

Power DomiLEDTM

With its significant power in terms brightness, viewing angle and variety of application possibilities, Power DomiLEDTM truly is a standout performer! Ideal for automotive interior lighting as well as home, office and industrial applications, it is also a proven performer in electronic signs and signals.



Features:

- > High brightness surface mount LED.
- > Long lifetime up to 50,000 hours due to silicone encapsulation.
- > 120° viewing angle.
- > Small package outline (LxWxH) of 3.2 x 2.8 x 1.8mm.
- > Qualified according to JEDEC moisture sensitivity Level 2.
- > Compatible to IR reflow soldering.
- > Environmental friendly; RoHS compliance.



Applications:

> Automotive:

Interior applications, eg: switches, telematics, climate control system, dashboard, etc.

Exterior applications, eg: signal lighting, Center High Mounted Stop Light (CHMSL)

> Signage: full colour display video notice board, signage, special effect lighting.

> Industrial: white goods (eg: Oven, microwave, etc.), light bar, illuminated advertising.

> Lighting: architecture lighting, general lighting, garden light, channel light.



Optical Characteristics (Tj=25°C)

Part Ordering Number	Color	Viewing Angle°	Total Flux @ IF=30mA, mlm	Luminous Intensity @ 30mA IV (mcd)		
				Min.	Typ.	Max.
● DWW-YJG-W2X-5K8L	White	120	3500 - 7125	1400.0	2240.0	2850.0
DWW-YJG-XY1-5K8L	White	120	4500 - 8875	1800.0	2850.0	3550.0

● Not for new design

NOTE

- All part number above comes in a quantity of 2000 units per reel.
- Other luminous intensity groups may also be available upon request.
- Luminous intensity is measured with an accuracy of $\pm 11\%$.
- Wavelength binning is carried for all units as per the wavelength-binning table. Only one wavelength group is allowed for each reel.
- InGaN wavelength is very sensitive to drive current. Operating at lower current is not recommended and may yield unpredictable performance. Current pulsing should be used for dimming purposes.
- An optional Vf binning is also available upon request. Binning scheme is as per following table.
- Data provided for luminous flux is based on approximation.

Electrical Characteristics at Tj=25°C

Part Number	Min. (V)	Vf @ If = 30mA		Vr @ Ir = 10uA
		Typ. (V)	Max. (V)	Min. (V)
DWW	2.90	3.40	3.80	5

Forward voltages are measure using a current pulse of 1 ms and with an accuracy of $\pm 0.1V$.

