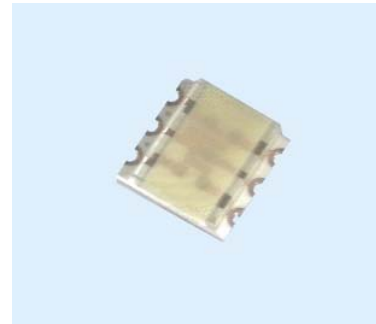


Technical Data Sheet**Luminosity white Color LED****40-25AUWD/TR8****Features**

- Super luminosity white LED.
- Built in 5 LED chips.
- Wide viewing angle.
- Soldering methods: Reflow soldering.
- High performance.
- Package in 12mm tape on 7" diameter reel.
- Pb-free.
- The product itself will remain within RoHS compliant version.

**Descriptions**

- The 40-25A SMD LED is much smaller than lead frame type components, thus enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained. Besides, lightweight makes them ideal for miniature applications. etc.

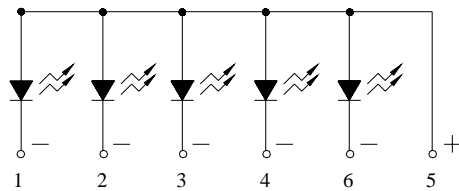
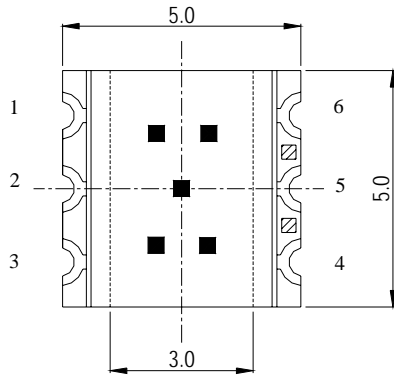
Applications

- Amusement equipment.
- Information boards.
- Flashlight for digital camera of cellular phone.
- Lighting for small size device.

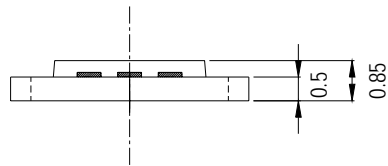
Device Selection Guide

Chip	Emitted Color	Lens Color
Material		
InGaN	White	Yellow diffused

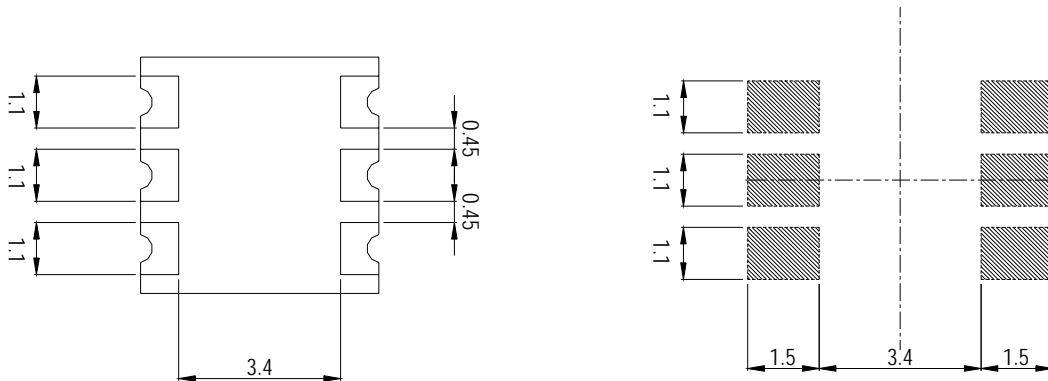
Package Outline Dimensions



Polarity



For reflow soldering (propose)



Note: The tolerances unless mentioned is $\pm 0.1\text{mm}$,Unit = mm

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	5	V
Forward Current	I _F	25	mA
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +90	°C
Soldering Temperature	T _{sol}	260 (for 5 second)	°C
Electrostatic Discharge(HBM)	ESD	150	V
Power Dissipation	P _d	100	mW
Peak Forward Current (Duty 1/10 @ 1KHz)	I _{FP}	100	mA
Soldering Temperature	T _{sol}	Reflow Soldering : 260 °C for 10 sec. Hand Soldering : 350 °C for 3 sec.	

*. The value are based on the 1-die performance.

