

### **Primax**<sup>™</sup>

Synonymous with function and performance, enter the Primax, the new era of high intensity illumination in LED. With its high flux output and high luminous intensity, Primax transcends today LED lightings technology and how we perceive it. The small package outline (3.5 x 3.5 x 1.2 mm) and high intensity make it an ideal choice for backlighting, signage, exterior automotive lighting and decorative lighting.



### **Features:**

- > Super high brightness surface mount LED
- > 120° viewing angle.
- > Compact package outline (LxW) of 3.5 x 3.5 mm.
- > Ultra low height profile - 1.2mm.
- > Low thermal resistance.
- > Compatible to IR reflow soldering.
- > Environmental friendly; RoHS compliance.



### **Applications:**

- > Lighting: garden light, architecture lighting, general lighting. etc
- > Backlighting (TFT LCD display), flash light, architectural lighting.

### Optical Characteristics at Tj=25°C

Part Ordering Number	Color	Viewing Angle°	Luminous Intensity @ IF = 60mA IV (mcd)		
			Min.	Typ.	Max.
NA2W-PSG-Z1Z2-1	White	120	4500.0	5500.0	7150.0

NOTE

1. Luminous intensity is measured with an accuracy of ± 11%.
2. Wavelength binning is carried for all units as per the wavelength-binning table. Only one wavelength group is allowed for each reel.

### Electrical Characteristics at Tj=25°C

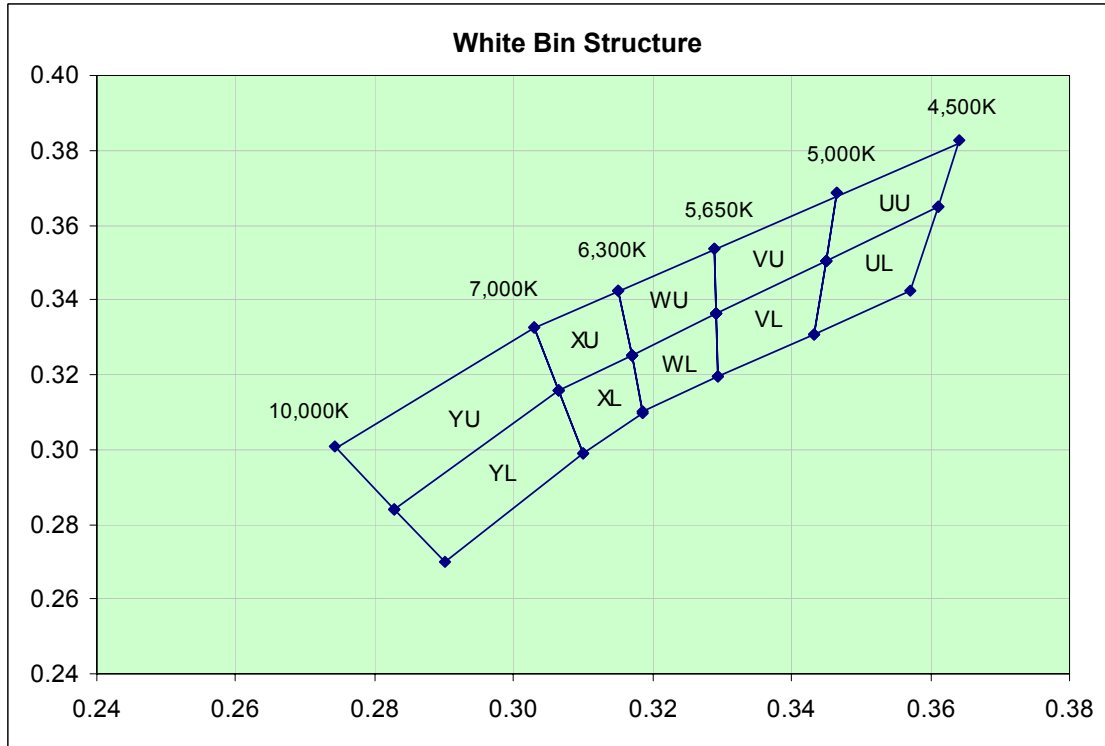
Part Number	Vf @ If = 60 mA		
	Min. (V)	Typ. (V)	Max. (V)
NA2W-PSG	2.9	3.4	3.9

Forward Voltages are tested using a current pulse of 1 ms and has an accuracy of ± 0.1 V.

### Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	70	mA
Peak pulse current	200	mA
Reverse Voltage	5	V
ESD threshold (HBM)	2000	V
LED junction temperature	125	°C
Operating temperature	-40 ... +100	°C
Storage temperature	-40 ... +100	°C
Thermal resistance		
- Junction / ambient, R <sub>th JA</sub>	200	K/W
- Junction / solder point, R <sub>th JS</sub>	90	K/W
(Mounting on FR4 PCB, pad size >= 16 mm <sup>2</sup> per pad)		

**NA2W-PSG, White Color Grouping**



Chromaticity coordinate groups are measured with an accuracy of  $\pm 0.01$ .

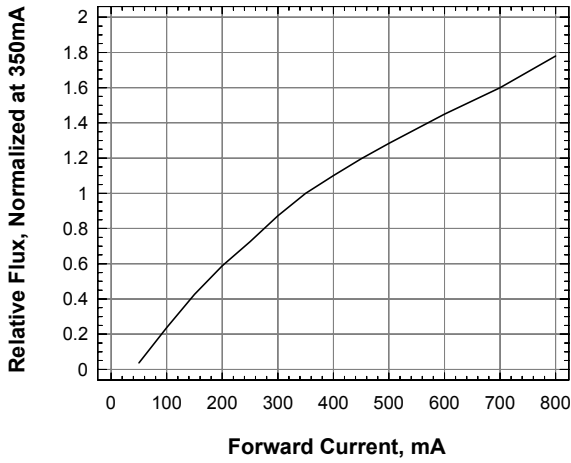
Bin		1	2	3	4
YU	Cx	0.274	0.283	0.307	0.303
	Cy	0.301	0.284	0.316	0.333
YL	Cx	0.283	0.290	0.310	0.307
	Cy	0.284	0.270	0.299	0.316
XU	Cx	0.303	0.307	0.317	0.315
	Cy	0.333	0.316	0.325	0.343
XL	Cx	0.307	0.310	0.319	0.317
	Cy	0.316	0.299	0.310	0.325
WU	Cx	0.315	0.317	0.329	0.329
	Cy	0.343	0.325	0.336	0.354
WL	Cx	0.317	0.319	0.329	0.329
	Cy	0.325	0.310	0.319	0.336
VU	Cx	0.329	0.329	0.345	0.347
	Cy	0.354	0.336	0.350	0.368
VL	Cx	0.329	0.329	0.343	0.345
	Cy	0.336	0.319	0.331	0.350
UU	Cx	0.347	0.345	0.361	0.364
	Cy	0.368	0.350	0.365	0.383
UL	Cx	0.345	0.343	0.357	0.361
	Cy	0.350	0.331	0.343	0.365

Dominant color coordinate is measured with an accuracy of  $\pm 0.01$ .

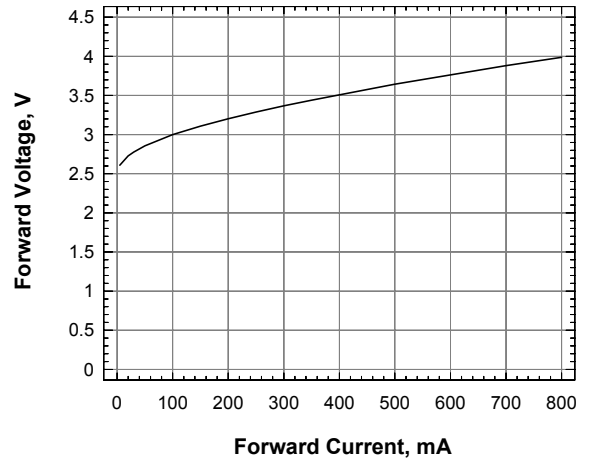
Brightness Group	Luminous Intensity @ IV (mcd)	Approximate Flux @ (lm) Typ.
Z1	4500.0...5600.0	12.6
Z2	5600.0...7150.0	15.9

Luminous intensity is measured with an accuracy of  $\pm 8\%$ .

