SMD 2835 0.2W Data Sheet

Indo Japan

India's first LED Chip – Complying International Quality and Lighting Standards.

Description:

Indo Japan's SMD LED 2835 series products use high quality silica gel packages, which improves the heat dissipation, thus enhancing the performance and reliability of LED Chips.

SMD LED 2835 series has low power consumption, high CRI, wide beam angle, long product life, which makes this series suitable for all forms of lighting applications.

Features:

- LM80 Compliant
- RoHS & CE Compliant
- Pb free
- Size : 2.8mm x 3.5mm x 0.65mm
- Viewing Angle : 120°
- White LED 2835
- High Lumen Output
- Low Power Consumption

Applications:

- General Lighting
- Automotive Lighting
- Decorative Lighting
- Indicator Lighting
- Switch Lighting

SMD 2835 0.2W Data Sheet

Indo Japan

Absolute Maximum Ratings ($T_{Soldering}$ / Ta = 25°C)

Parameters	Symbol	Rating	Unit
Forward Current	I_f	120	mA
Peak Forward Current (Duty 1/10 @10ms)	I_{fp}	150	mA
Power Dissipation	P_d	408	mW
Operating Temperature	T_{opr}	-40 ~ +85	℃
Storage Temperature	T_{stg}	-40 ~ +100	℃
Thermal Resistance (Junction / Soldering point)	$R_{th\ J\text{-}S}$	15	℃/W
Junction Temperature	T_j	115	℃
Soldering Temperature	T_{sol}	Reflow Soldering : 260 ℃ for 10 sec. Hand Soldering : 350 ℃ for 3 sec.	

Note:

1. The products are sensitive to static electricity and must be carefully taken when handling products.

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Flux(1)	Φ	24	----	33	lm	I_f = 65mA
Forward Voltage(2)	V_F	2.6	----	3.2	V	I_f = 65mA
Color Rendering Index(3)	Ra	80	----	----		I_f = 65mA
Efficacy		----	180	----	Lm/W	I_f =65mA
Viewing Angle	2θ1/2	----	120	----	deg	I_f =65mA
Reverse Current	I_R	----	----	10	μA	V_r = 5V

SMD 2835 0.2W Data Sheet

Indo Japan

Luminous Flux	Bin Code
24 – 27 lm	M1
27 – 30 lm	M2
30 – 33 lm	M3

Voltage	Bin Code
2.8 – 3.1V	V1

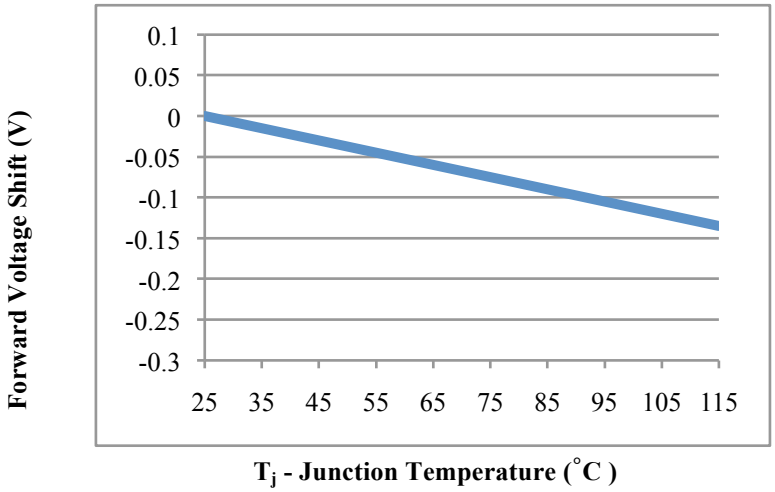
Notes:

1. Tolerance of Luminous flux: ±11%.
2. Tolerance of Forward Voltage: ±0.1V.
3. Tolerance of Colour Rendering Index: ±2

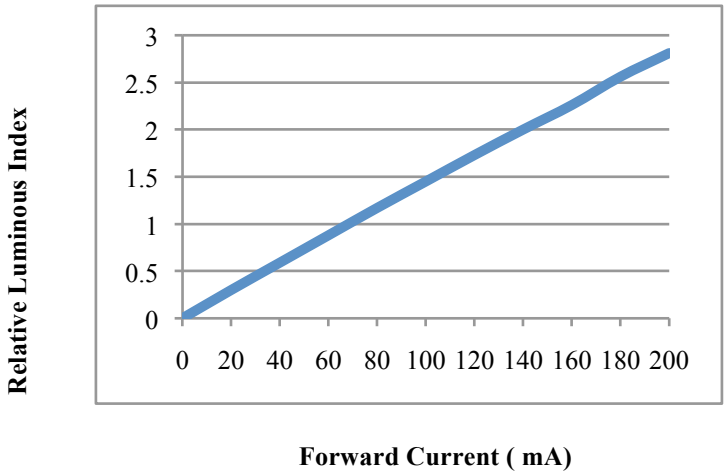
Bin Code	Lumens	Voltage	CCT
M1V1A1	24 – 27 lm	2.8 – 3.1V	2700 – 3000K
M1V1A2	24 – 27 lm	2.8 – 3.1V	3000 – 3300K
M1V1B1	24 – 27 lm	2.8 – 3.1V	3900 – 4200K
M1V1B2	24 – 27 lm	2.8 – 3.1V	4200 – 4500K
M1V1C1	24 – 27 lm	2.8 – 3.1V	5800 – 6200K
M1V1C2	24 – 27 lm	2.8 – 3.1V	6200 – 6600K
M1V1C3	24 – 27 lm	2.8 – 3.1V	6600 – 7000K
M2V1A1	27 – 30 lm	2.8 – 3.1V	2700 – 3000K
M2V1A2	27 – 30 lm	2.8 – 3.1V	3000 – 3300K
M2V1B1	27 – 30 lm	2.8 – 3.1V	3900 – 4200K
M2V1B2	27 – 30 lm	2.8 – 3.1V	4200 – 4500K
M2V1C1	27 – 30 lm	2.8 – 3.1V	5800 – 6200K
M2V1C2	27 – 30 lm	2.8 – 3.1V	6200 – 6600K
M2V1C3	27 – 30 lm	2.8 – 3.1V	6600 – 7000K
M3V1A1	30 – 33 lm	2.8 – 3.1V	2700 – 3000K
M3V1A2	30 – 33 lm	2.8 – 3.1V	3000 – 3300K
M3V1B1	30 – 33 lm	2.8 – 3.1V	3900 – 4200K
M3V1B2	30 – 33 lm	2.8 – 3.1V	4200 – 4500K
M3V1C1	30 – 33 lm	2.8 – 3.1V	5800 – 6200K
M3V1C2	30 – 33 lm	2.8 – 3.1V	6200 – 6600K
M3V1C3	30 – 33 lm	2.8 – 3.1V	6600 – 7000K