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity*1	I _v	1800	2500	-----	mcd	I _F =20mA*2
Viewing Angle*2	2θ _{1/2}	-----	130	-----	deg	I _F =20mA
Forward Voltage*2	V _F	2.7	-----	3.7	V	I _F =20mA
Reverse Current*2	I _R	-----	-----	50	μA	V _R =5V

*1 When five LED dies are operated simultaneously.

*1 Tolerance of Luminous Intensity ±10%

*2 For each die.

Note: The products are sensitive to static electricity and care must be fully taken when handling products.

40-25AUWD/TR8
Color Ranks

	Rank A0			
X	0.280	0.264	0.283	0.296
Y	0.248	0.267	0.305	0.276

	Rank B3			
x	0.287	0.283	0.304	0.307
y	0.295	0.305	0.330	0.315

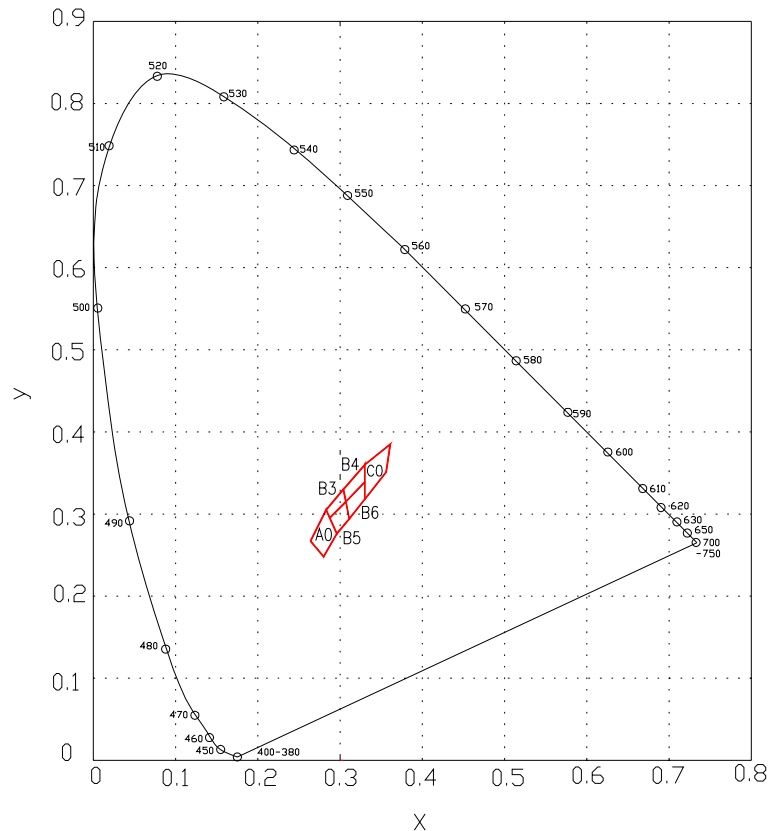
	Rank B4			
X	0.307	0.304	0.330	0.330
Y	0.315	0.330	0.360	0.339

