

DATA SHEET

ES-2835-063.6V-UV-XXX

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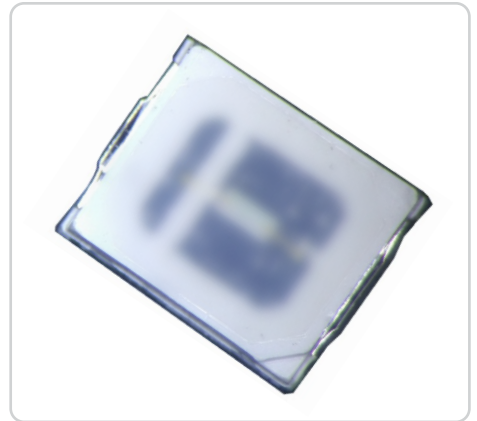
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ES-2835-063.6V-UV-XXX Datasheet

Compared with conventional UV lamp , UV LED is a new light source with a small size. The SNV2835FW products of EVERSTAR can provide a higher luminous power and a lower thermal resistance. And these give the lights an excellent reliability and performance.

The UV LED lights of EVERSTAR company are divided into three type—385nm UV LED, 395nm UV LED and 405nm UV LED. Depend on different wavelength, these UV LEDs can be applied in different fields, such as curing, printing, detecting applications.



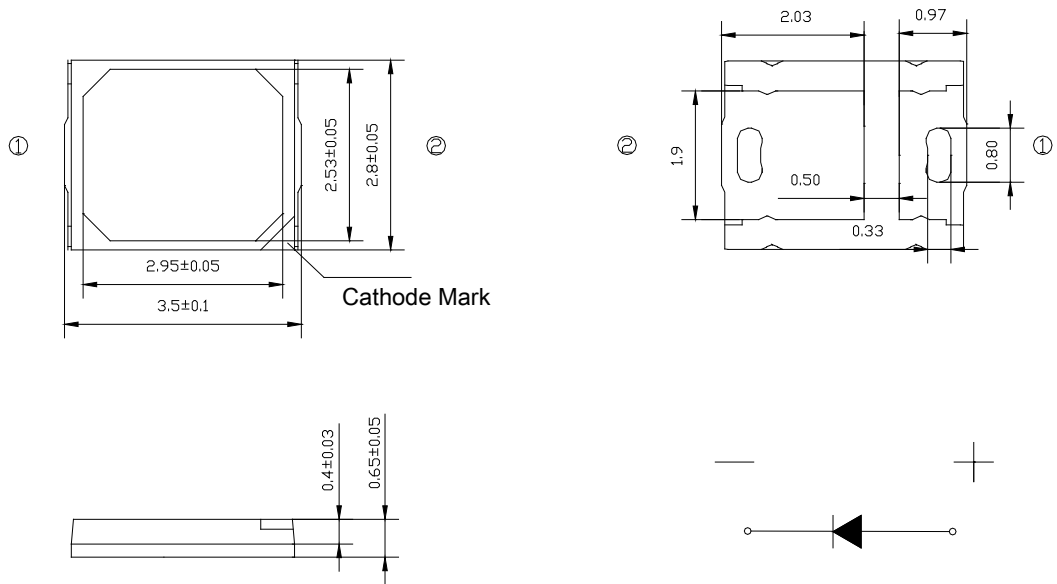
FEATURES

- High power ,high intensity and high efficiency
- Compatible with reflow soldering process
- Low thermal resistance
- Long operation life
- Viewing angle at 120°
- Long operation life
- Silicone encapsulation
- Environmental friendly, RoHS compliance

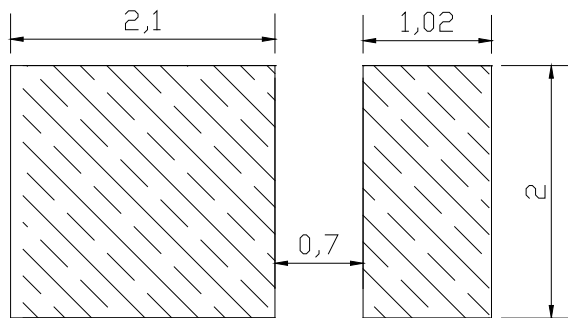
APPLICATIONS

- UV Curing system
- Printing
- Counterfeit Detection/Security
- Exposure machine
- UV Torch
- Nail art

PACKAGE DIMENSIONS



Recommended Solder Pad Design



Notes:

1. All dimensions in millimeters.
2. Thickness tolerance of copper plate is ± 0.02 mm.
3. Thickness tolerance of product is ± 0.05 mm.
4. Tolerance is ± 0.1 mm unless otherwise noted.

ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Absolute Maximum Rating	Unit
Forward current	I_F	180	mA
Peak Forward Current ^[1]	I_{FP}	400	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_d	684	mW
Operating Temperature	T_{opr}	-40~+85	°C
Storage Temperature	T_{stg}	-40~+100	°C
Soldering Temperature	T_{sld}	Reflow Soldering: 260°C for 10 seconds	
LED Junction Temperature	T_j	115	°C

Note:

I_{FP} Conditions: Pulse Width ≤ 10 msec. and Duty $\leq 1/10$.

CHARACTERISTICS (T_j=25°C)

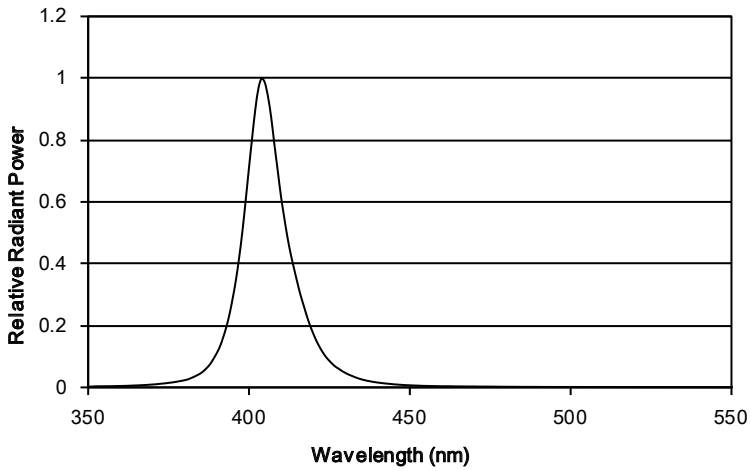
Item	Symbol	Condition	Min	Typ	Max	Unit
Forward Voltage	V_F	$I_F=150$ mA	3.4	3.6	3.8	V
Viewing Angle	$2\theta_{1/2}$	$I_F=150$ mA	--	120	--	deg.
Radiometric Power ^[2]	Φ_v	$I_F=150$ mA	160	180	200	lm
Peak Wavelength ^[4]	λ_p	$I_F=150$ mA	402	405	408	nm
Thermal Resistance (Junction to Solder point)	R_{th-js}	$I_F=150$ mA	--	50	--	°C/W

Notes:

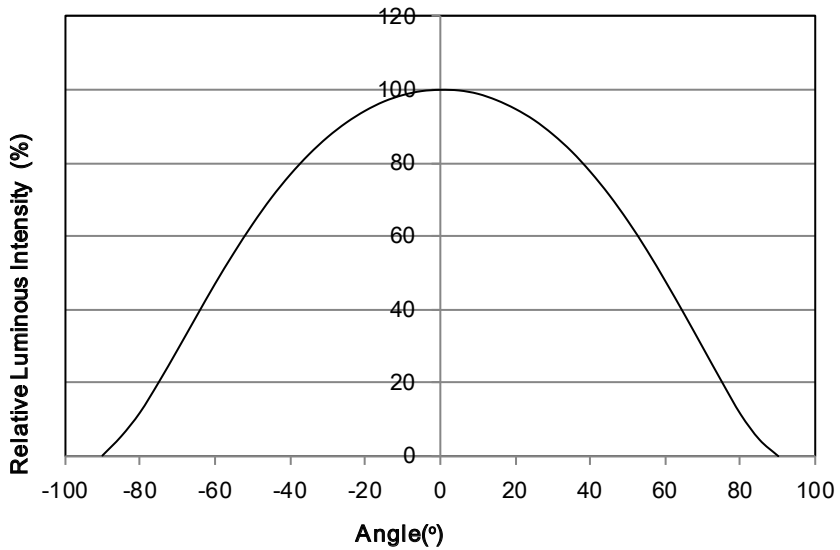
- Luminous flux is measured with an accuracy of $\pm 10\%$.
- Chromaticity coordinate bins are measured with an accuracy of ± 0.01 .
- CRI is measured with an accuracy of ± 2 .
- Some color and CRI bins may have limited availability, please contact us before ordering.
- All measurements were made under the standardized environment of Everstar

