2.00*1.25 SMD

A-2012BUW-S

Features

• Single color.
• Viewing angle:120 deg
• The materials of the LED dice is InGaN
• RoHS compliant lead-free soldering compatible

Applications

• Optical indicator
• Indoor display
• Interior automotive lighting
• Backlight for LCD, switch and Symbol, display
• Light pipe application
• General use

Ordering Information

Part Number	Size	Dice	Lens Type	Luminous intensity(mcd) @20mA	
				Min.	Typ.
A-2012BUW-S	2.00*1.25*1.10mm	WHITE (InGaN)	Yellow Diffused	1000	1300

Note:
1.the above luminous intensity measurement allowance tolerance ±10%.

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Maximum Ratings

Parameter		Symbol	Value	Unit
Operating temperature		T_{OP}	-40 ~ +85	ºC
Storage temperature		T_{STG}	-40 ~ +100	ºC
DC Forward current (T_A=25 ºC)		I_F	30	mA
Pulse Forward Current [1]		I_{FP}	100	mA
Reverse voltage (T_A=25 ºC)		V_R	5	V
Electrostatic Discharge (HBM)		ESD	1000	V
Power Dissipation		Pd	105	mW

Electrical / Optical Characteristics (1)

(T_A = 25 ºC)

Parameter		Symbol	Value	Unit
Viewing angle at 50% [2] IF = 20mA	**(Typ.)**	**$2\theta_{1/2}$**	120	degree
Forward voltage IF = 20mA	**(Min.)**	**V_F**	2.80	V
	(Typ.)	**V_F**	-	V
	(Max.)	**V_F**	3.40	V
Reverse current IF = 20mA	**(Max.)**	**I_R**	10	µA
Color Rending Index IF = 20mA	**(Min.)**	**-**	65	-
Color Temperature IF = 20mA	**(Typ.)**	**Tc**	6500	K

Note:

1. 1/10 Duty cycle, 0.1ms pulse width.
2. 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
3. The above forward voltage measurement allowance tolerance ±0.1V.
4. The above color coordinates measurement allowance tolerance ±0.003.

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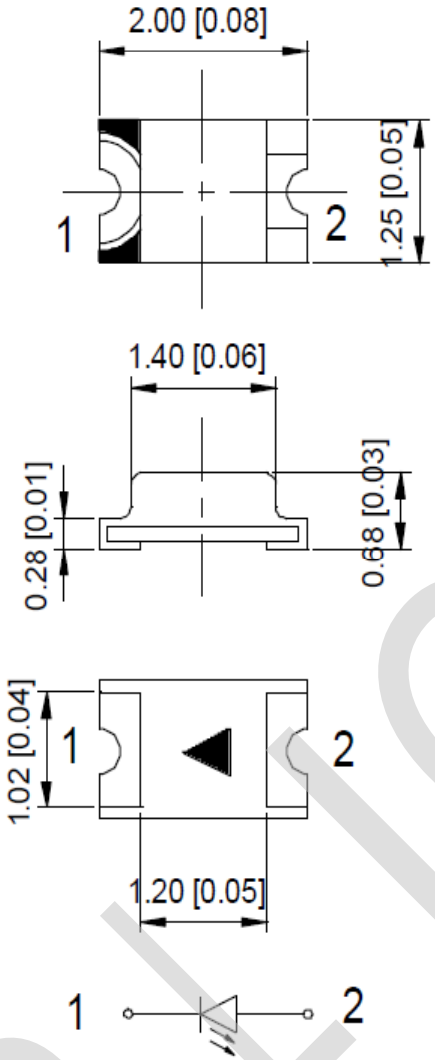
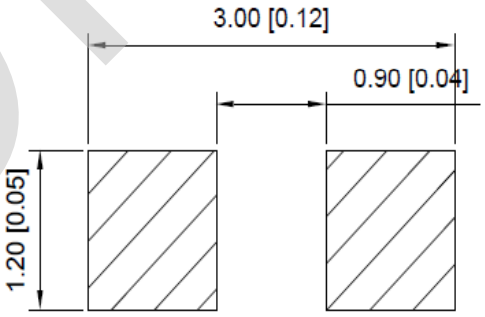
Package Dimensions