	Rank B5			
x	0.296	0.287	0.307	0.311
y	0.276	0.295	0.315	0.294

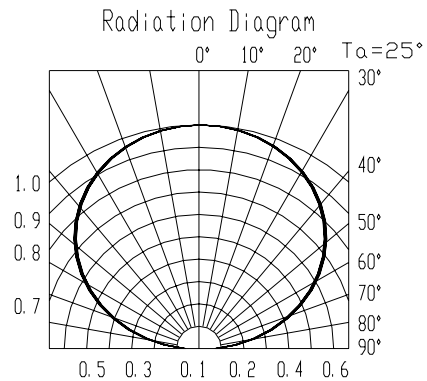
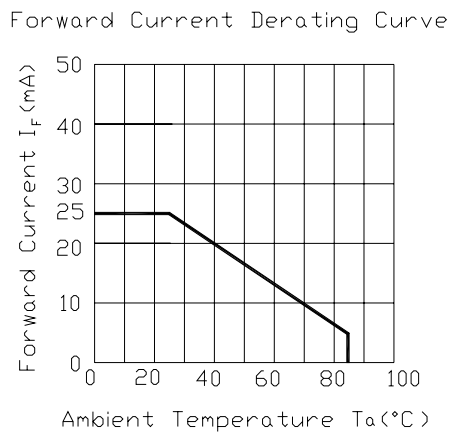
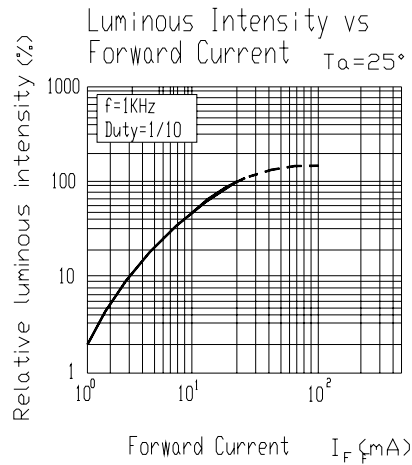
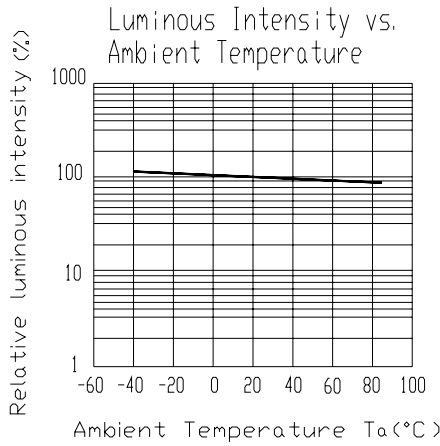
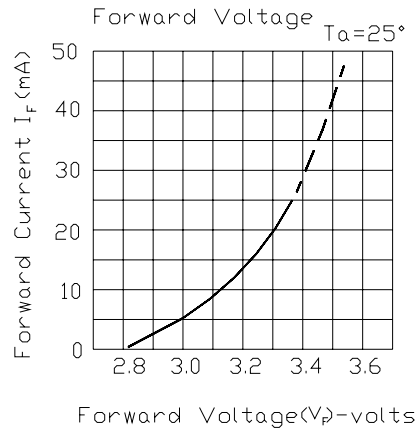
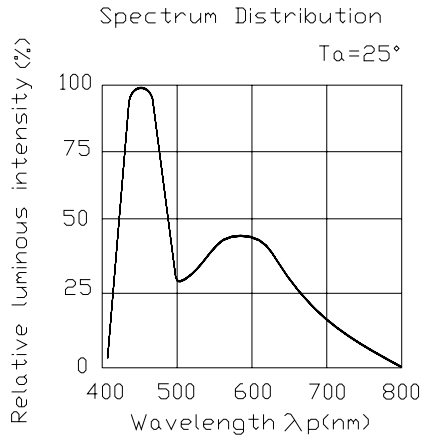
	Rank B6			
X	0.311	0.307	0.330	0.330
Y	0.294	0.315	0.339	0.318

	Rank C0			
x	0.330	0.330	0.361	0.356
y	0.318	0.360	0.385	0.351

*The C.I.E. 1931 chromaticity diagram (Tolerance ± 0.02).