Indo Japan

Relative Luminous Intensity vs Junction Temperature

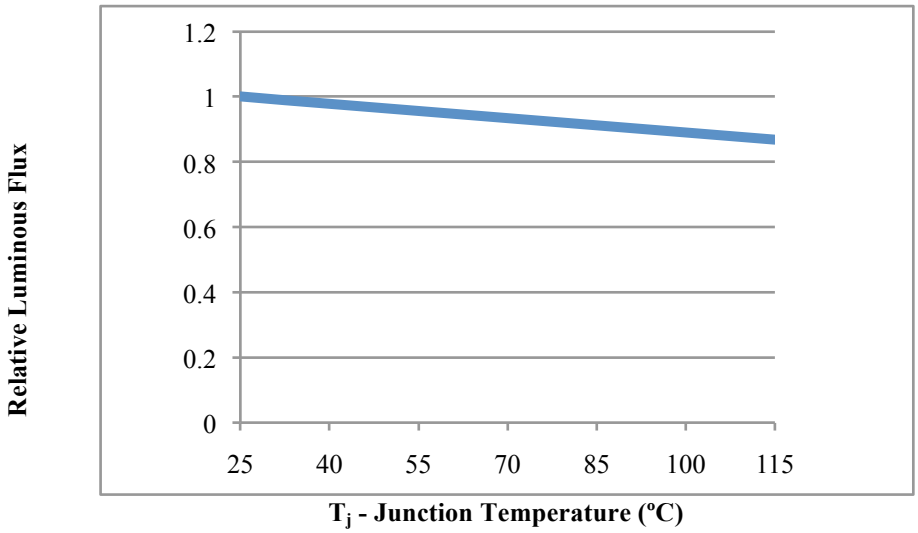


Forward Current vs Relative Luminous Intensity

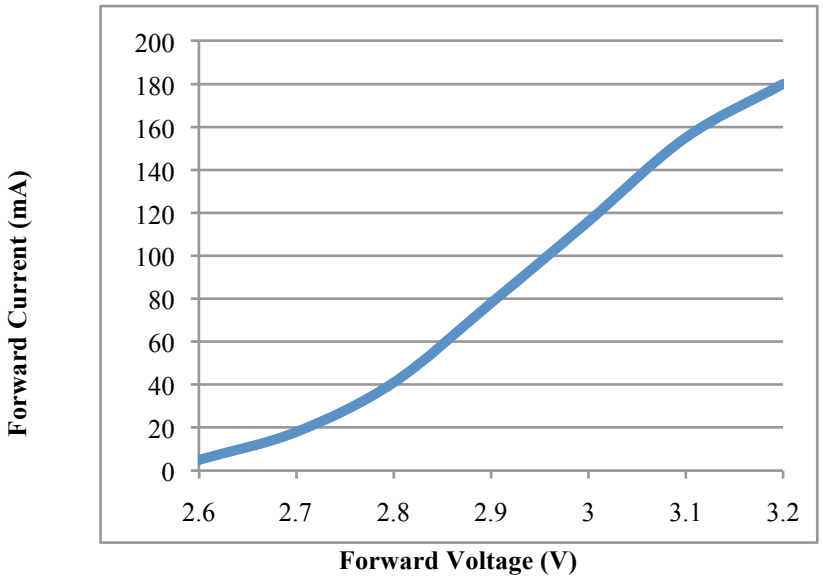


Indo Japan

Relative Luminous Intensity vs Junction Temperature