RELATIVE SPECTRAL POWER DISTRIBUTION ($T_j=25^{\circ}\text{C}$)

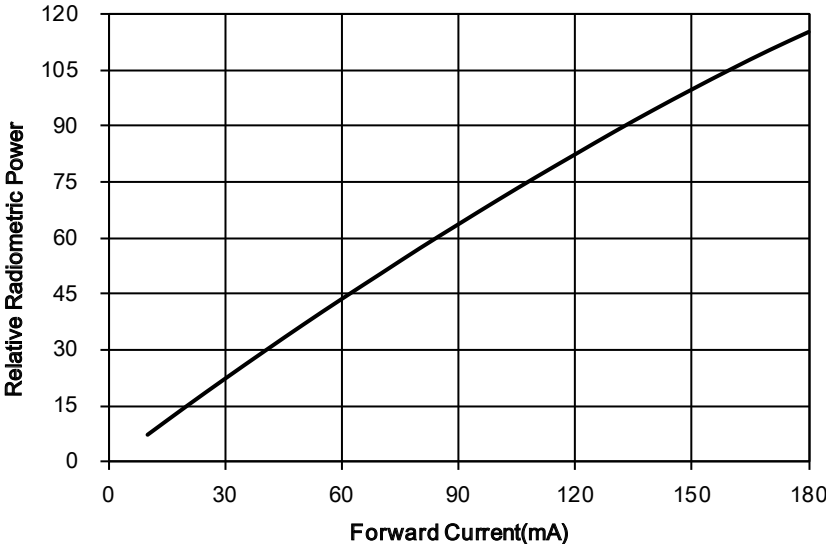
Spectrum Distribution



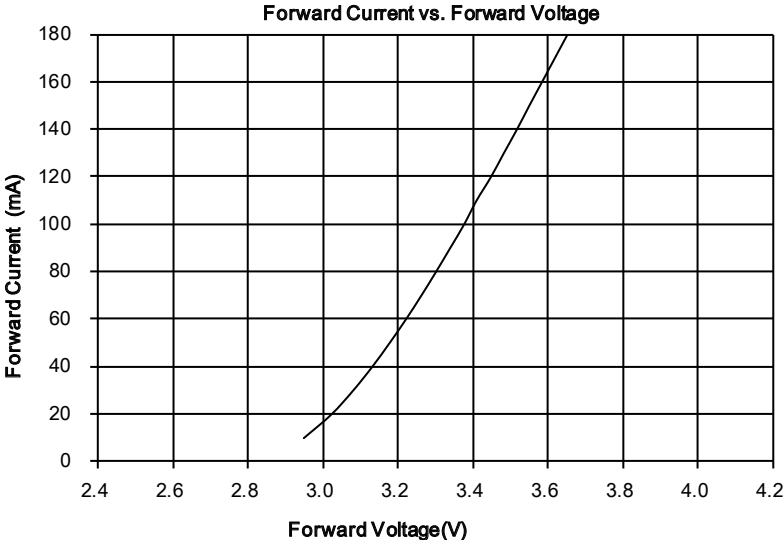
TYPICAL SPATIAL DISTRIBUTION



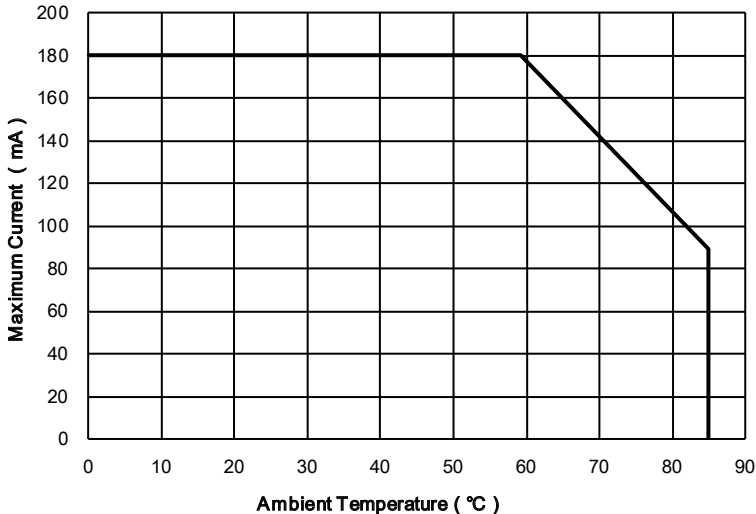
RELATIVE LUMINOUS FLUX VS.CURRENT (T_j=25°C)



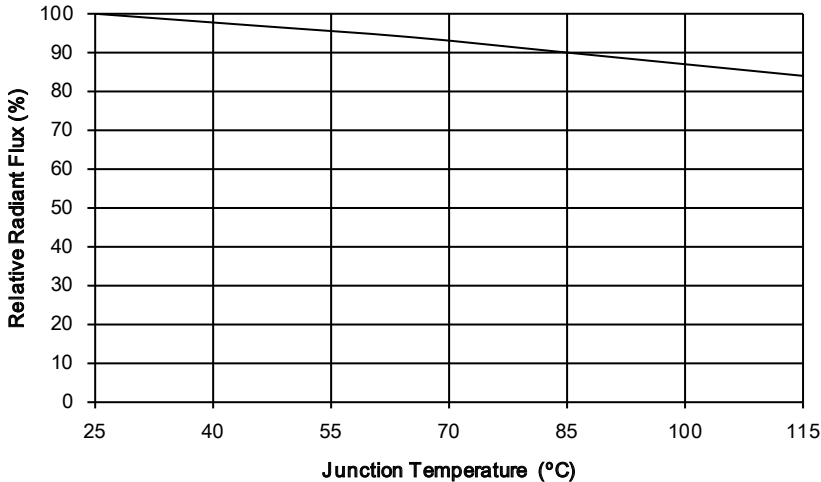
ELECTRICAL CHARACTERISTICS (T_j=25°C)



MAXIMUM CURRENT VS. AMBIENT TEMPERATURE



RELATIVE RADIANT FLUX VS. JUNCTION TEMPERATURE



SORTING RANKS

(1) Radiometric Power (T_j=25°C)

