

CUSTOMER : _____

NO. : MK-2835WW15

EDIT :

DATE : 2018. 08. 10

SPECIFICATION FOR APPROVAL

PRODUCT : MK-2835WW15

Description : 2835 Warm White LED

APPROVAL			REVISION
CHK	CHK	APPD.	
REMARKS			



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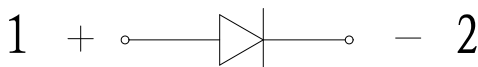
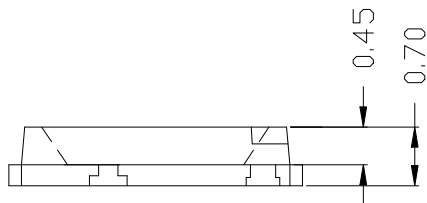
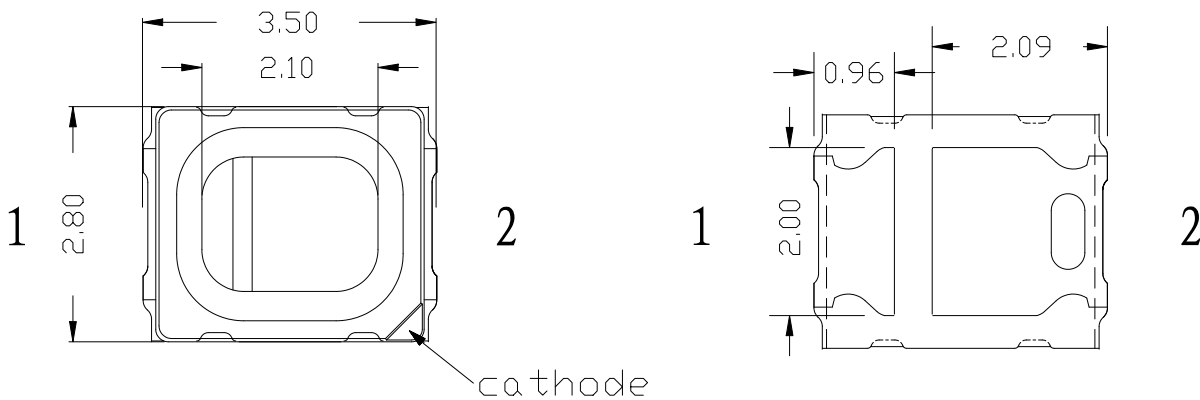
◆Features :

- * Small package with high efficiency
- * Low voltage operation, Instant light
- * Long operation life
- * Lead free product
- * RoHS compliant

◆Applications :

- * Mobile phone flash
- * Automotive interior lighting
- * Automotive forward lighting
- * Architectural lighting
- * LCD TV / Monitor backlight
- * Traffic signals
- * Task lighting
- * Decorative/ Pathway lighting
- * Remote / Solar powered lighting
- * Household appliances

◆Package Dimensions



Notes:

1. All dimensions are in mm
2. Tolerance is ± 0.2 mm unless otherwise noted.



◆ Absolute Maximum Ratings (T_A=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation	P _D	0.5	W
Forward Current	I _F	150	mA
Peak Forward Current	I _{FP}	200	mA
Operation Temperature Range	T _{opr}	-35 to +60	°C
Storage Temperature Range	T _{stg}	-40 to +70	°C
ESD Sensitivity (HBM)	--	2000	V
Soldering Temperature	300±20°C/3~5sec		

NOTE: * Pulse width ≤0.1msec Duty Ratio(≤1/10

◆ Electrical-Optical Characteristics (T_A=25°C)

Parameter	Test Condition	Symbol	Min	Typ	Max	Unit
Forward Voltage	I _F =150mA	V_F	---	3.2	---	V
Reverse Current	V _R =-5V	I_R	---	---	5	μA
View Angle	I _F =150mA	2θ_{1/2}	---	120	---	deg.
Luminous flux	I _F =150mA	Φ_v	60	---	65	lm
Color Coordinates	I _F =150mA	X	---	0.440	---	
		Y	---	0.403	---	
Color Temperature	I _F =150mA	CCT	---	3000	---	K
Color Rendering index	I _F =150mA	R_a	80	---	---	---
Color tolerance	I _F =150mA	SDCM	---	---	4	---