Recommended Soldering



Notes:

1. All dimensions are in millimeters.
2. All dimension tolerance is ±0.15mm unless otherwise noted.

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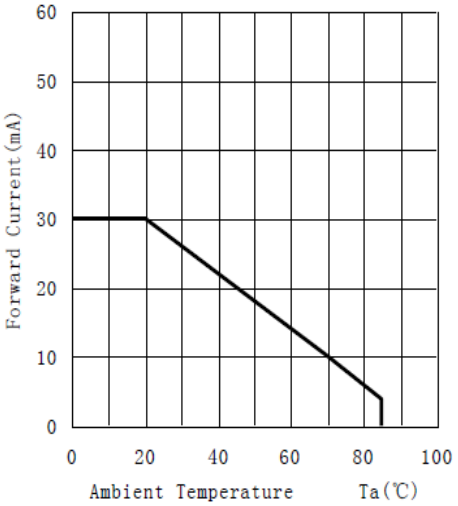
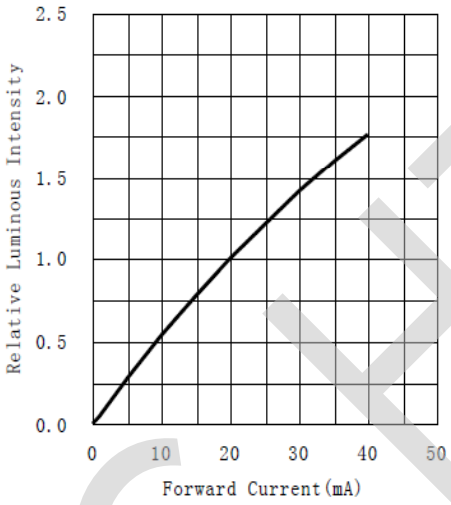
Electrical/Optical Charateristic (2)