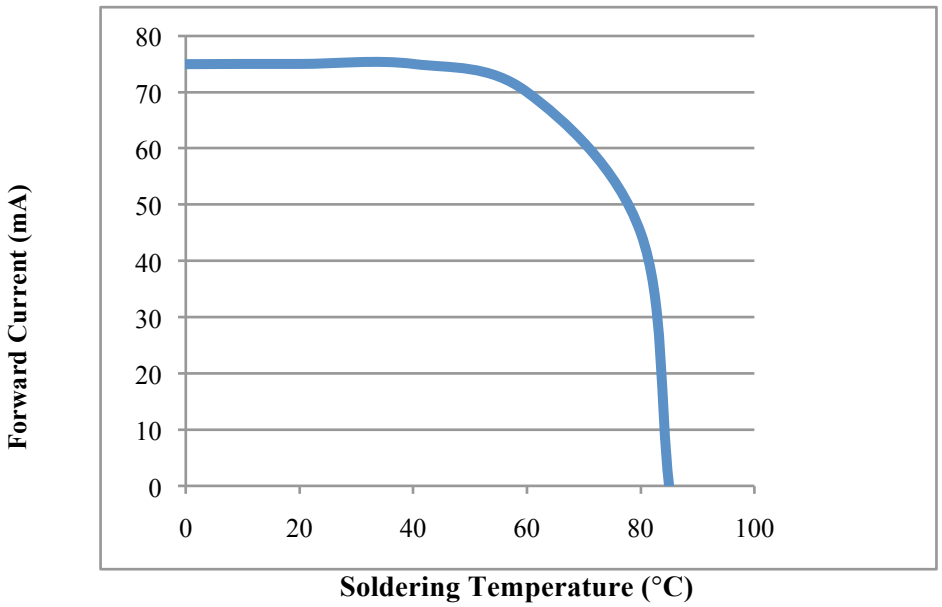
Forward Current vs. Forward Voltage



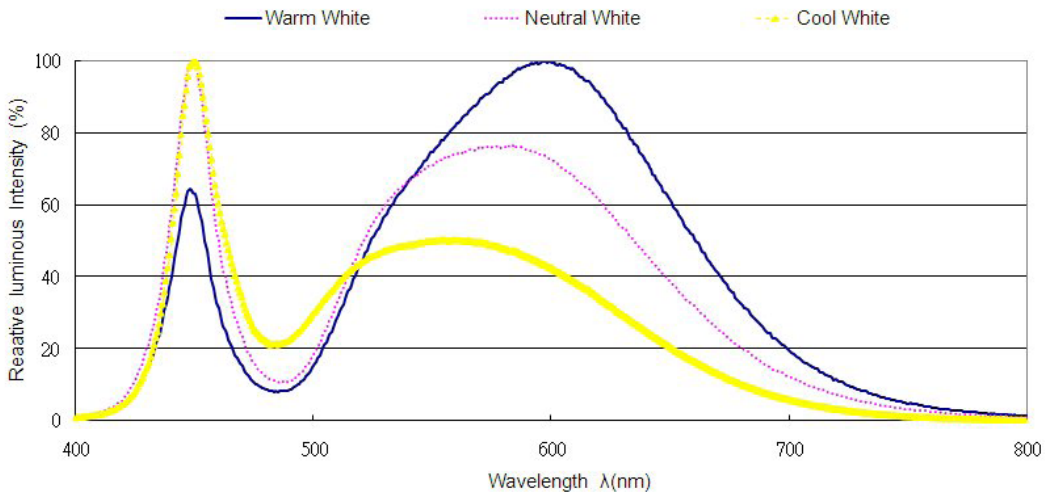
Indo Japan

Max Driving Forward Current vs Soldering Temperature

$R_{th\ j\text{-}S=30}$ °C/W

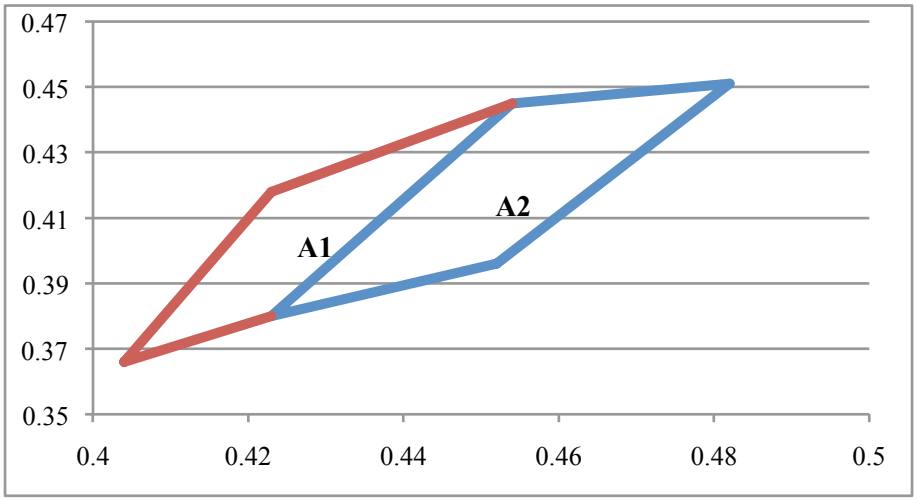