Note: the test tolerance

V_F : ±0.05V

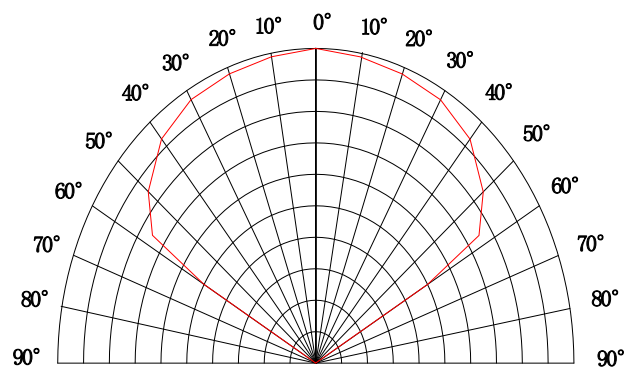
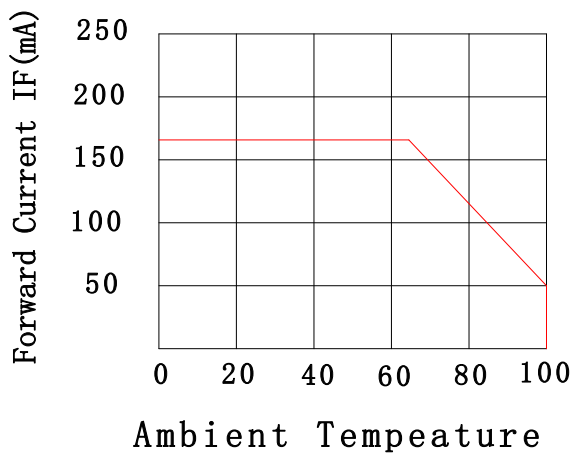
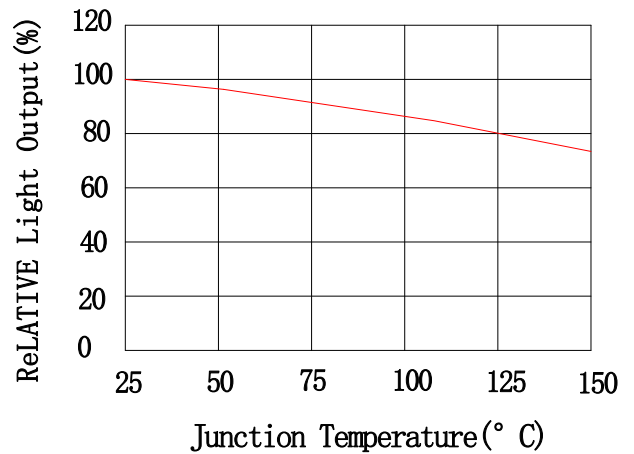
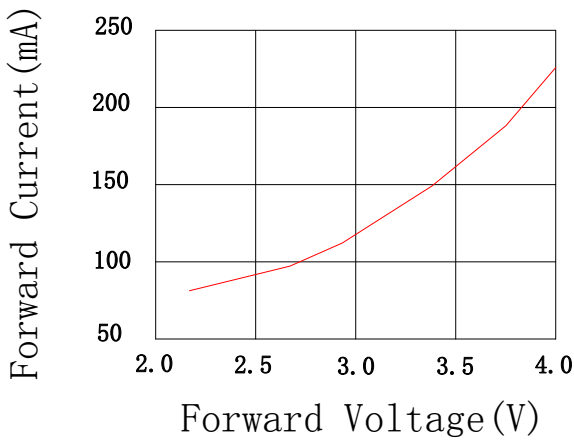
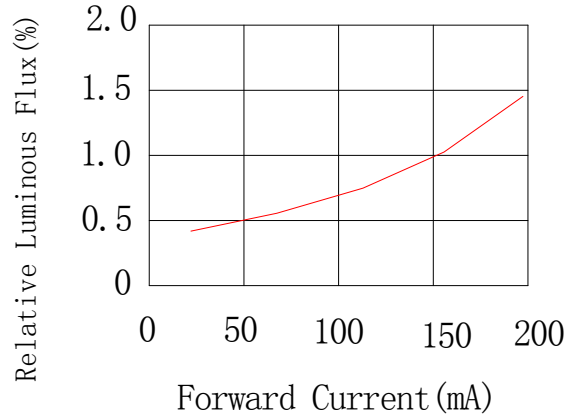
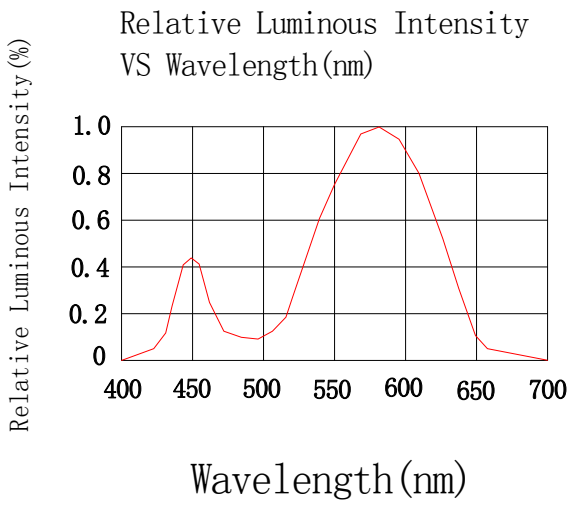
CCT : ±5%

