

FE2835 SMD LED Series



Features:

- High Power, High Luminous Efficacy
- Red Copper Base for optimal heat transfer
- RoHS Certified
- > 30000Hrs Lifespan
- Flexible Matching of CCT and CRI parameters
- Excellent Colour Consistency
- High Output Compact Design

Description

The FE835W SMD series is high performance solid state semi-conductor light source.

This premium LED is geared towards high end lighting applications where colour consistency and high lumen output are essential. As such this SMD is available from 360-640nm wavelengths and 2600 - 7000k CCT, suitable for every application.

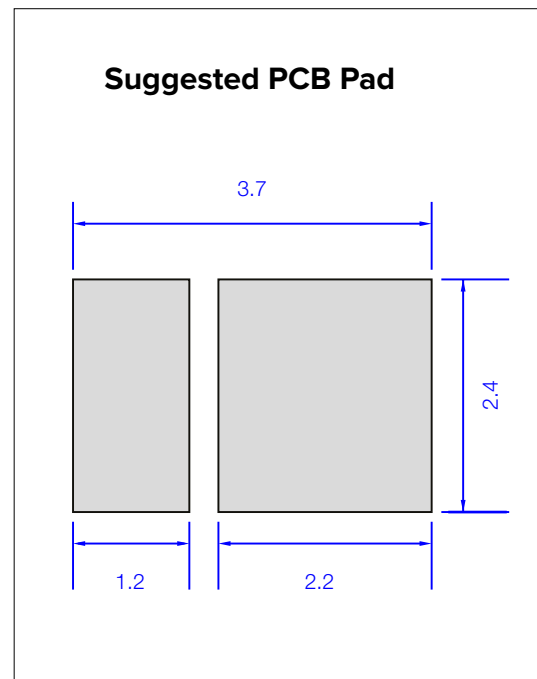
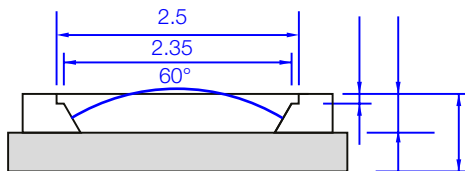
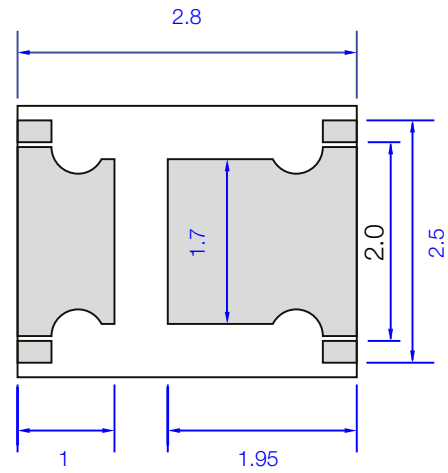
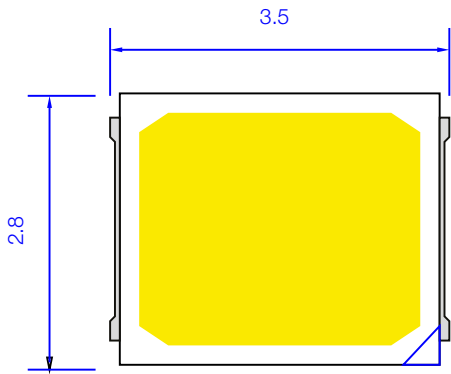
As with all Future Eden products, these SMDs utilise the highest quality materials, strictest reliability testing and European Certificated ISO9001 assembly conditions. This allows for the highest cost performance in terms of stability, longevity and light output.



Accreditation:
Delivering Global Confidence

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Mechanical Specifications



Dimensions (Unit:mm) Tolerance +/-0.5mm

FE2835 SMD LED Series

General Specifications

Parameter	Value
Dimensions (L*W)	2.8 *3.5*0.8mm
Beam Angle	120°
Power Dissipation	0.2W
Luminous Efficacy	130 - 200
CRI	80 Ra (as standard)
Operating Temperature	-40 ~ +60°C
Storage Temperature	-40 ~ +85°C
Testing Point	60°C
Max Junction Temperature	115°C
Reverse Current (Vr=5V)	5 uA
Reflow Soldering (Lead Free)	260 °C