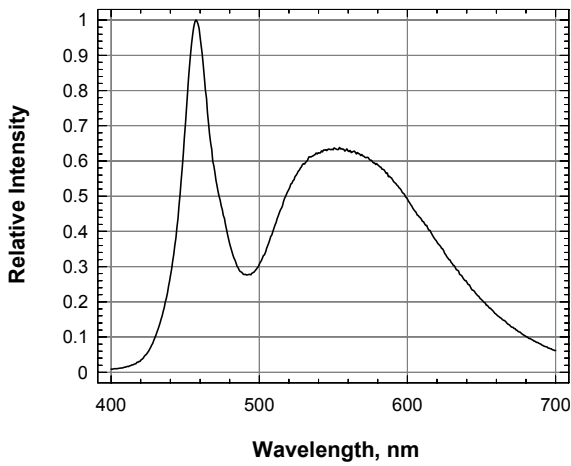
**Relative Flux Vs Forward Current**



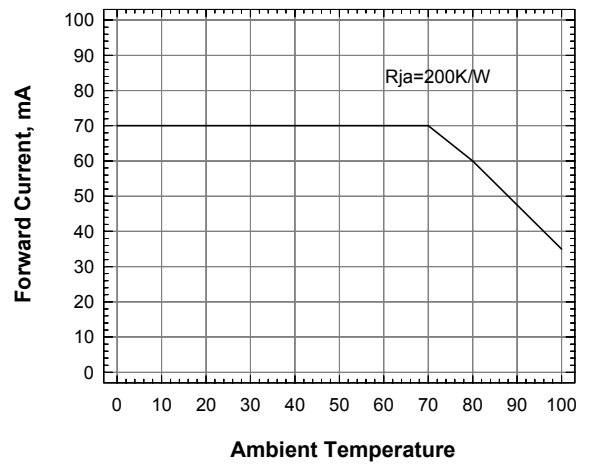
**Forward Voltage Vs Forward Current**



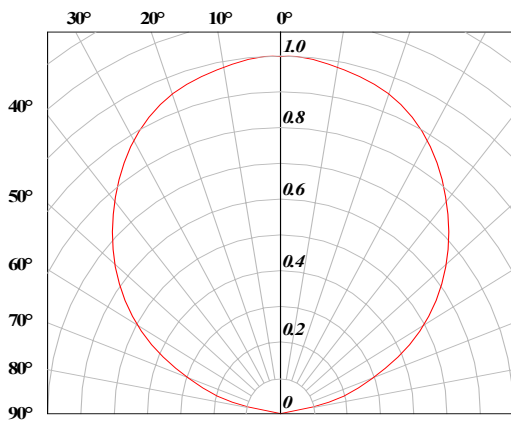
**Relative Intensity Vs Wavelength**



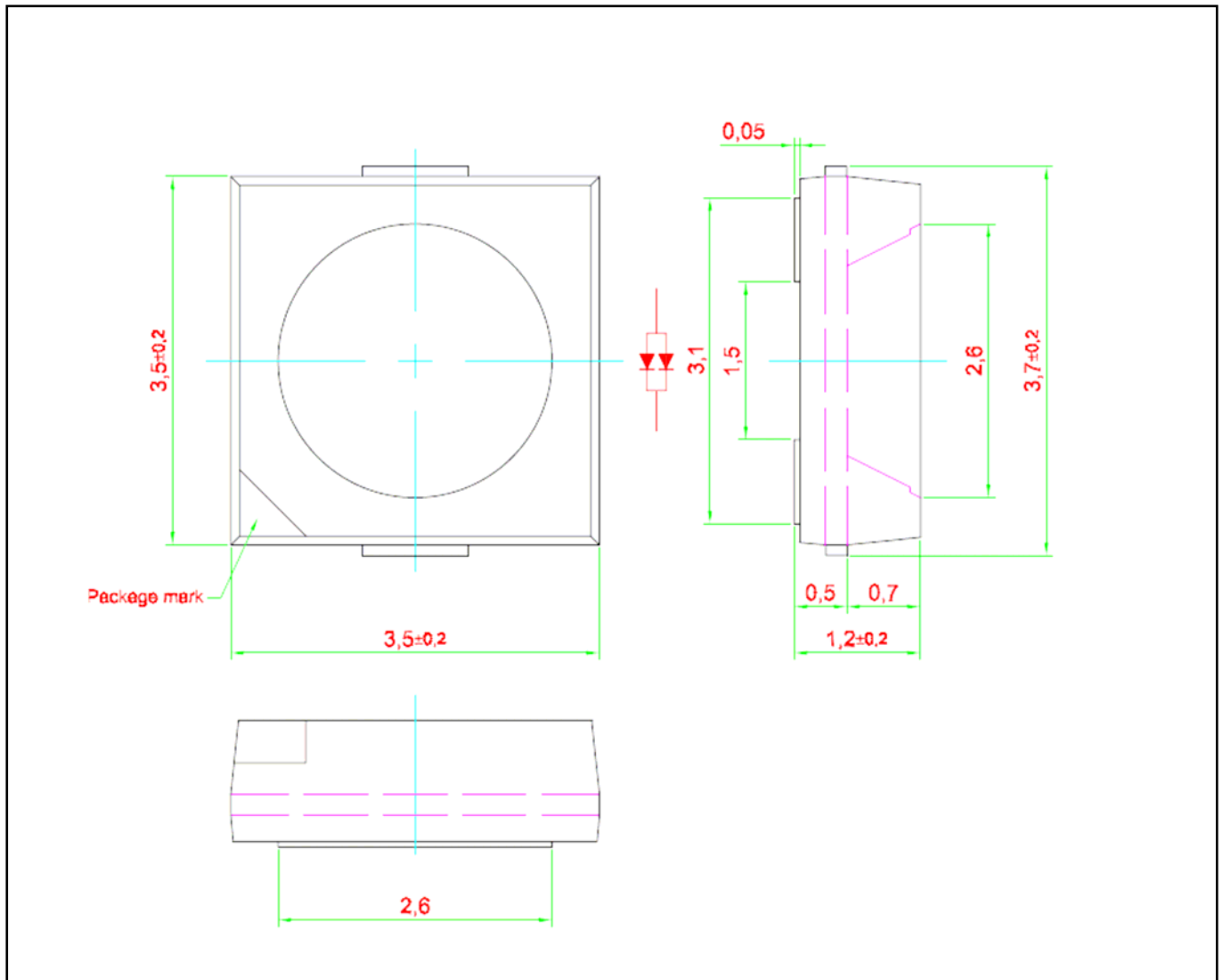
**Maximum Current Vs Ambient Temperature**