XY : ±0.005

Φ_V : ±10%

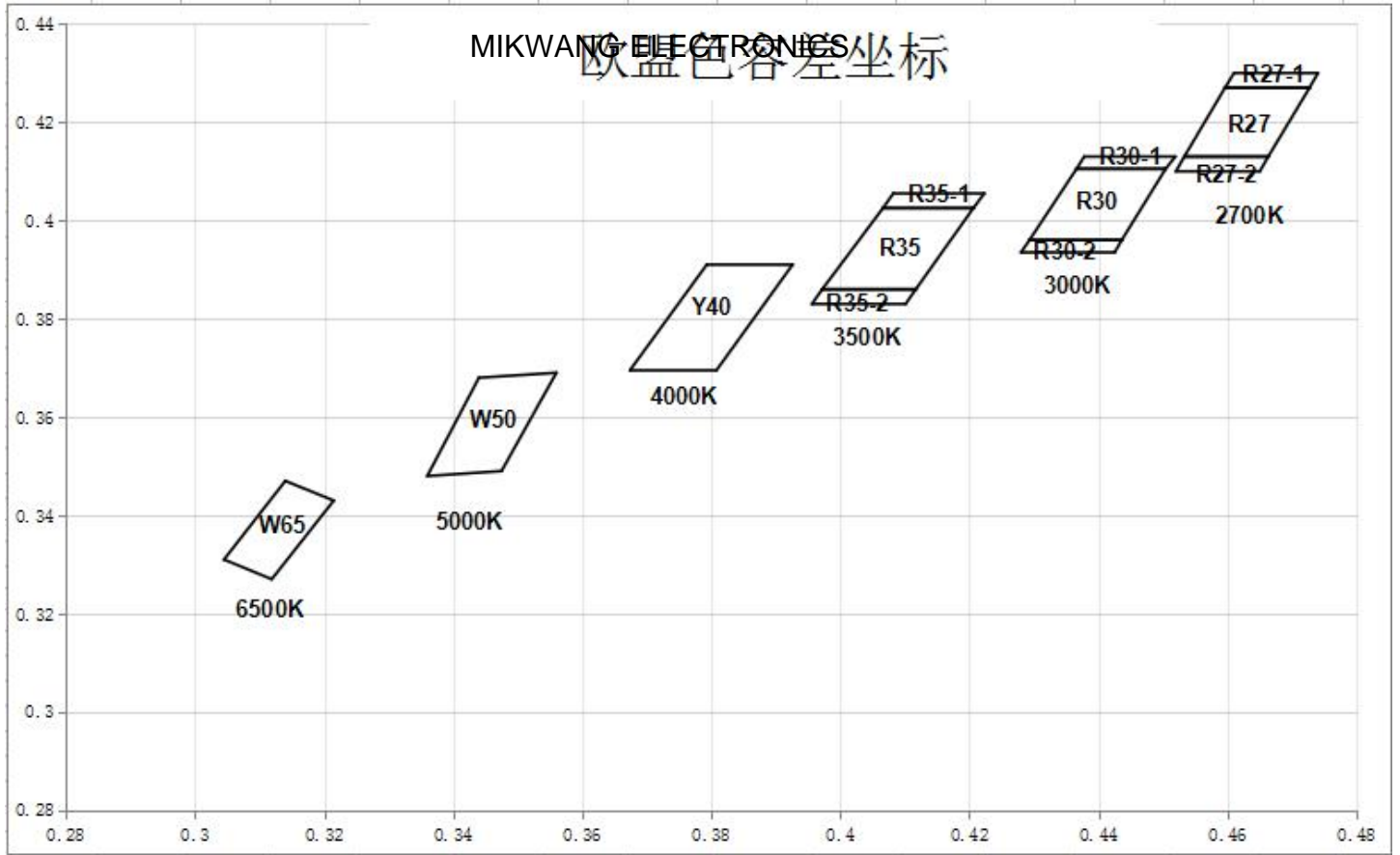


◆ Typical Electrical/Optical Characteristic Curves (If=150mA; TA=25°C)





◆ CIE Chromaticity Diagram:(If=150mA;TA=25°C)





Color RANK:(If=150mA;TA=25°C)

CODE	CCT	X	Y
W50	5000K	0.344	0.368
		0.336	0.348
		0.3475	0.349
		0.356	0.369

CODE	CCT	X	Y
W65	6500K	0.314	0.347
		0.3045	0.331
		0.3119	0.327
		0.3215	0.343

CODE	CCT	X	Y
Y40	4000K	0.3793	0.391
		0.3674	0.3695
		0.3808	0.3695
		0.3926	0.391

CODE	CCT	X	Y

CODE	CCT	X	Y
R27-1	2700K	0.461	0.43
		0.4596	0.427
		0.4727	0.427
		0.474	0.43
R27		0.4596	0.427
		0.4533	0.413
		0.4663	0.413
		0.4727	0.427
R27-2		0.4533	0.413
		0.452	0.41
		0.465	0.41
		0.4663	0.413

CODE	CCT	X	Y
R30-1	3000K	0.4378	0.413
		0.4366	0.4105
		0.4504	0.4105
		0.4519	0.413
R30		0.4366	0.4105
		0.4293	0.396
		0.4436	0.396
		0.4504	0.4105
R30-2		0.4293	0.396
		0.428	0.3935
		0.4425	0.3935
		0.4436	0.396

CODE	CCT	X	Y
R35-1	3500K	0.4082	0.4055
		0.4066	0.4025
		0.4206	0.4025
		0.4223	0.4055
R35		0.4066	0.4025
		0.3972	0.386
		0.4117	0.386
		0.4206	0.4025
R35-2		0.3972	0.386
		0.3956	0.383
		0.4101	0.383
		0.4117	0.386

CODE	CCT	X	Y

Reliability

1. Test Items And Results

Item	Test conditions	Note	Number of Damaged
Reflow	Temp:260°C max T=10 sec	2 time	0/30
Thermal Shock	-40~100°C 30min, 10s, 30min	100cycles	0/30
High Temperature High Humidity Storage	Ta=60°C, RH=90%	300hrs	0/30
Steady State Operating life	Ta=25°C, IF=150mA	1000hrs	0/30
Steady State Operating life of High Humidity Heat	Ta=60°C RH=90%, IF=150mA	1000hrs	0/30
High Temperature Storage	Ta=100°C	1000HRS	0/30
Low Temperature Storage	Ta=-40°C	1000HRS	0/30