Spectrum Distribution



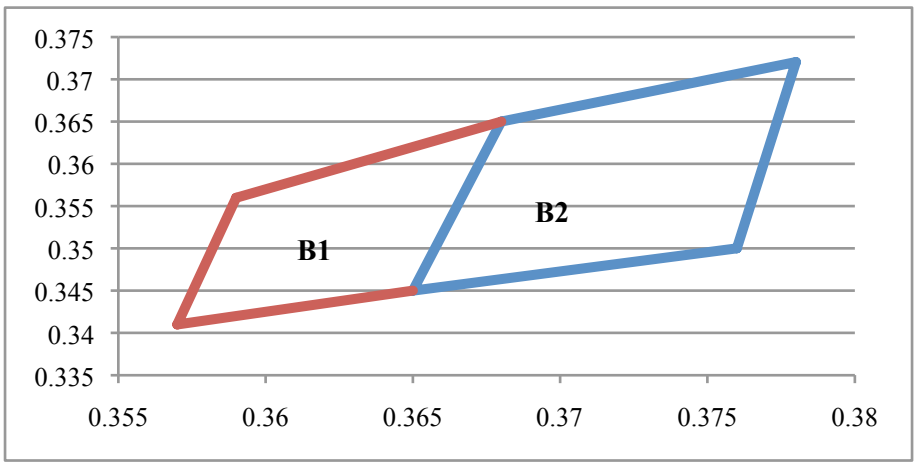
Indo Japan

CCT – BIN FOR WARM WHITE LIGHT



BIN A 1	**2700 – 3000K**
BIN A 2	**3000 – 3300K**

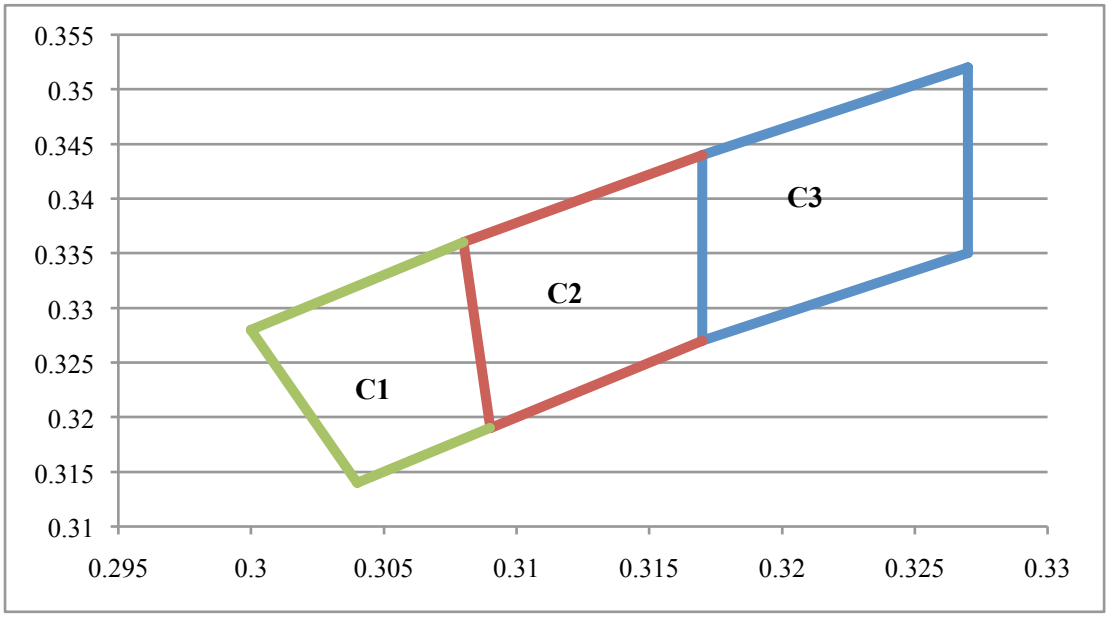
CCT – BIN FOR NATURAL WHITE