Part Number	Condition	Rank	Unit
ES-2835-063.6V-UV-XXX	150mA	QG	mW
		160-200	

(2) Forward Voltage (T_j=25°C)

Rank	Condition	Min.	Max.	Unit
BC	150mA	3.4	3.6	V
BD		3.9	3.8	

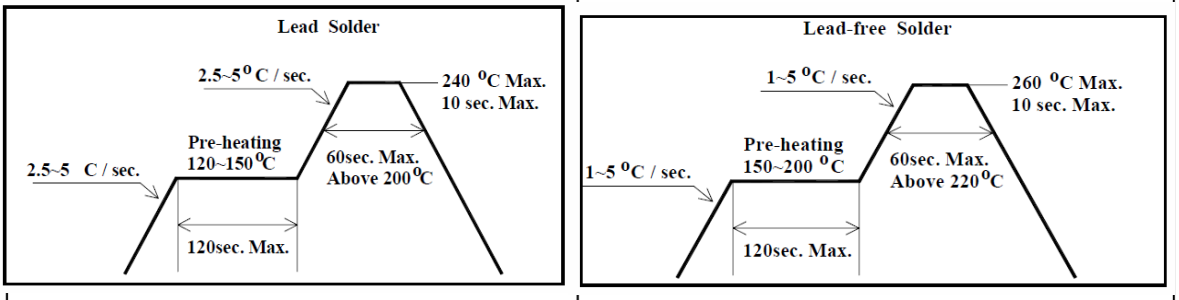
Notes:

1. 10% tolerance for luminous intensity may be caused by measurement inaccuracy.
2. Measurement Uncertainty of the Forward Voltage : ± 0.1V

REFLOW SOLDERING CHARACTERISTICS

Preheating : 140°C~160°C±5°C, within 2 minutes.
 Operation heating : 260°C(Max.) within 10 seconds.(Max)
 Gradual Cooling (Avoid quenching).