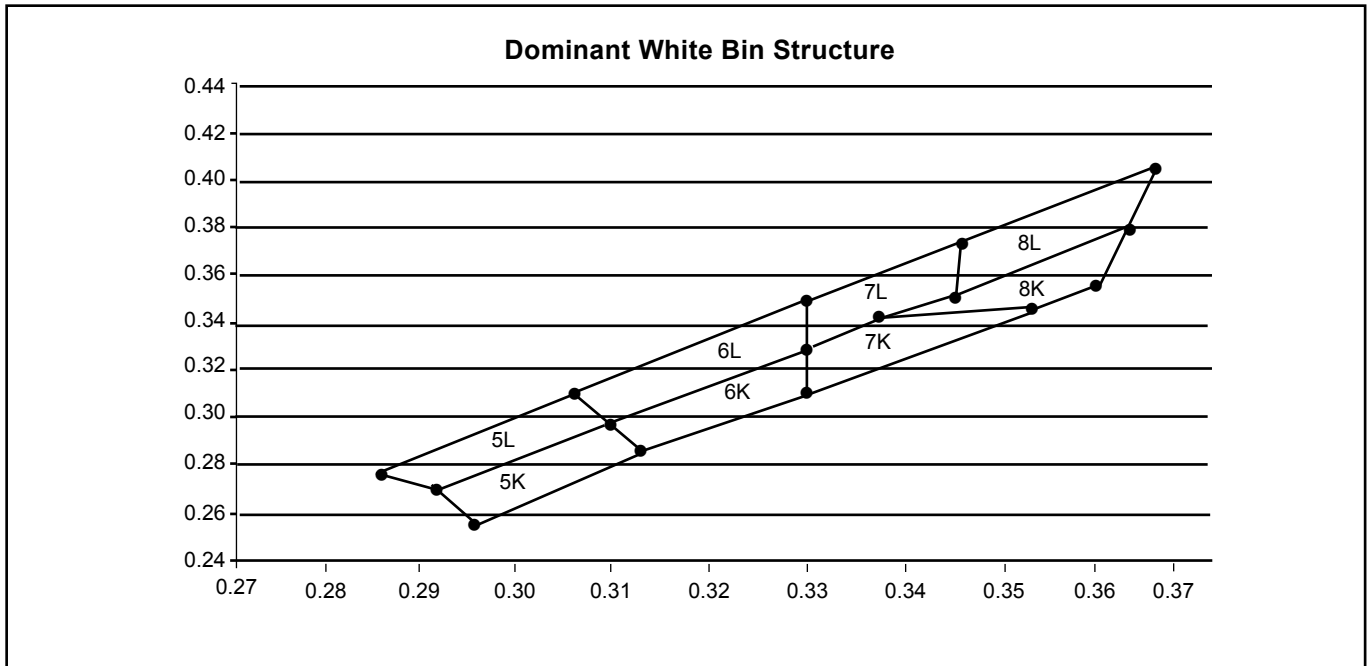
Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	50	mA
Peak pulse current; (tp \leq 10 μ s, Duty cycle = 0.1)	300	mA
Reverse voltage; Ir (max) = 10 μ A	5	V
ESD Threshold (HBM)	2	kV
LED junction temperature	125	°C
Operating temperature	-40 ... +110	°C
Storage temperature	-40 ... +110	°C
Power dissipation (at room temperature)	200	mW
Thermal resistance		
- Junction / ambient, Rth JA	300	K/W
- Junction / solder point, Rth JS	180	K/W
(Mounting on FR4 PCB, pad size \geq 16 mm ² per pad)		

Characteristics

	Symbol	Part Number	Value	Unit
Temperature coefficient of V_F (typ) $I_F = 30\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	TC_V	DWW-YJG	-3.60	mV / K
Temperature coefficient of I_V (typ) $I_F = 30\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	TC_{IV}	DWW-YJG	-6.10	mcd / K
Temperature coefficient of C_x (typ) $I_F = 30\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	TC_{Cx}	DWW-YJG	-0.0002	
Temperature coefficient of C_y (typ) $I_F = 30\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	TC_{Cy}	DWW-YJG	-0.0003	

DWW-YJG, White Color Grouping



Chromaticity coordinate groups are measured with an accuracy of ± 0.01 .

Bin					
5K	Cx	0.296	0.291	0.310	0.313
	Cy	0.259	0.268	0.297	0.284
5L	Cx	0.291	0.285	0.307	0.310
	Cy	0.268	0.279	0.312	0.297
6K	Cx	0.313	0.310	0.330	0.330
	Cy	0.284	0.297	0.330	0.310
6L	Cx	0.310	0.307	0.330	0.330
	Cy	0.297	0.312	0.347	0.330
7K	Cx	0.330	0.330	0.338	0.352
	Cy	0.310	0.330	0.342	0.344
7L	Cx	0.330	0.330	0.347	0.345
	Cy	0.330	0.347	0.371	0.352
8K	Cx	0.352	0.338	0.364	0.360
	Cy	0.344	0.342	0.380	0.357
8L	Cx	0.345	0.347	0.367	0.364
	Cy	0.352	0.371	0.401	0.380

Dominant color coordinate is measured with an accuracy of ± 0.01 .

Luminous Intensity Group at Tj=25°C

Brightness Group	Luminous Intensity @ IV (mcd)
W2	1400.0...1800.0
X1	1800.0...2240.0
X2	2240.0...2850.0
Y1	2850.0...3550.0

Luminous intensity is measured with an accuracy of ± 11%.