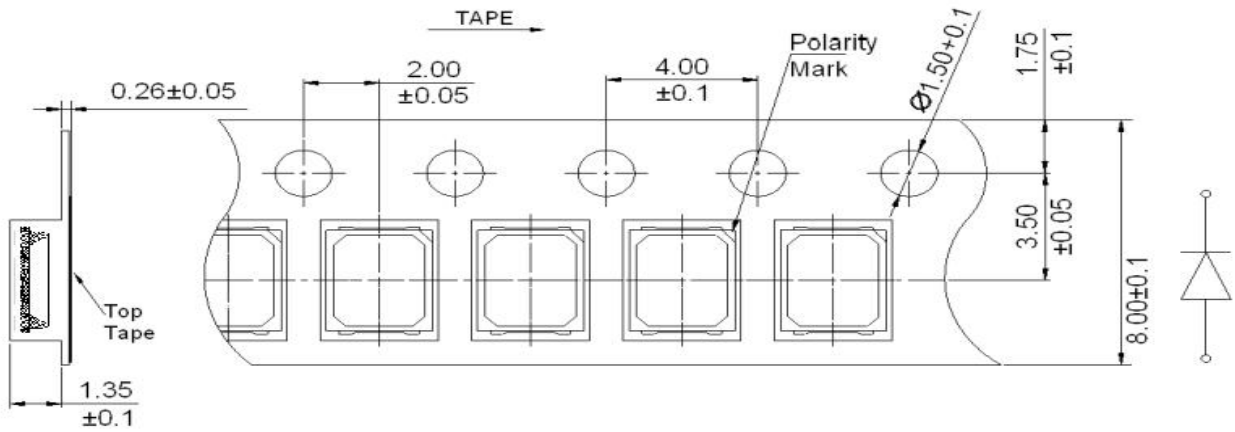
2. Criteria for Judging The Damage

Item	Symbol	Test Conditions	Criteria for Judgment	
			Min.	Max.
Forward Voltage	V _F	I _F = 150 mA	---	Initial Data × 1.1
Luminous Intensity	I _v	I _F = 150 mA	Initial Data × 0.9	---
Reverse Current	I _R	V _R = 5V	---	Initial Data × 2.0