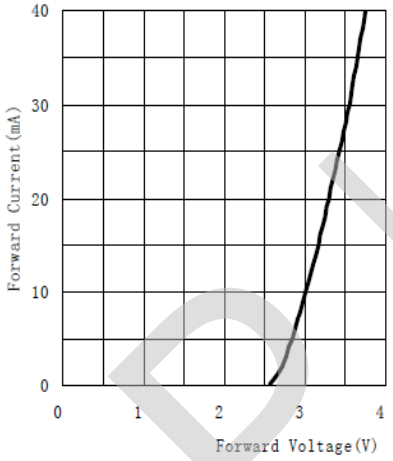
Ambient Temperature VS. Forward Current



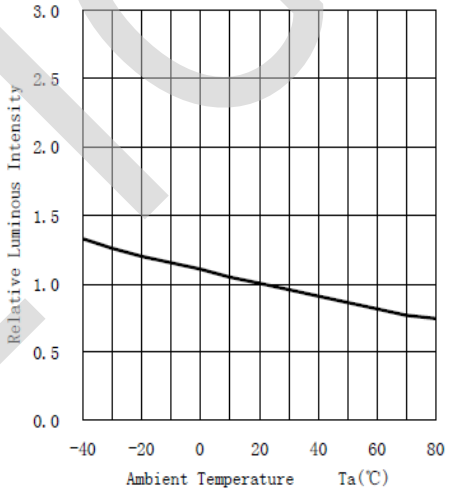
Forward Current VS. Relative Intensity



Forward Voltage VS. Forward Current



Ambient Temperature VS. Relative Intensity



Relative spectral emission

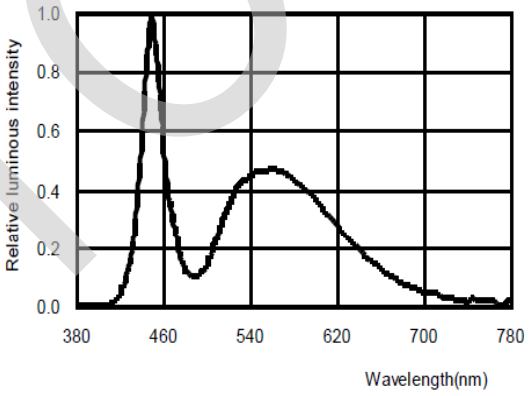
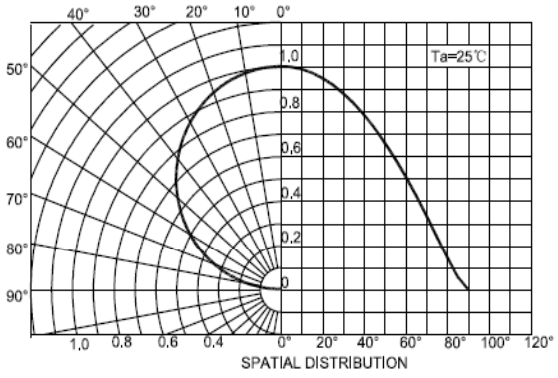


Diagram characteristics of radiation



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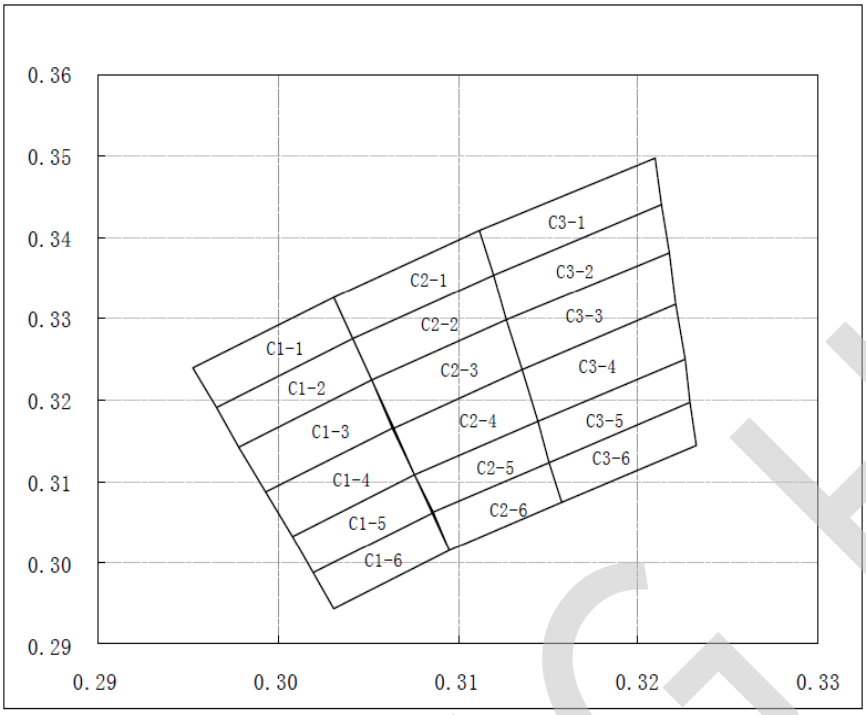
CIE Chromaticity Diagram