**Radiation Pattern**



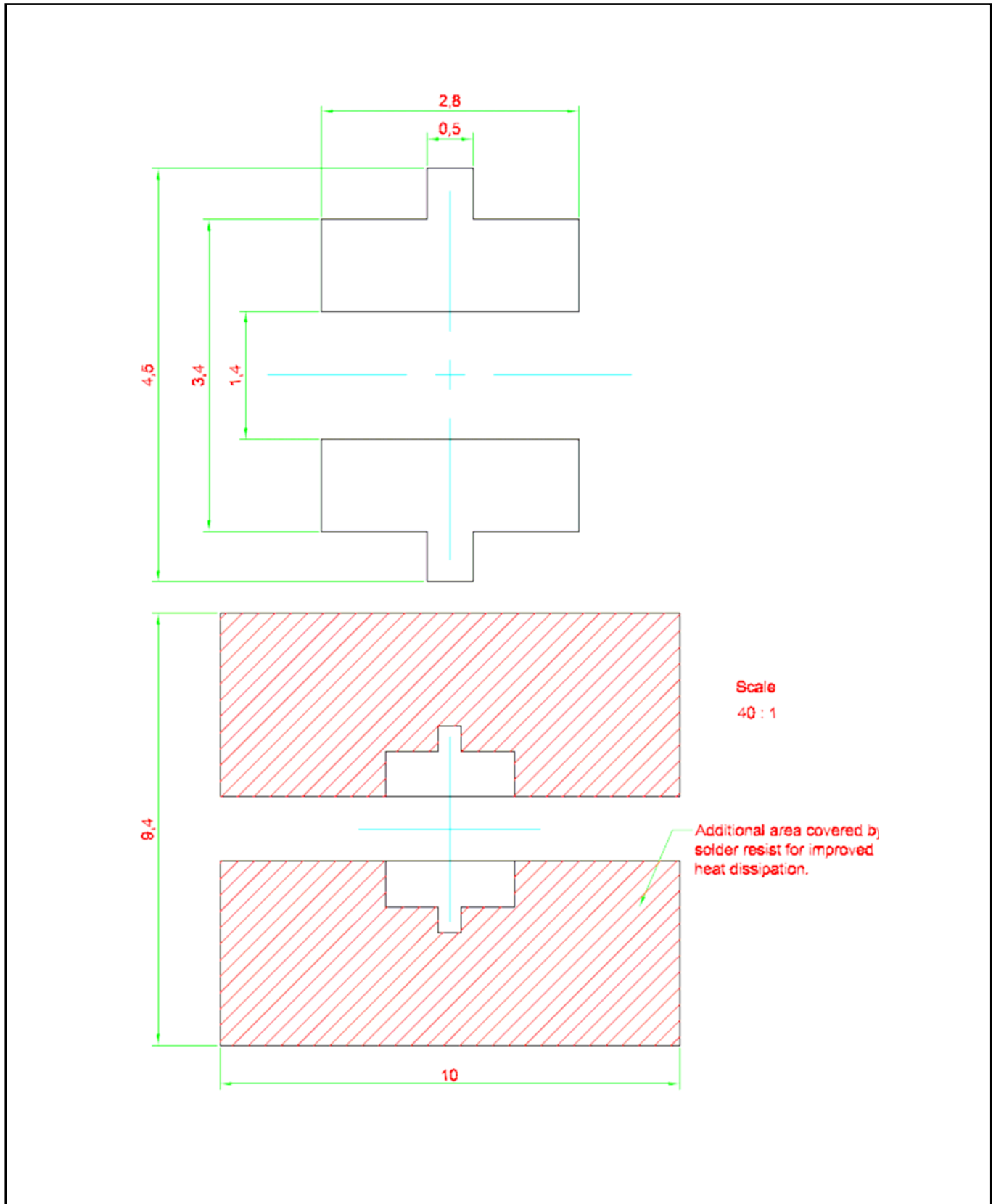
**Primax™ • InGaN White : NA2W-PSG Package Outlines**



