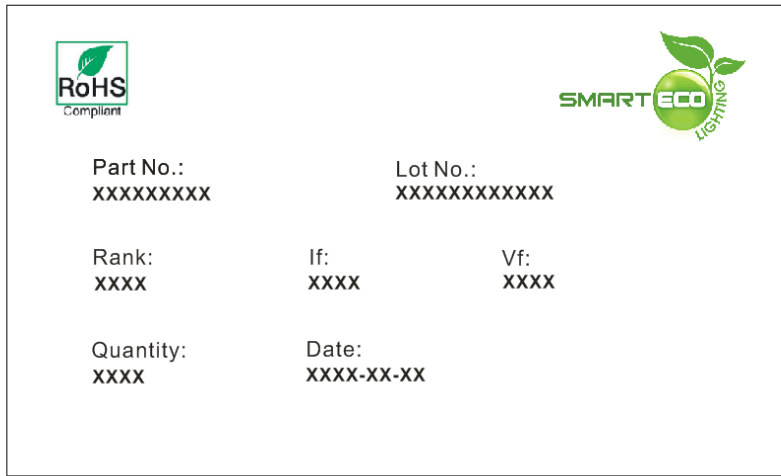
Test Items	Test Conditions	Test Hours/Cycles
Room Temperature life test	25° C, IF = Max	1,000 h
High Temperature humidity life test	85° C, 85% RH, DC Derating IF = Max	1,000 h
High Temperature life test	85° C, DC Derating IF = Max	1,000 h
Low Temperature life test	-40° C, DC 150 mA	1,000 h
High Temperature Storage	120° C	1,000 h
Low Temperature Storage	-40° C	1,000 h
Thermal Shock	-45° C/15min → 125° C/15min Temperature changes in 5min.	200 cycles
Temperature Cycle On/Off test	-40 / 85° C, each 20min, 100min transfer Power On/off each 5min, DC 100 mA	100 cycles
Temperature humidity Cycle Storage	-10° C ↔ 25° C, 95%RH ↔ 85° C, 95%RH [24h/1Cycle]	100 cycles
Vibration	20~80Hz (Displacement:0.06inch, Max 20G) 80~2kHz (Max 20G) Min. Frequency ↔ Max. Frequency 4min transfer	4 times
Shock	1500G, 0.5ms, Every 6faces (3axis X 2faces)	5 times
Salt Spray	35° C, salt water 5% 8h spray → 16h leaving alone	2 cycles

Failure Criteria

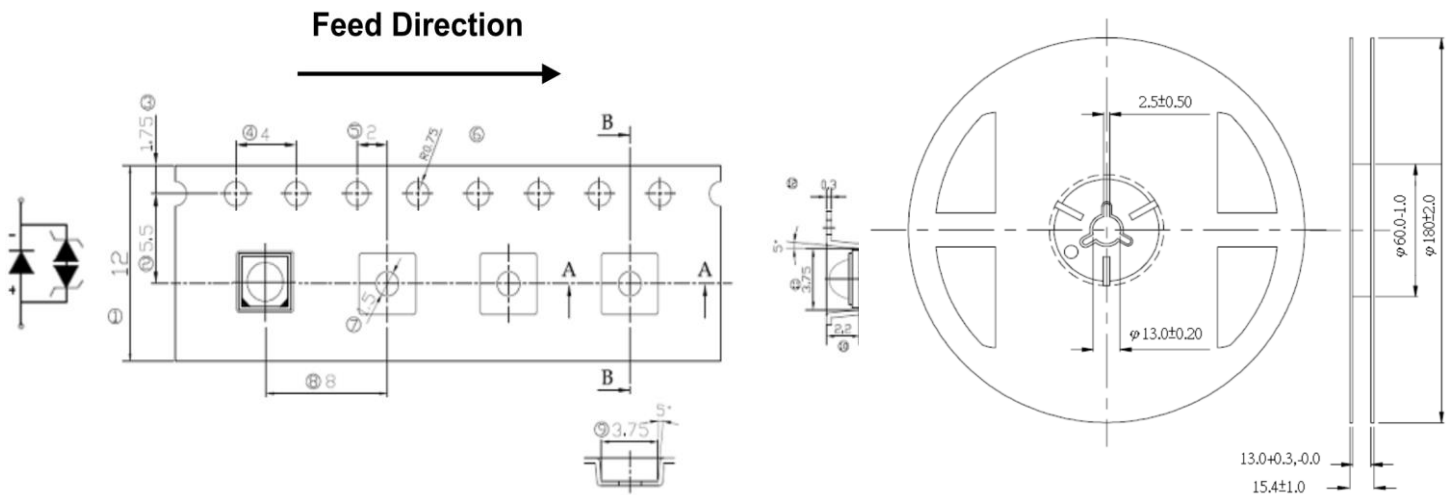
Item	Symbol	Test Condition [Ta = 25° C]	Limit	
			Min.	Max.
Forward Voltage	Vf	100 mA	L. S. L. × 0.9	U. S. L. × 1.1
Radiant flux	lm	100 mA	L. S. L. × 0.7	U. S. L. × 1.3
* U. S. L. : Upper Standard Level L. S. L. : Lower Standard Level				