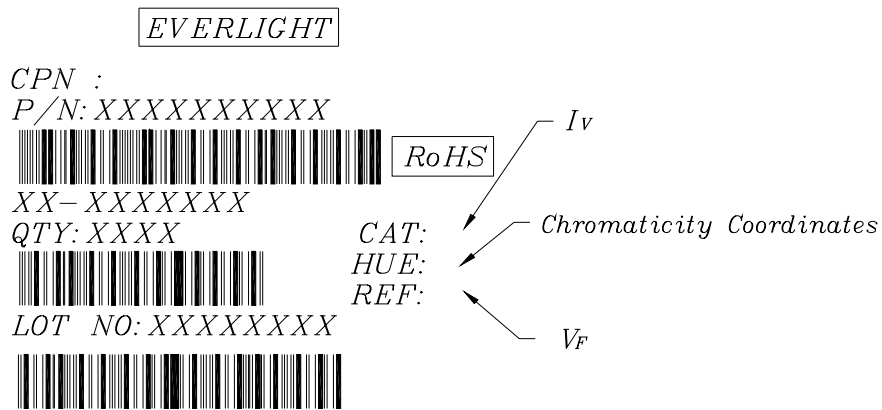
CIE Chromaticity Diagram


Typical Electro-Optical Characteristics Curves



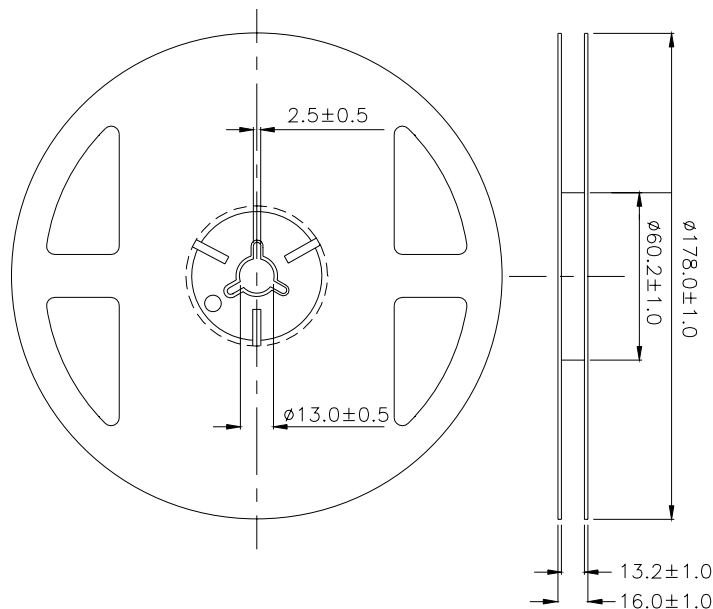
Label explanation

CAT: Luminous Intensity Rank HUE: Chromaticity Coordinates REF: Forward Voltage Rank



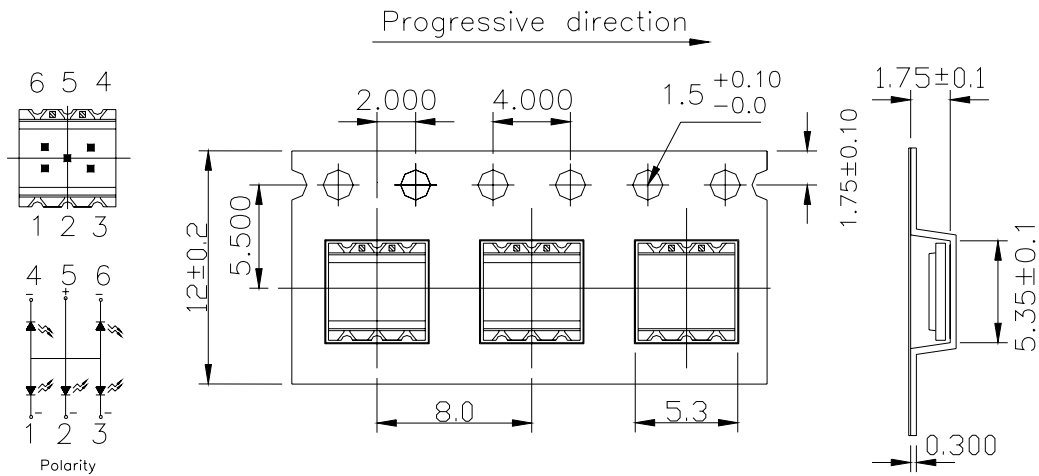
MADE IN TAIWAN

Reel Dimensions



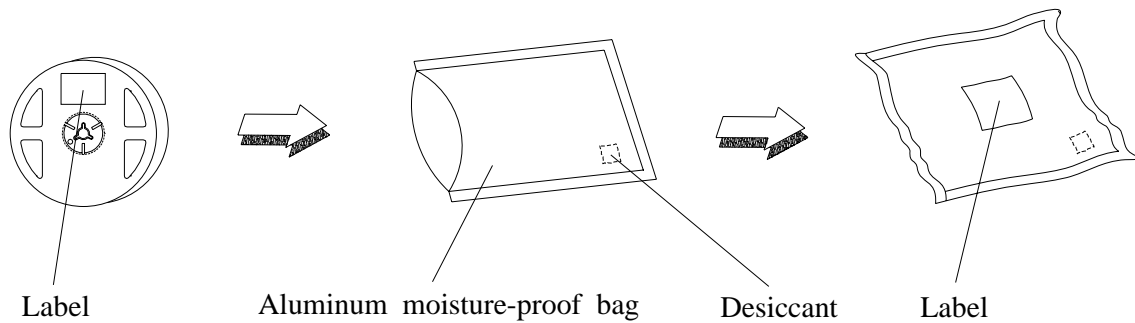
Note: The tolerances unless mentioned is $\pm 0.1\text{mm}$,Unit = mm

Carrier Tape Dimensions: Taping Quantity: 800pcs



Note: The tolerances unless mentioned is $\pm 0.1\text{mm}$,Unit = mm

Moisture Resistant Packaging



Reliability Test Items And Conditions

The reliability of products shall be satisfied with items listed below.