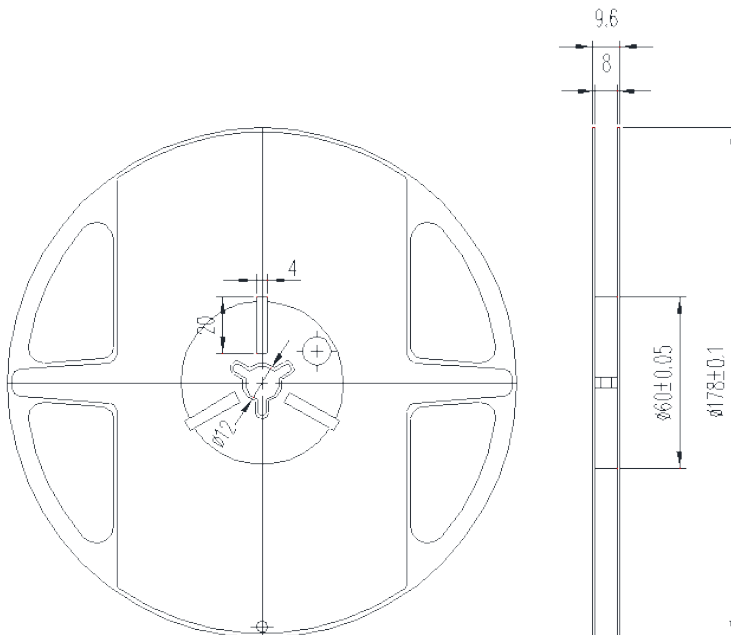
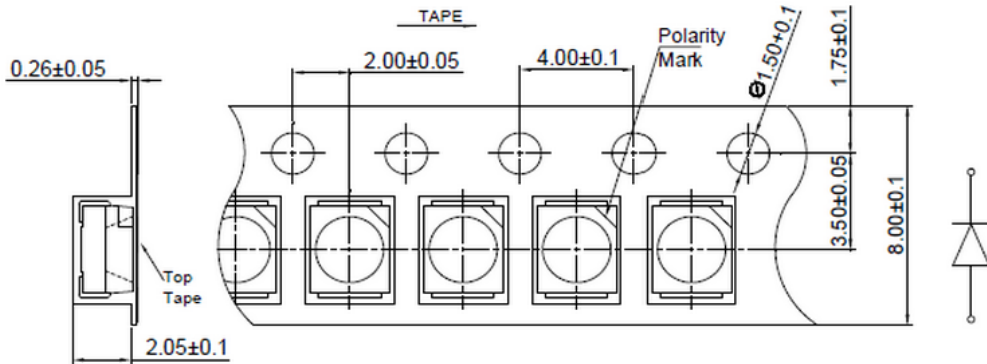
Lead solder		Lead-free solder	
Pre-heat	120-150°C	Pre-heat	150-200°C
Pre-heat time	120 sec.Max.	Pre-heat time	120 sec.Max.
Peak Temperature	240°C Max.	Peak Temperature	260°C Max.
Soldering time condition	10 sec.Max.	Soldering time condition	10 sec.Max.



Notes:

The encapsulated material of the LEDs is silicone . Therefore the LEDs have a soft surface on the top of package. The pressure to the top surface will be influence to the reliability of the LEDs. Precautions should be taken to avoid the strong pressure on the encapsulated part. So when using the picking up nozzle, the pressure on the silicone resin should be proper.

TAPE AND REEL



Note: The tolerances unless mentioned is ± 0.1 mm, Unit=mm

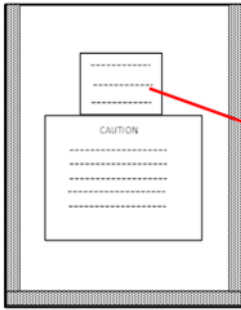
Notes:

- (1) Quantity : 4,000pcs/Reel
- (2) Cumulative Tolerance : Cumulative Tolerance/10 pitches to be ± 0.2 mm
- (3) Adhesion Strength of Cover Tape : Adhesion strength to be 0.1-0.7N when the cover tape is turned off from the carrier tape at the angle of 10° to the carrier tape
- (4) Package : P/N, Manufacturing data Code No. and quantity to be indicated on a damp proof Package.