BIN B 1	**3900 – 4200K**
BIN B 2	**4200 – 4500K**

Indo Japan

CCT – BIN FOR COOL WHITE

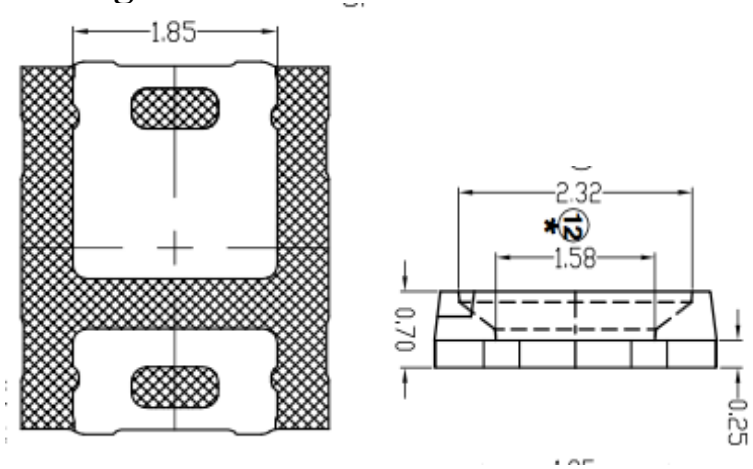


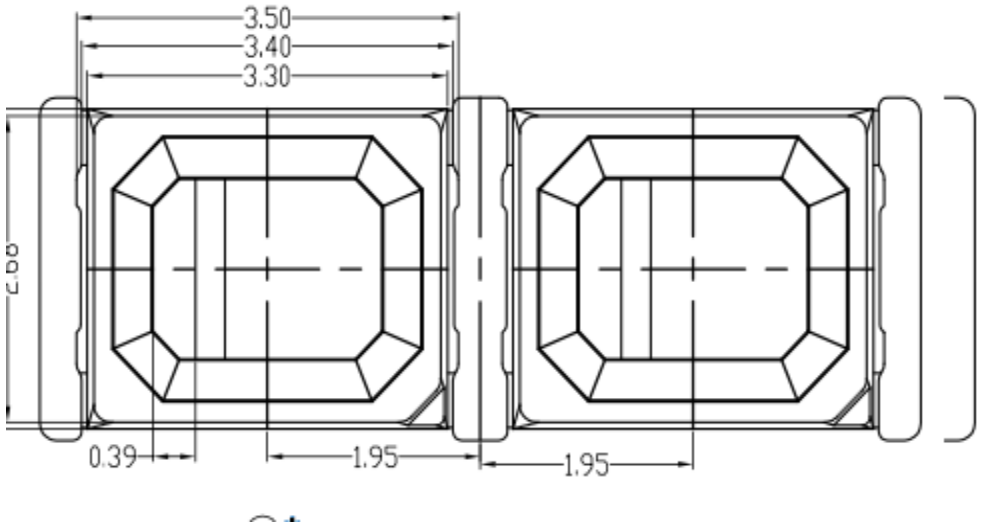
BIN C 1	**5800 – 6200K**
BIN C 2	**6200 – 6600K**
BIN C 3	**6600 – 7000K**