**Material**

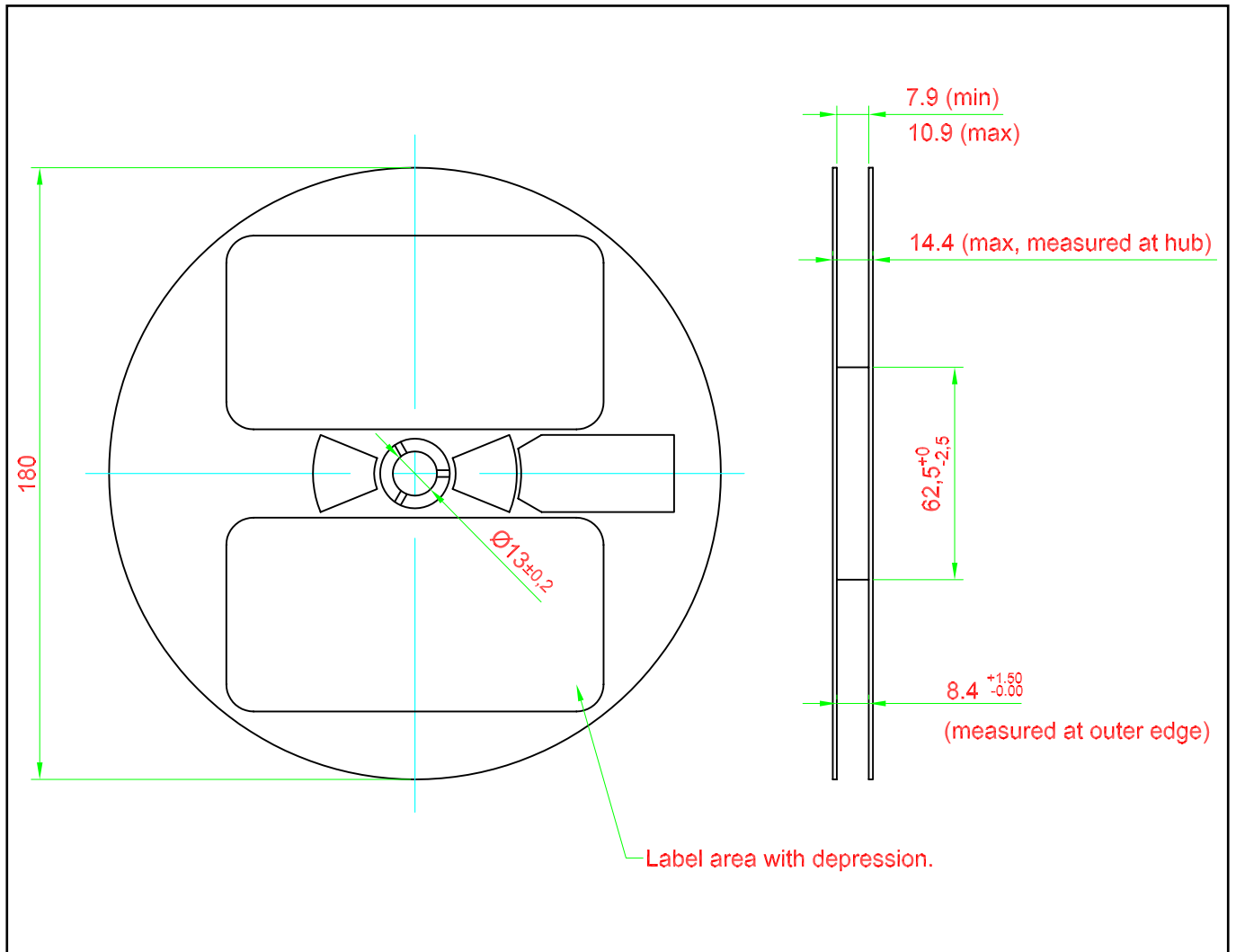
	Material
Lead-frame	Cu Alloy With Ag Plating
Package	High Temperature Resistant Plastic, PPA
Encapsulant	Silicone Resin
Soldering Leads	Sn-Sn Plating