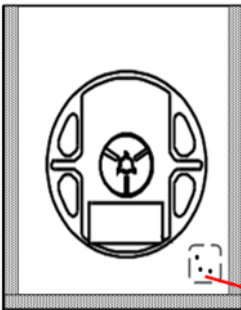
PACKAGING



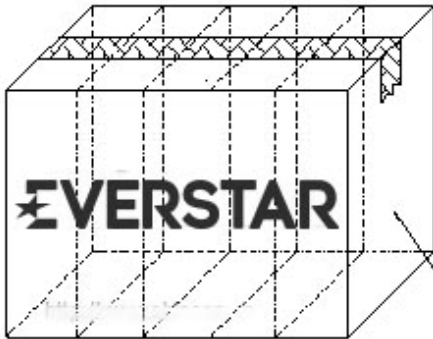
REEL



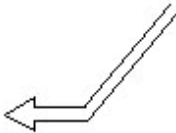
moisture-proof bag



desiccant



Outside box
Maximums 48 Reels



RELIABILITY TEST ITEMS

Test Items	Test Duration	Number of Damaged
Steady State Operating Life of High Temperature (HTOL) Ts=85°C, IF=Max	1000hrs	0/20
Steady State Operating Life of Low Temperature (LTOL) Ta=-40°C, IF=Max	1000hrs	0/20
Pulse Wet Operating Life of High Temperature (PWHTOL) 60°C/90%RH, IF30mins ON/30min OFF	500hrs	0/20
High Temperature Storage (HTS) 100°C	1000hrs	0/20
Low Temperature Storage (LTS) -40°C	1000hrs	0/20
Thermal Shock (TS) -45°C~125°C 30min dwell 20sec transfer	100cycles	0/20
Solder Resistance (SR) 265°C, 3X MSL	5sec	0/20
Solder Ability (SA) 245°C5sec, 95% coverage	5sec	0/11
Mechanical Shock (MS) 1500G 0.5msec pulse shock	Each6 axis	0/6
Random Vibration (RV) 6G RMS, 10-2000Hz, 10min	Per axis	0/6
Variable Vibration Frequency (VVF) 10-2000-10Hz, log or linear sweep rate, 20G for 1 min, 1.5mm each apply 3x per axis over	6hrs	0/6
Salt Spread (SS) 35°C, 30g/m2/day	48hrs	0/11

Item	Symbol	Test Condition	Criteria for Judgment	
			Min.	Max.
Forward	Vf	IF=Typical Current		U.S.L x1.1
Luminous Flux	Im	IF=Typical Current	L.S.L x0.7	
CCX&CCY	x,y	IF=Typical Current		Shift<0.02

PRECAUTION FOR USE

- (1) This device should not be used in any type of fluid such as water, oil, organic solvent, etc. When washing is required, IPA should be used.
- (2) When the LEDs are illuminating, operating current should be decided after considering the ambient maximum temperature.
- (3) LEDs must be stored to maintain a clean atmosphere. If the LEDs are stored for 3months or more after being shipped from EVERSTAR, a sealed container with a nitrogen atmosphere should be used for storage.
- (4) The LEDs must be used within seven days after opening the moisture proof packing. Repack unused Products with anti-moisture packing, fold to close any opening and then store in a dry place.
- (5) The appearance and specifications of the product may be modified for improvement without notice.
- (6) This LED is sensitive to the static electricity and surge. It is recommended to use a wrist Band or antielectrostatic glove when handling the LEDs.
- (7) On manual soldering, a solder tip must be needed as grounded for usage. If over voltage which exceeds the absolute maximum rating is applied to LEDs, it will cause damage LEDs and result in destruction. Damaged LEDs will show some unusual characteristics such as leak current remarkably increase ,turn-on voltage becomes lower and the LEDs get unlighted at low current.