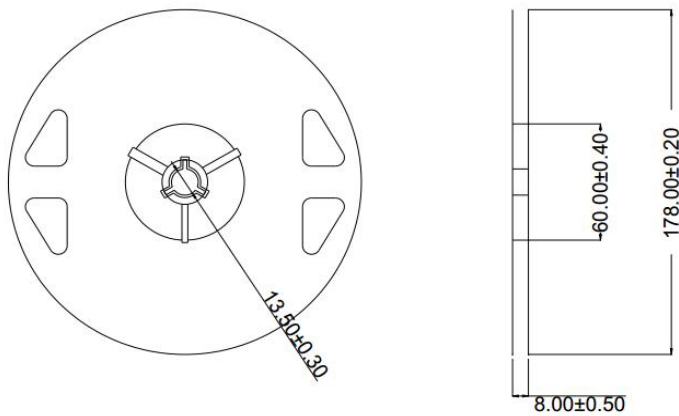


◆ Packaging Specifications

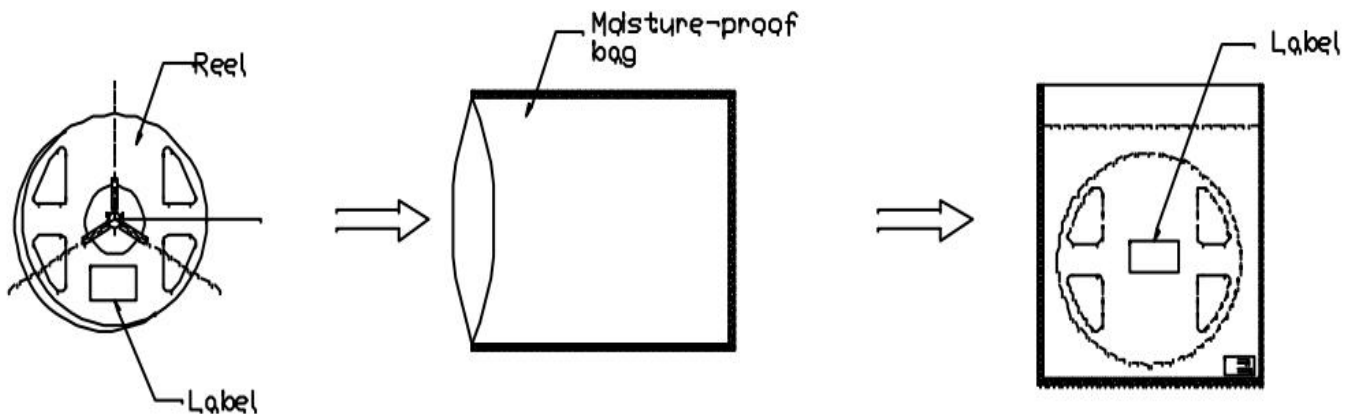
Dimensions of Tape



Dimensions of Reel



Packaging specifications



Label:

Φ (LM): Luminous flux rank

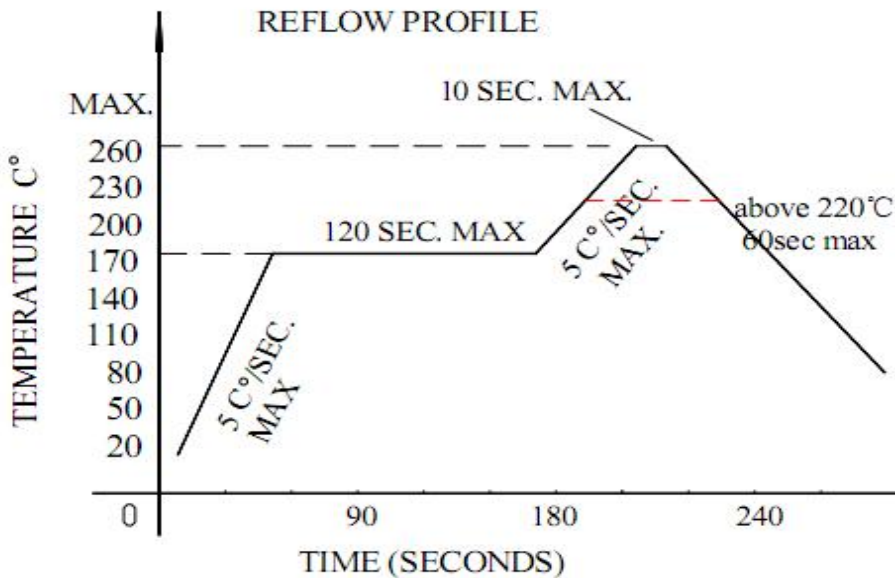
XY: Color Coordinates

VF: Forward Voltage

RA: Color Rendering index

MIKWANG ELECTRONICS CO., LTD			
Part NO. : XY-XXXXXXXX		Lot NO. : XX-XXX	Q'ty: XXXX PCS
Code	Min	Typ	Max
XY: XX	TC: XXXX		XXXX
PO: XX	Φ (LM): XX		XX
IF: XX	VF (V): XX		XX
SDCM: X	RA: XX		
BIN NO. : X-X-X	R θ : X	DATE: XXXX/XX/XX	
备注: XXXXXXXX XX (XX)			

◆ SMT Reflow Soldering Instructions



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

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

◆ Soldering iron

1. When hand soldering, keep the temperature of the iron under 300°C, and at that temperature keep the time under 3 sec.