**Recommended Solder Pad**

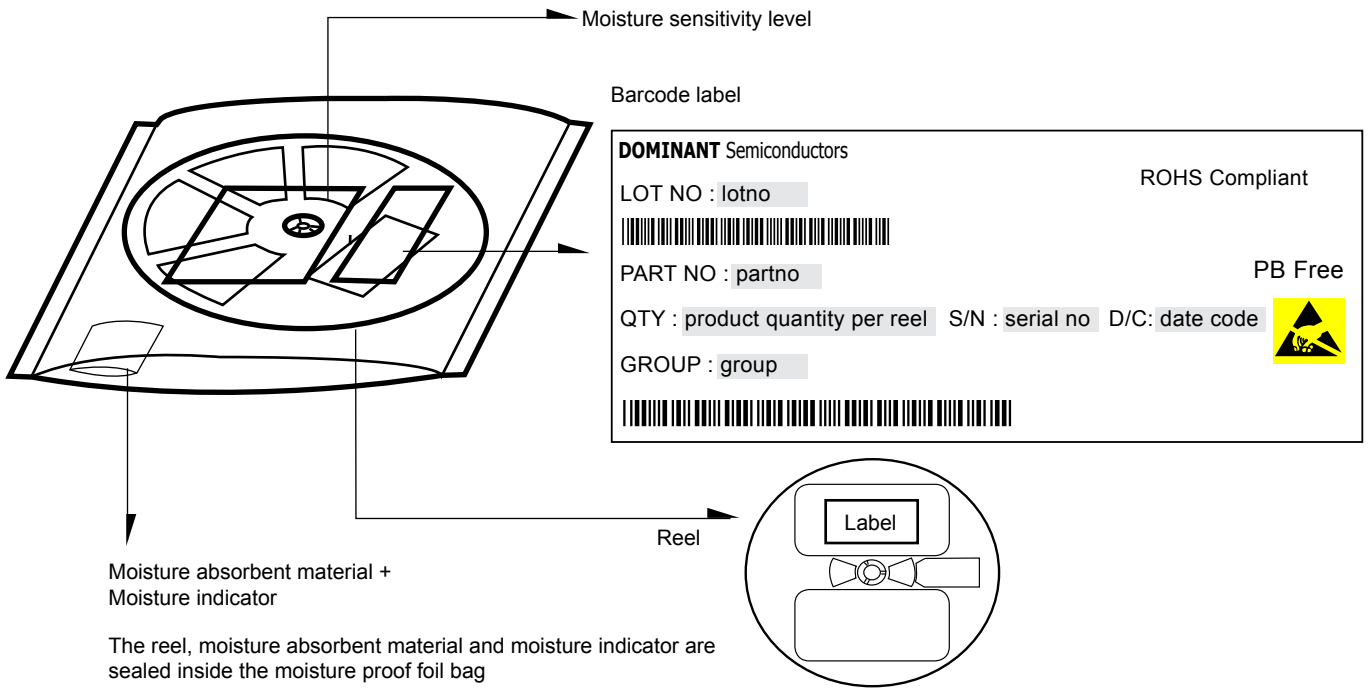




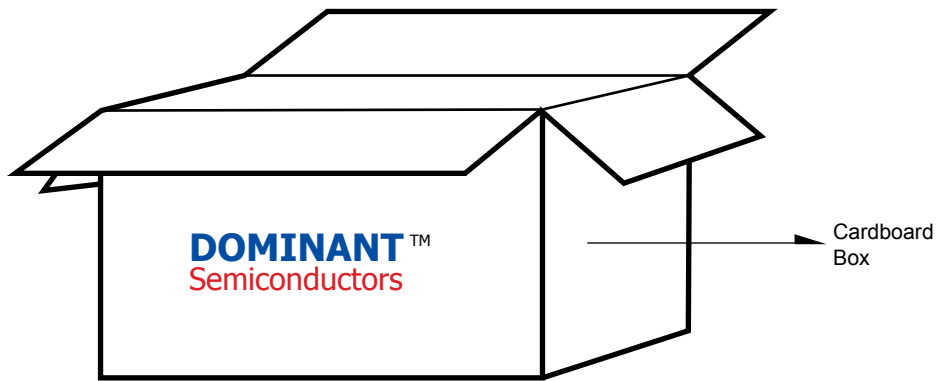
**Packaging Specification**