SMD 2835 0.2W Data Sheet

Indo Japan

Package Dimension

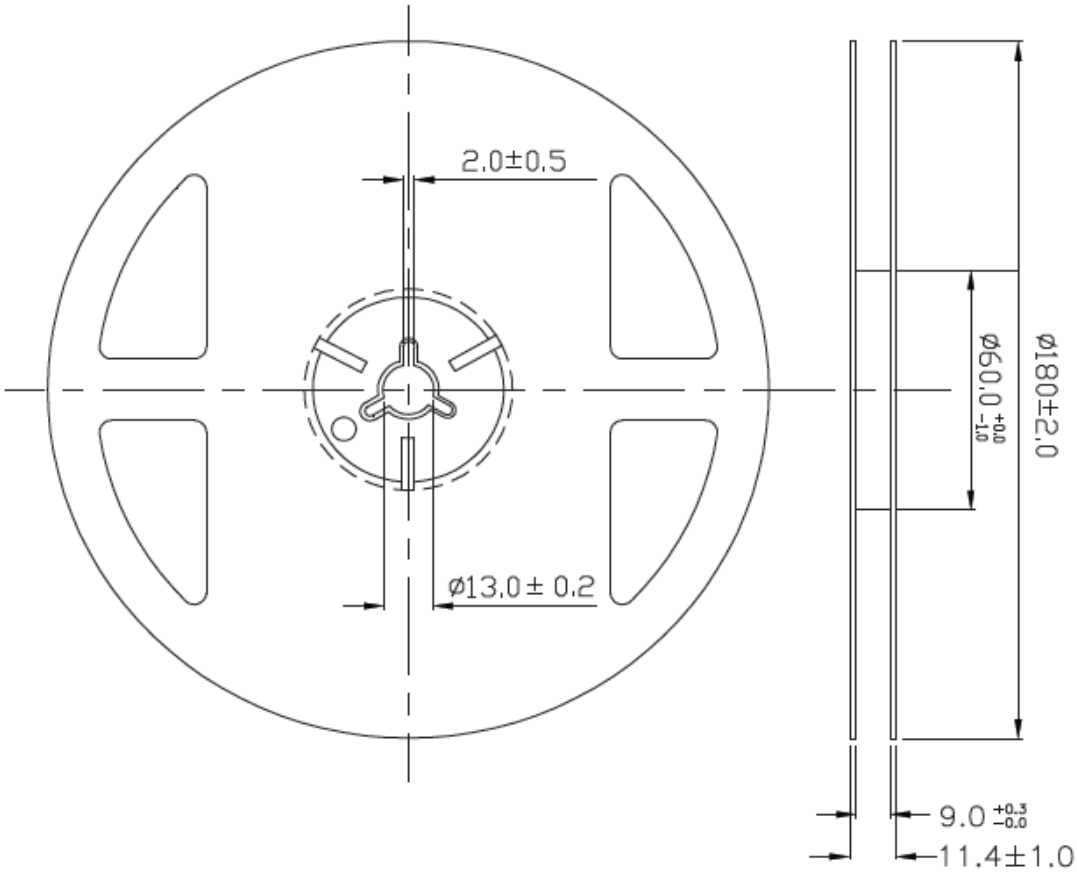




Note:
Tolerance unless mentioned is ±0.15 mm; Unit = mm

Indo Japan

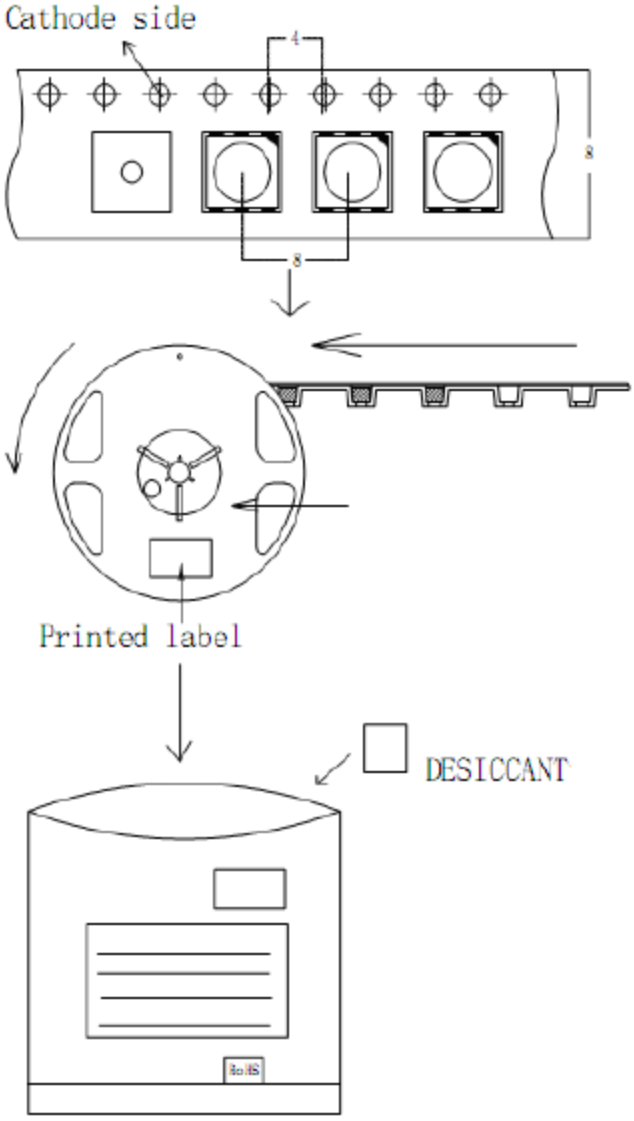
Reel Dimensions



Note:
Tolerances unless mentioned ± 0.1mm. Unit = mm

Indo Japan

Moisture Resistant Packing Process



Indo Japan

Notes for Reflow Soldering

- Reflow soldering should not be done more than twice.
- To ensure the reliability, quality and high performance the LED's have been encapsulated with silica gel. It not recommended to put any kind of pressure on the Chip.
- Use of high precision nozzles to avoid any sort of damage to Chips is recommended
- Use of anti-static apparels while operating on LED Chips is recommended
- Ensure high quality earthing/ground wiring.

Notes for Hand Soldering

- Hand Soldering Parameters - 300°C for not more than 3 seconds
- Hand Soldering shouldn't be done more than once.
- Avoid using sharp objects for compressing LEDs
- Use of anti-static apparels while operating on LED Chips is recommended

Storage

Before opening vacuum packing

- LEDs can be stored for one year under temperature and humidity not exceeding 30°C and 60% RH.

After opening vacuum packing

- The LED's floor life is 168 Hrs under 30°C or less and 60% RH or less. Unused LEDs should be stored in moisture proof packages.