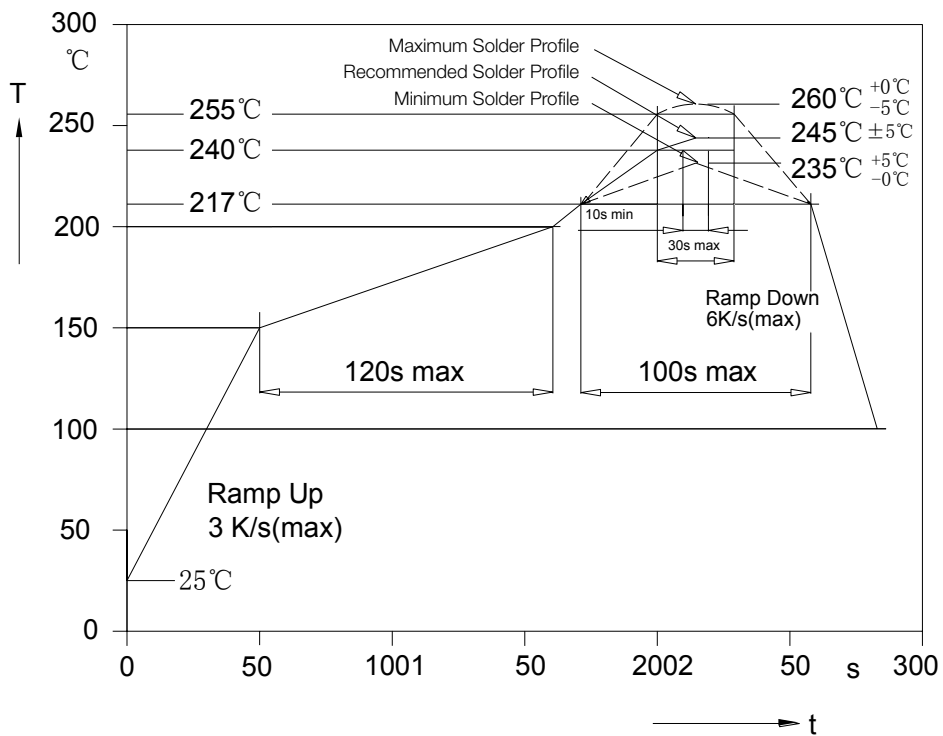
Electrical Characteristics by Wavelength (Tc = 25°C)

Colour	Wavelength	Max forward current	Voltage @ 60mA	Luminous Flux	CRI	Part Number
Blue	460-470nm	60mA	2.8-3.4v	4-5lm	-	FE2835460470
Green	520-530nm	60mA	2.8-3.4v	10-12lm	-	FE2835520530
Yellow / Amber	585-595nm	60mA	2.0-2.6v	7-8lm	-	FE283585595
Red	620-630nm	60mA	2.0-2.6v	7-8lm	-	FE2835620630
Deep Red	640-660nm	60mA	2.0-2.6v	2-4lm	-	FE2835620630
Cool White	6000-6500k	60mA	2.8-3.4v	28-30lm	>80Ra	FE2835W6000-6500k
Warm White	2600-3200k	60mA	2.8-3.4v	24-26lm	>80Ra	FE2835W2600-3200k

FE2835 SMD LED Series

Reflow Soldering Conditions

SMD-Reflow Soldering Profile for lead free soldering(Acc.to J-STD-020B)



Notes:

IMPORTANT - The information provided above is provided as reference guidance only. Tolerances and variances in solder and oven set up must be considered. It is highly recommended to run test batches and conduct full inspection prior to moving to commercial manufacture.

FE2835 SMD LED Series

Reliability Testing

Test Items	Test Conditions	Sample Size	Ac/Re
Aging	IF=60mA Ta=25°Cx1000hrs	22	0/1
	IF=60mA Ta=25°Cx1000hrs	22	0/1
High Temperature Storage	100°C × 1000 hours	22	0/1
Low Temperature Storage	-40°C × 1000 hours	22	0/1
High Temp & Humidity	IF=60mA 85°C, 85 %RH for 1000 hours	22	0/1
Temperature Shock	-40°C × 30 minutes – +100°C × 30 minutes, 100 cycle	22	0/1
ESD (HBM)	2000V HBM/1	22	0/1

Criteria for Test Failure

Test Items	Test Conditions	Criteria for Failure
Forward Voltage (VF)	IF=60mA	>U × 1.1
Reverse Current (IR)	VR=5V	IR≥5μA
Lumen	IF=60mA	<S × 0.7

Notes:

U refers to max value

S refers to initial value

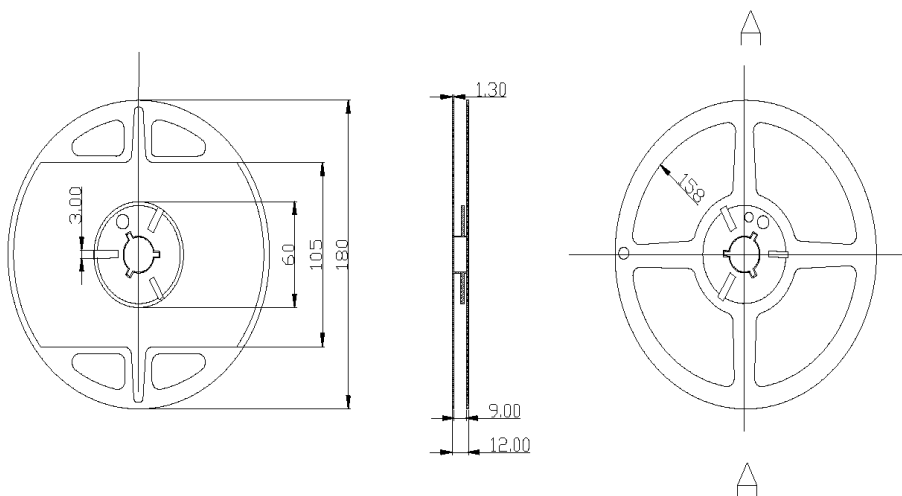
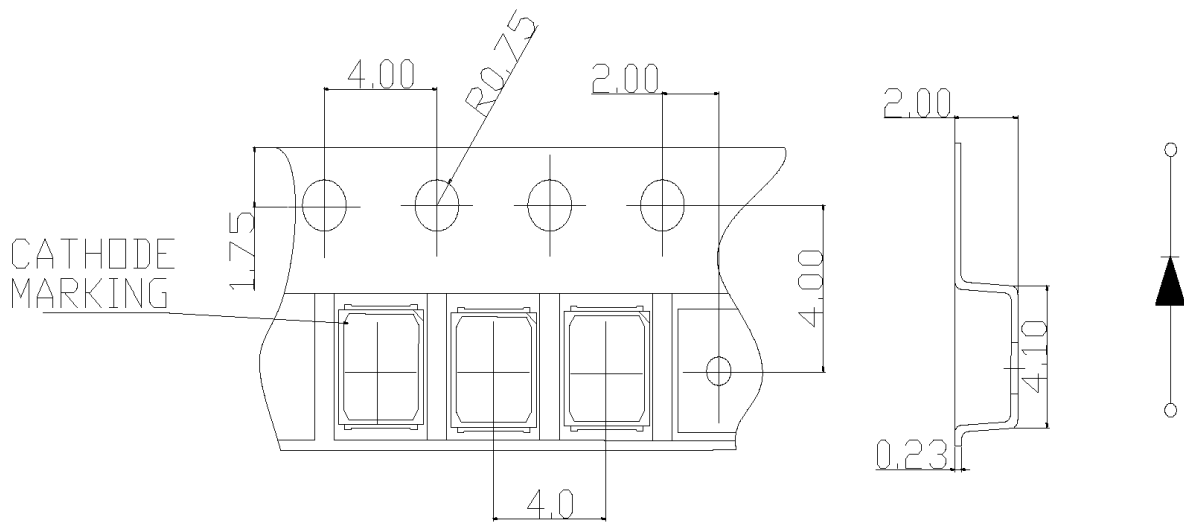
Judging criteria based on Tc=25°C.

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Packing

4000pcs on Tape and Reel, Vacuum Sealed in Anti-static bags.

Tape and Reel Specifications



FE2835 SMD LED Series

Notes

Product Specifications

This is product family data sheet referring to general values under certain test conditions. More specific information is available for specific models on request.

Soldering Conditions

1. Reflow soldering should be conducted once only and **NOT USING A HEATING PLATFORM**
2. We advise to not apply pressure or squeeze PCB before or after reflow soldering
3. High Temperature PC lens can withstand 260°C reflow soldering

Service Condition

1. If the aluminium moisture bag has been opened for a week or longer the LEDs should be dehumidified @65°C for 12 hours prior to installation
2. These components must be operated within the rated range of parameters

Installation

1. Precautions must be made to avoid multi-layer stacking, impact and drop damage during transportation and storage
2. Do not burn the products' light-emitting layer through the use a high temperature soldering iron
3. Do not apply pressure to the LED emitting layer during or after installation

ESD Protection

1. Statics or surge voltage can cause LED damage or failure. When using the products, we suggest wearing anti-static wrist straps or gloves. All devices, equipment and machinery must be grounded. Precautions should be taken to protect the products from the surge voltage generated by the large plant or equipment. If suspected ESD has occurred a low forward current test can be conducted.

Heat Dissipation

1. The thermal design of the end product is of paramount importance. Failure to adequately cool this product will affect performance or cause failure. Avoid high temperature condensation on the product at all times

Cleaning

1. Ethanol is the only recommended cleaning solvent

Others

1. Precautions must be made to protect eyes from bright LED light sources. Do not look directly at this product when not wearing protective glasses