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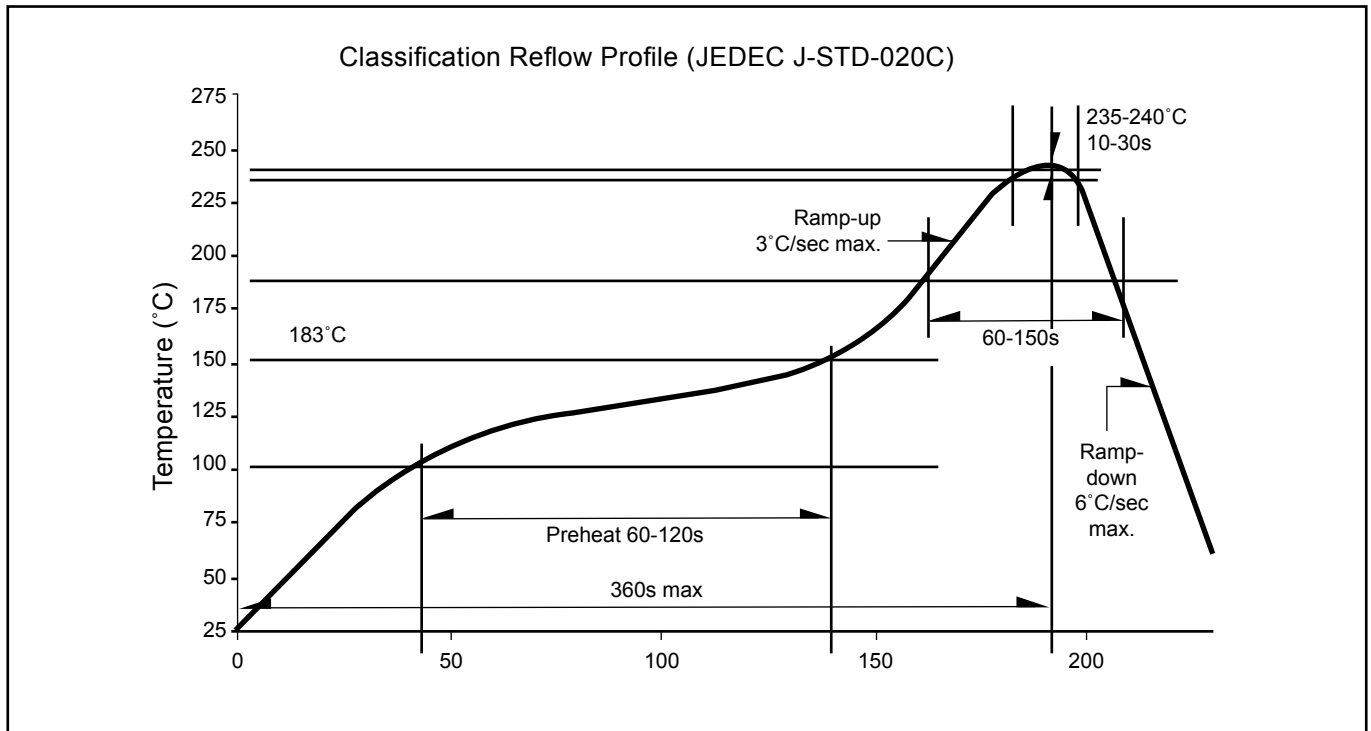
	Average 1pc Primax	1 completed bag (1000pcs)
Weight (gram)	0.041	160 ± 10