Confidence level : 90%

LTPD : 10%

No.	Items	Test Condition	Test Hours/Cycles	Sample Size	Ac/Re
1	Reflow Soldering	Temp. : 260°C±5°C Min. 5sec.	6 Min.	22 PCS.	0/1
2	Temperature Cycle	H : +100°C 15min ∫ 5 min L : -40°C 15min	300 Cycles	22 PCS.	0/1
3	Thermal Shock	H : +100°C 5min ∫ 10 sec L : -10°C 5min	300 Cycles	22 PCS.	0/1
4	High Temperature Storage	Temp. : 100°C	1000 Hrs.	22 PCS.	0/1
5	Low Temperature Storage	Temp. : -40°C	1000 Hrs.	22 PCS.	0/1
6	DC Operating Life	I _F = 20 mA	1000 Hrs.	22 PCS.	0/1
7	High Temperature / High Humidity	85°C / 85%RH	1000 Hrs.	22 PCS.	0/1

Precautions For Use

1. Over-current-proof

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage

2.1 Do not open moisture proof bag before the products are ready to use.

2.2 Before opening the package: The LEDs should be kept at 30°C or less and 90%RH or less.

2.3 After opening the package: The LED's floor life is 1 year under 30 deg C or less and 60% RH or less.

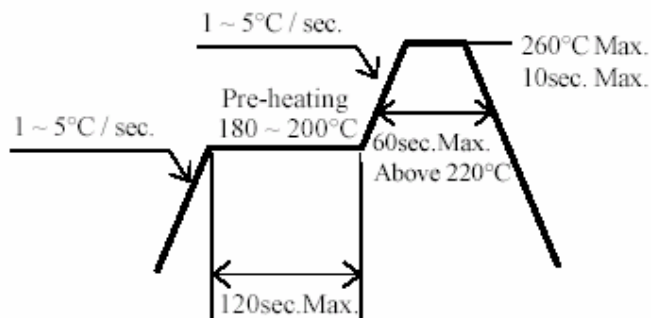
If unused LEDs remain, it should be stored in moisture proof packages.

2.4 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.

Baking treatment : $60\pm 5^{\circ}\text{C}$ for 24 hours.

3. Soldering Condition

3.1 Pb-free solder temperature profile



3.2 Reflow soldering should not be done more than two times.

3.3 When soldering, do not put stress on the LEDs during heating.

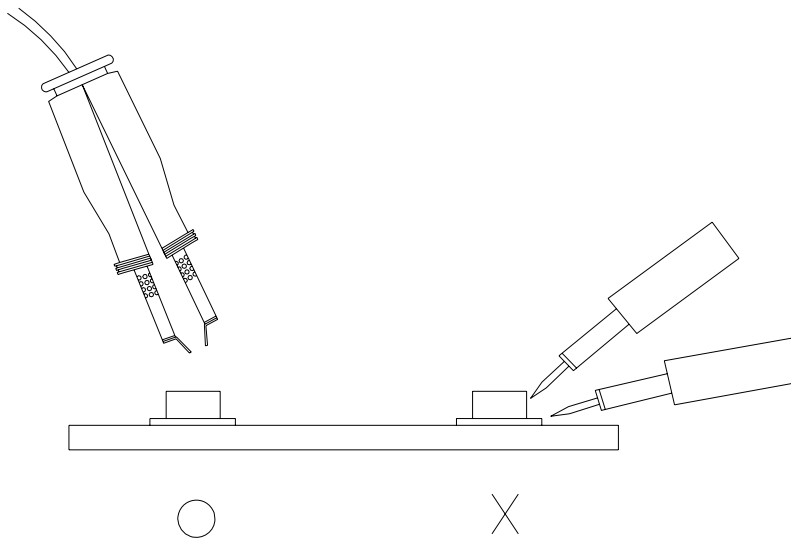
3.4 After soldering, do not warp the circuit board.

4.Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

5.Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



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