



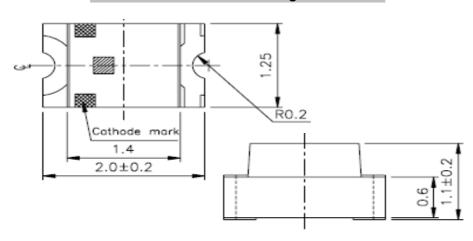




#### **Applications**

Interior automotive lighting
 Optical indicators
 Communication Products
 Backlighting
 Toys

#### **Technical Drawing**



#### **Recommended Soldering Pattern**

#### Notes:

All dimensions in mm tolerance is  $\pm 0.1$ mm unless otherwise noted.

### SMT Top View LED Red

Part No.: **M11E6010** 

DRW:	Dong	CHKD	Chang	MATL:	Chui	DATE	21.06.2010
APPD:	Ping			FINISH	Hui	Sheet	1 from 9









#### **Absolute Maximum Ratings**

Item	Symbol	AlGalnP	Unit
Power Dissipation	$P_{D}$		mW
DC Forward Current	I <sub>F</sub>		mA
Plused Forward Current	I <sub>FP</sub> *		mA
Reverse Voltage	$V_R$		V
Operating Temperature	T <sub>OP</sub>		°C
Storage Temperature	T <sub>ST</sub>		°C

<sup>\* 0.1</sup> msec pulse, 10% duty cycle

#### **Electrical / Optical Characteristics**

 $I_F=20mA$ 

Ermitting Color		Red	
Material		AlGalnP	
Forward Voltage	typ.	1.9	$V_{F}$
Torward Voltage	max.	2.4	$V_{F}$
Wavelength	λD	620	nm
	λP	635	nm
typ.	Δλ		nm
Color Temperature	min.		K
Color remperature	max.		K
Luminous Intensity *	min.	40	mcd
Lummous intensity	typ.	80	mcd
Reverse Current	max.		μA
Viewing Angle	2Θ1/2	120	

<sup>\*</sup> Per NIST standards

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APPD:	Ping			FINISH	Hui	Sheet	2 from 9

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#### **Directive Characteristics**

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APPD:	Ping			FINISH	Hui	Sheet	3 from 9

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#### Curvs

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DRW:	Dong	CHKD	Chang	MATL:	Chui	DATE	21.06.2010
APPD:	Ping			FINISH	Hui	Sheet	4 from 9

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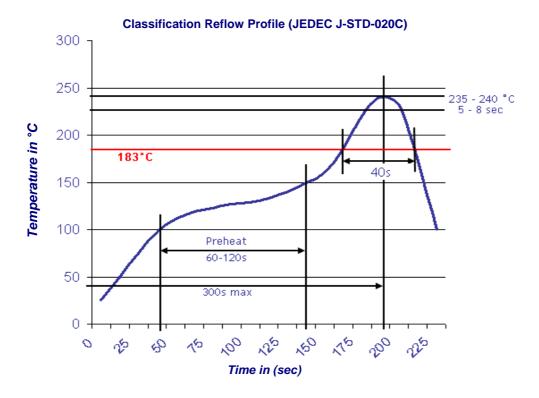






#### **Solder Condition**

#### Lead Free Solder



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Part No.: **M11E6010** 

DRW:	Dong	CHKD	Chang	MATL:	Chui	DATE	21.06.2010
APPD:	Ping			FINISH	Hui	Sheet	5 from 9