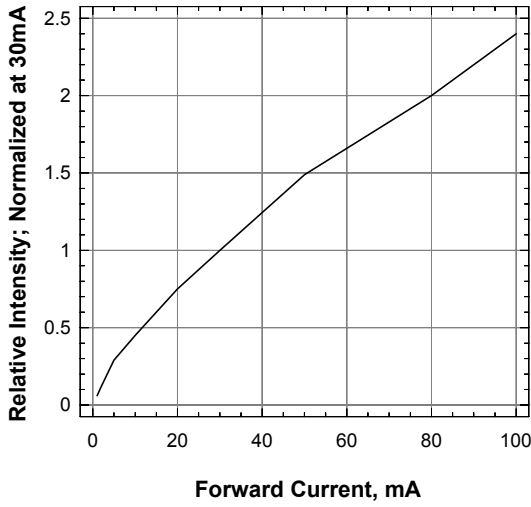
Vf Bining (Optional)

Vf @ If = 30mA	Forward Voltage (V)
34	2.90 ... 3.20
35	3.20 ... 3.50
36	3.50 ... 3.80

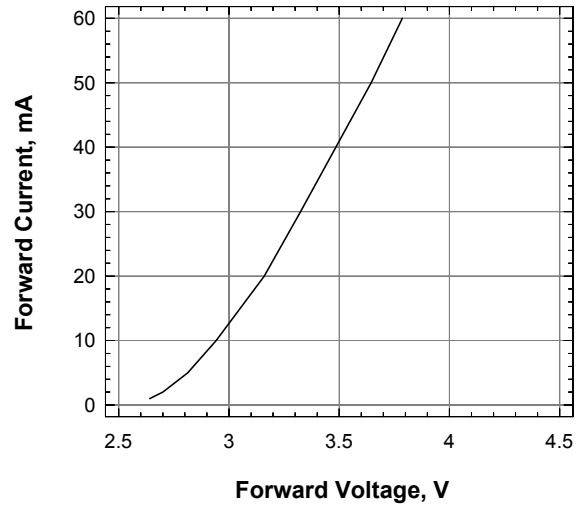
Forward voltage, Vf is measured with an accuracy of ± 0.1V.

Please consult sales and marketing to incorporate special part number to incorporate Vf binning.