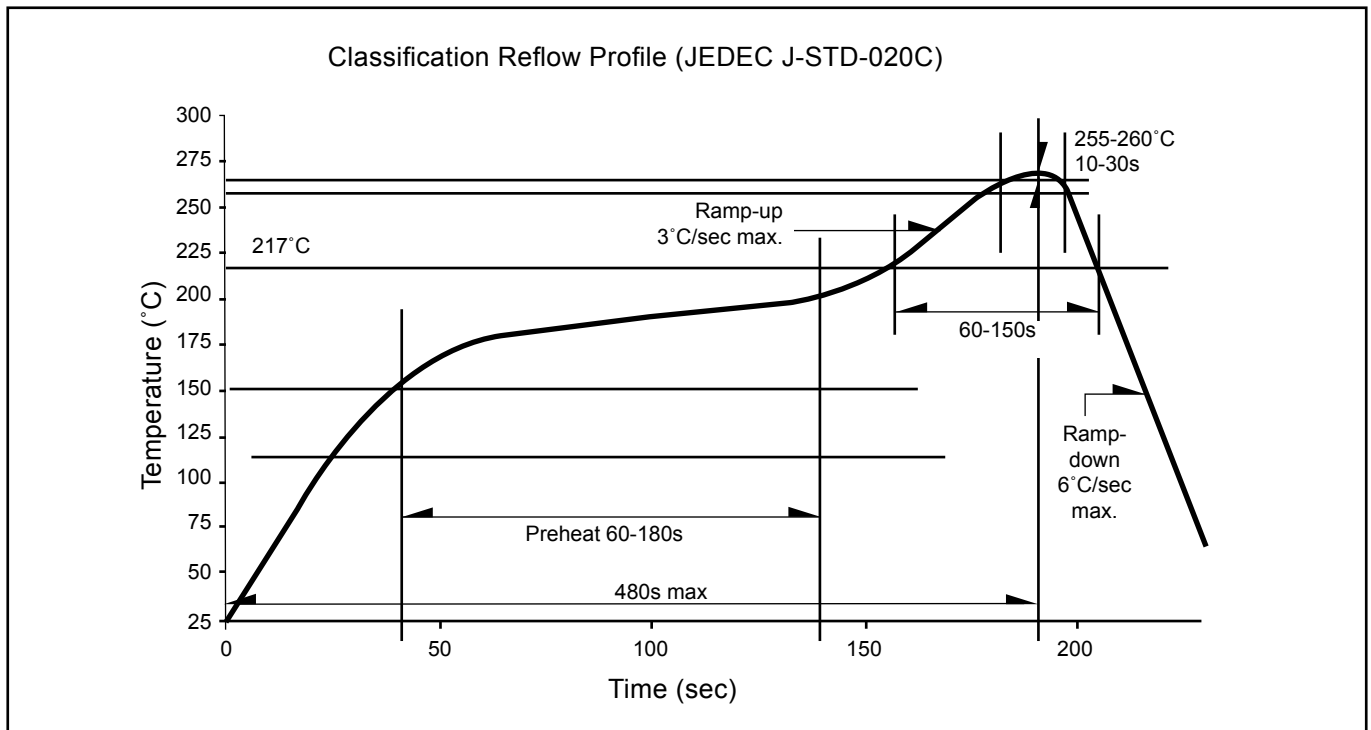
**For DomiLED™**

Cardboard Box Size	Dimensions (mm)	Empty Box Weight (kg)	Reel / Box	Quantity / Box (pcs)
Large	416 x 516 x 476	1.74	20 reels MAX	20,000 MAX

**Recommended Sn-Pb IR-Reflow Soldering Profile**



**Recommended Pb-free Soldering Profile**



**Revision History**

Page	Subjects	Date of Modification
-	Initial Release	30 Oct 2008
2	Update Thermal Resistance	09 Dec 2008
5	Add Maximum Current Vs Ambient Temperature Graph	15 Jan 2009

**NOTE**

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DOMINANT Semiconductors is a dynamic Malaysian Corporation that is among the world's leading SMT LED Manufacturers. An excellence – driven organization, it offers a comprehensive product range for diverse industries and applications. Featuring an internationally certified quality assurance acclaim, DOMINANT's extra bright LEDs are perfectly suited for various lighting applications in the automotive, consumer and communications as well as industrial sectors. With extensive industry experience and relentless pursuit of innovation, DOMINANT's state-of-art manufacturing, research and testing capabilities have become a trusted and reliable brand across the globe. More information about DOMINANT Semiconductors can be found on the Internet at <http://www.dominant-semi.com>.

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