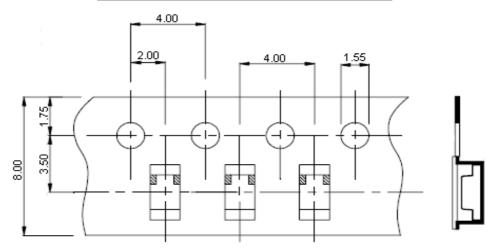




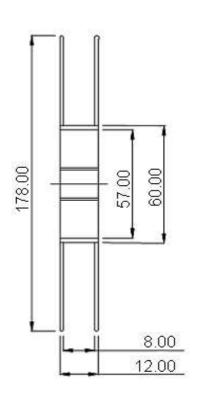


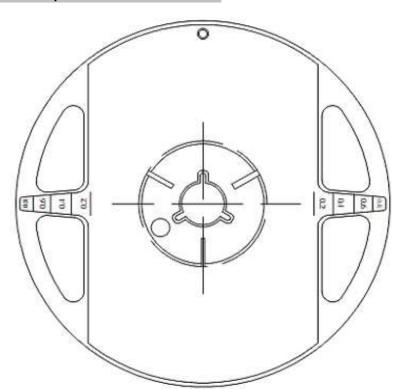


#### **Packing Specifications**



#### **Reel Specifications**





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DRW:	Dong	CHKD	Chang	MATL:	Chui	DATE	21.06.2010
APPD:	Ping			FINISH	Hui	Sheet	6 from 9





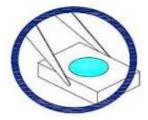




#### **Handling Precautions**

Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although ist characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force. As a result, special handling precautions need to be observed during assembly using silicone encapsulated LED products. Failure to comply might leads to damage and premature failure of th LED.

1. Handle the component along the side surfaces by using forceps or appropriate tools



2. Do not directly touch or handle the silicone lens surfance. It may damage the internal circuitry.





3. Do not stack together assembled PCBs containing exposed LEDs. Outside impact may scratch the silicone lens or damage the internal circuitry.



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Part No.: **M11E6010** 

DRW:	Dong	CHKD	Chang	MATL:	Chui	DATE	21.06.2010
APPD:	Ping			FINISH	Hui	Sheet	7 from 9

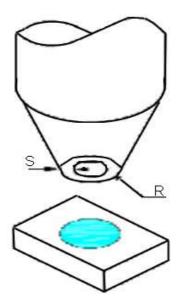








- 4. The outer diameter of the TOP LED pickup nozzle should not exceed the size of the LED to prevent air leaks. The inner diameter of the nozzle should be as large as possible.
- 5. A pliable material is suggested for the nozzle tip to avoid scratching or damaging the LED surface during pickup.
- 6. The dimensions of the component must be accurately programmed in the pick-and-place machine to insure precise pickup and avoid damage during production.



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DRW:	Dong	CHKD	Chang	MATL:	Chui	DATE	21.06.2010
APPD:	Ping			FINISH	Hui	Sheet	8 from 9

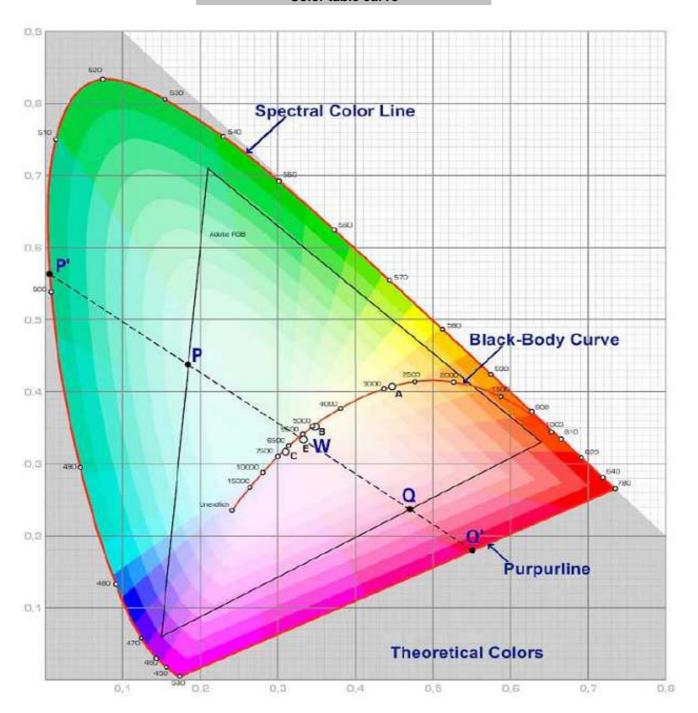








#### Color table curve



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DRW:	Dong	CHKD	Chang	MATL:	Chui	DATE	21.06.2010
APPD:	Ping			FINISH	Hui	Sheet	9 from 9