Moisture Resistant Packing Materials

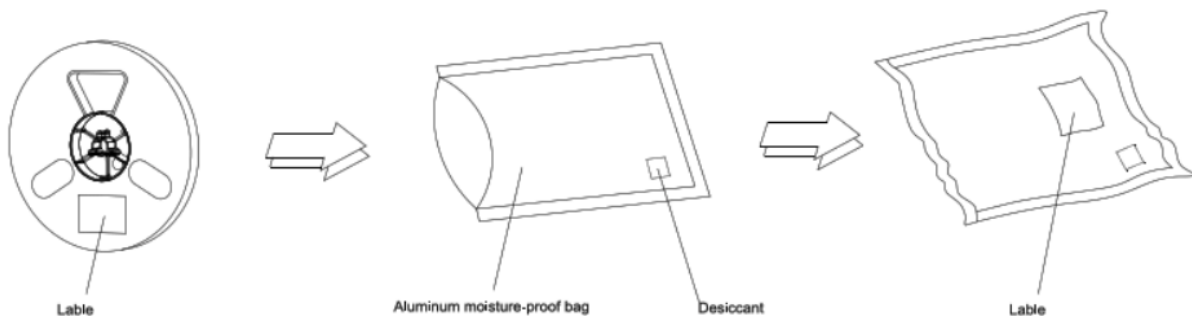
Label Explanation



Reel Dimensions



Moisture Resistant Packing Process

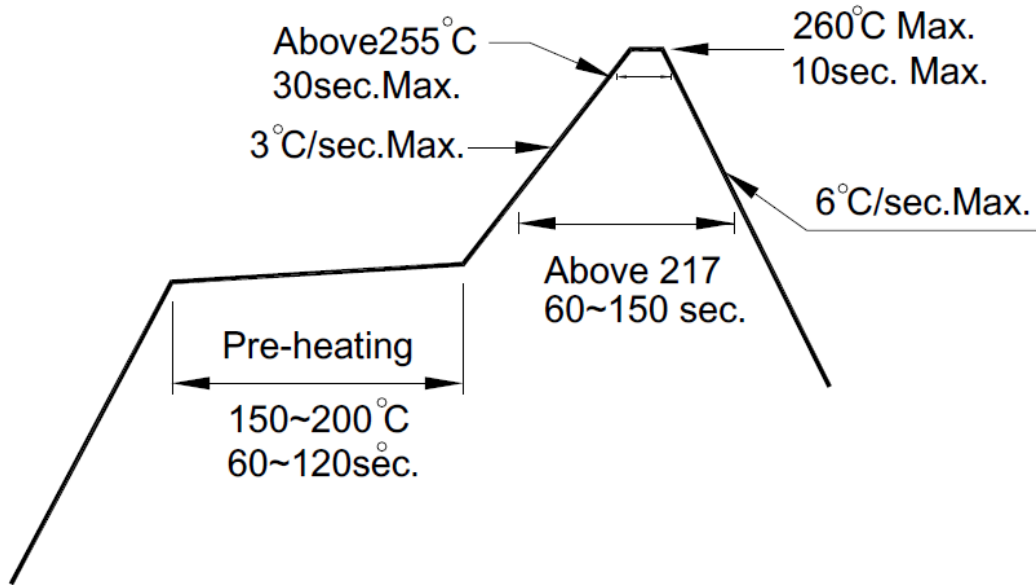


Note:

Tolerances unless mentioned ±0.1mm. Unit = mm

Soldering Condition

Pb-free solder temperature profile



Cautions

1. Reflow soldering should not be done more than two times.
2. When soldering, do not put stress on the LEDs during heating.
3. After soldering, do not warp the circuit board.