C1-1 7000-7500K				
X	0.2953	0.3031	0.3042	0.2966
Y	0.3240	0.3327	0.3276	0.3192

C1-2 7000-7500K				
X	0.2966	0.3042	0.3052	0.2978
Y	0.3192	0.3276	0.3224	0.3143

C1-3 7000-7500K				
X	0.2978	0.3052	0.3064	0.2993
Y	0.3143	0.3224	0.3166	0.3088

C1-4 7000-7500K				
X	0.2993	0.3064	0.3076	0.3008
Y	0.3088	0.3166	0.3108	0.3033

C1-5 7000-7500K				
X	0.3008	0.3076	0.3086	0.3020
Y	03033	0.3108	0.3062	0.2989

C1-6 7000-7500K				
X	0.3020	0.3086	0.3095	0.3031
Y	0.2989	0.3062	0.3015	0.2944

C2-1 6500-7000K				
X	0.3031	0.3112	0.3120	0.3042
Y	0.3327	0.3408	0.3354	0.3276

C2-2 6500-7000K				
X	0.3042	0.3120	0.3127	0.3052
Y	0.3276	0.3354	0.3299	0.3224

C2-3 6500-7000K				
X	0.3052	0.3127	0.3136	0.3064
Y	0.3224	0.3299	0.3237	0.3166

C2-4 6500-7000K				
X	0.3064	0.3136	0.3144	0.3076
Y	0.3166	0.3237	0.3174	0.3108

C2-5 6500-7000K				
X	0.3076	0.3144	0.3151	0.3086
Y	0.3108	0.3174	0.3124	0.3062

C2-6 6500-7000K				
X	0.3086	0.3151	0.3157	0.3095
Y	0.3062	0.3124	0.3074	0.3015

C3-1 6000-6500K				
X	0.3112	0.3209	0.3213	0.3120
Y	0.3408	0.3498	0.3440	0.3354

C3-2 6000-6500K				
X	0.3120	0.3213	0.3217	0.3127
Y	0.3354	0.3440	0.3382	0.3299

C3-3 6000-6500K				
X	0.3127	0.3217	0.3221	0.3136
Y	0.3299	0.3382	0.3317	0.3237

C3-4 6000-6500K				
X	0.3136	0.3221	0.3226	0.3144
Y	0.3237	0.3317	0.3251	0.3174

C3-5 6000-6500K				
X	0.3144	0.3226	0.3229	0.3151
Y	0.3174	0.3251	0.3198	0.3124

C3-6 6000-6500K				
X	0.3151	0.3229	0.3232	0.3157
Y	0.3124	0.3198	0.3145	0.3074

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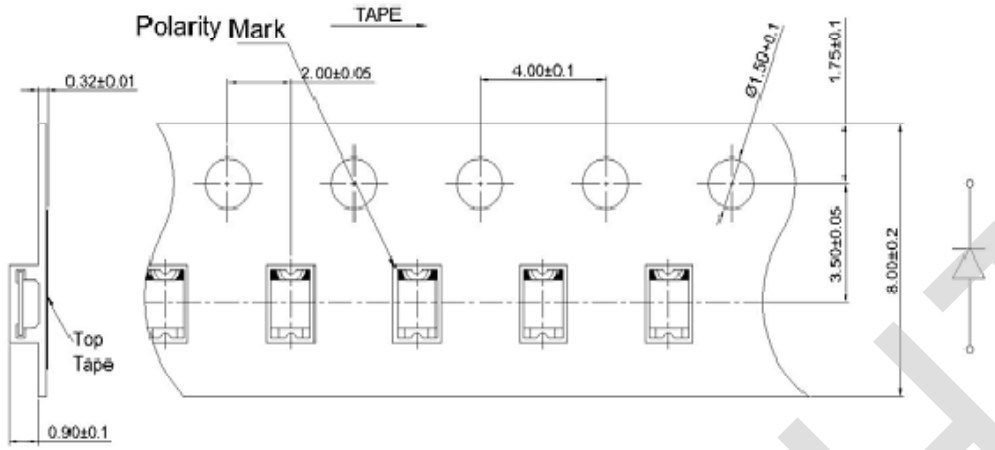
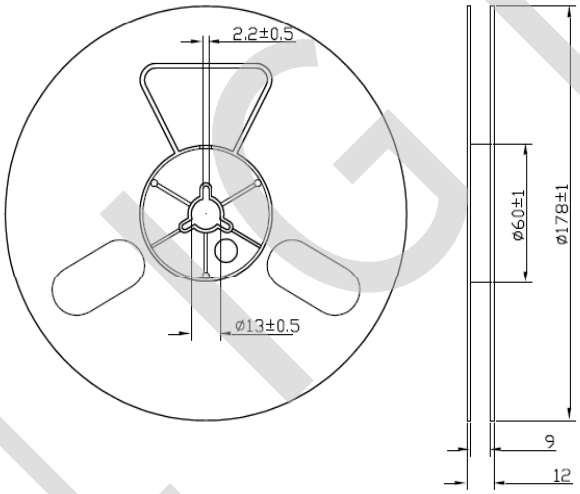
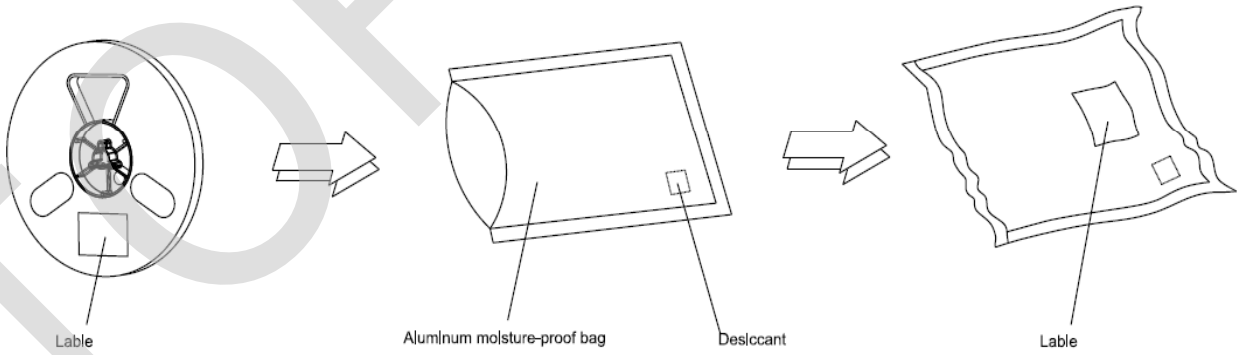
Package Outline Dimensions



Reel Dimensions



Moisture Resistant Packaging



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

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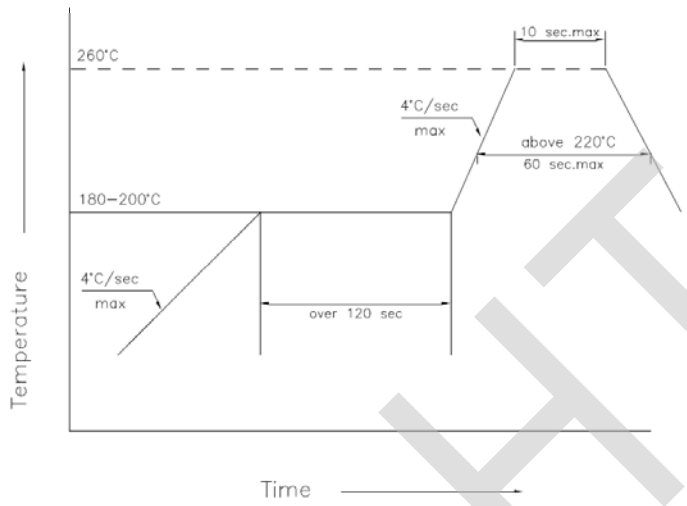
SMT Reflow Soldering Instructions

1.Reflow soldering should not be done more than two times
2.When soldering , do not put stress on the LEDs during heating

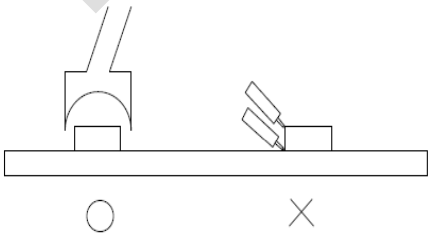


Soldering iron

1.When hand soldering, the temperature of the iron must less than 300℃ for 3 seconds
2.The hand solder should be done only one times

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 LEDs will or will not be damaged by repairing.



Cautions

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 use the picking up nozzle, the pressure on the silicone resin should be proper.

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