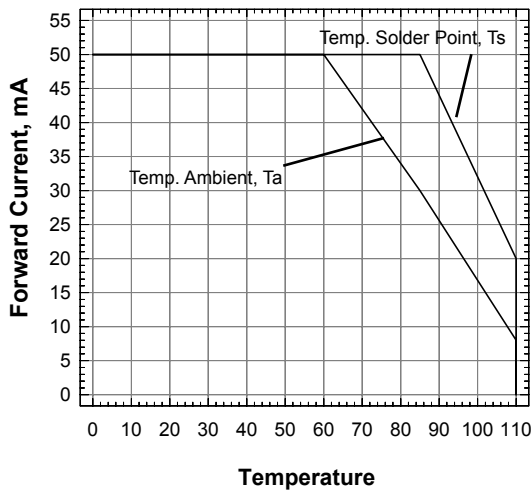
Relative Intensity Vs Forward Current



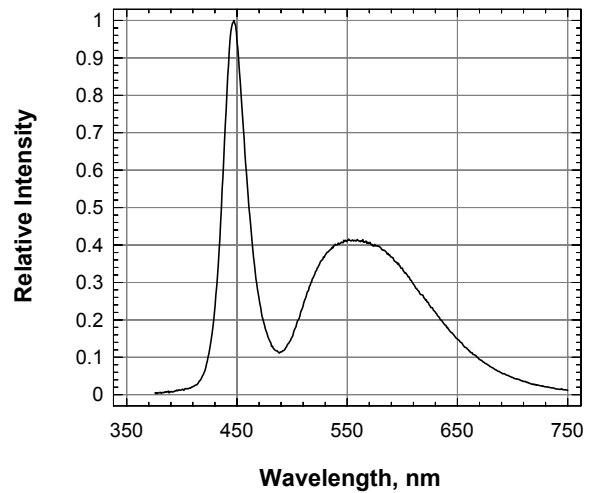
Forward Current Vs Forward Voltage



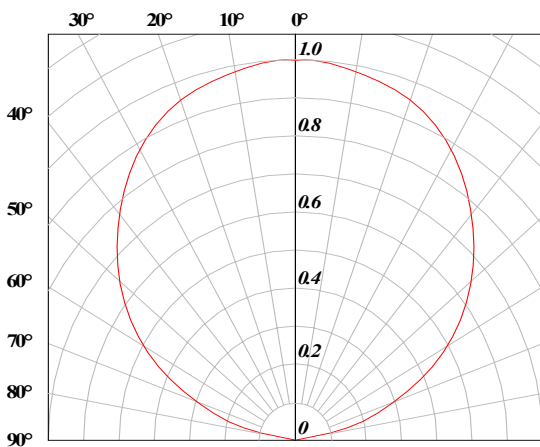
Maximum Forward Current Vs Temperature



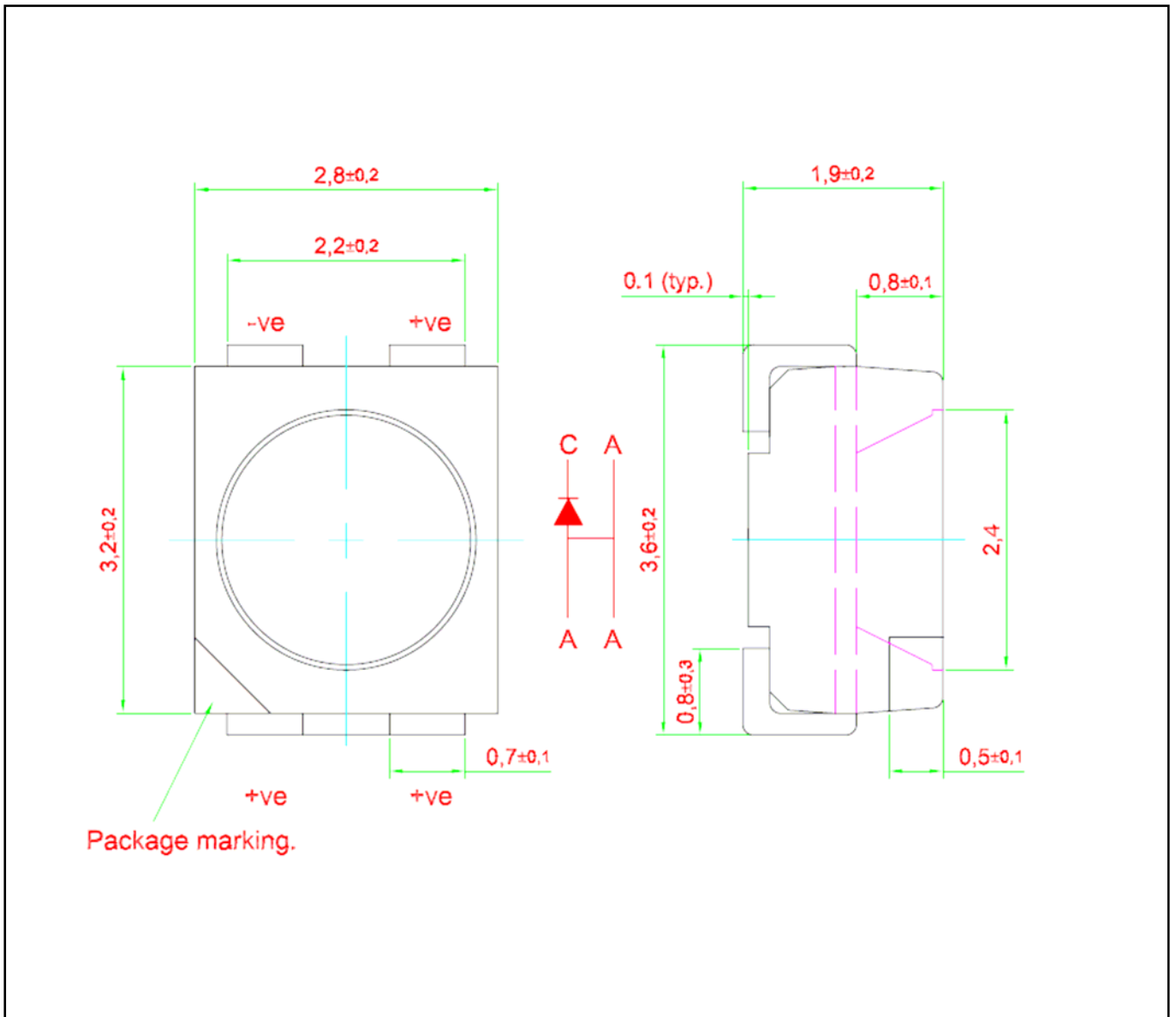
Relative Intensity Vs Wavelength



Radiation Pattern



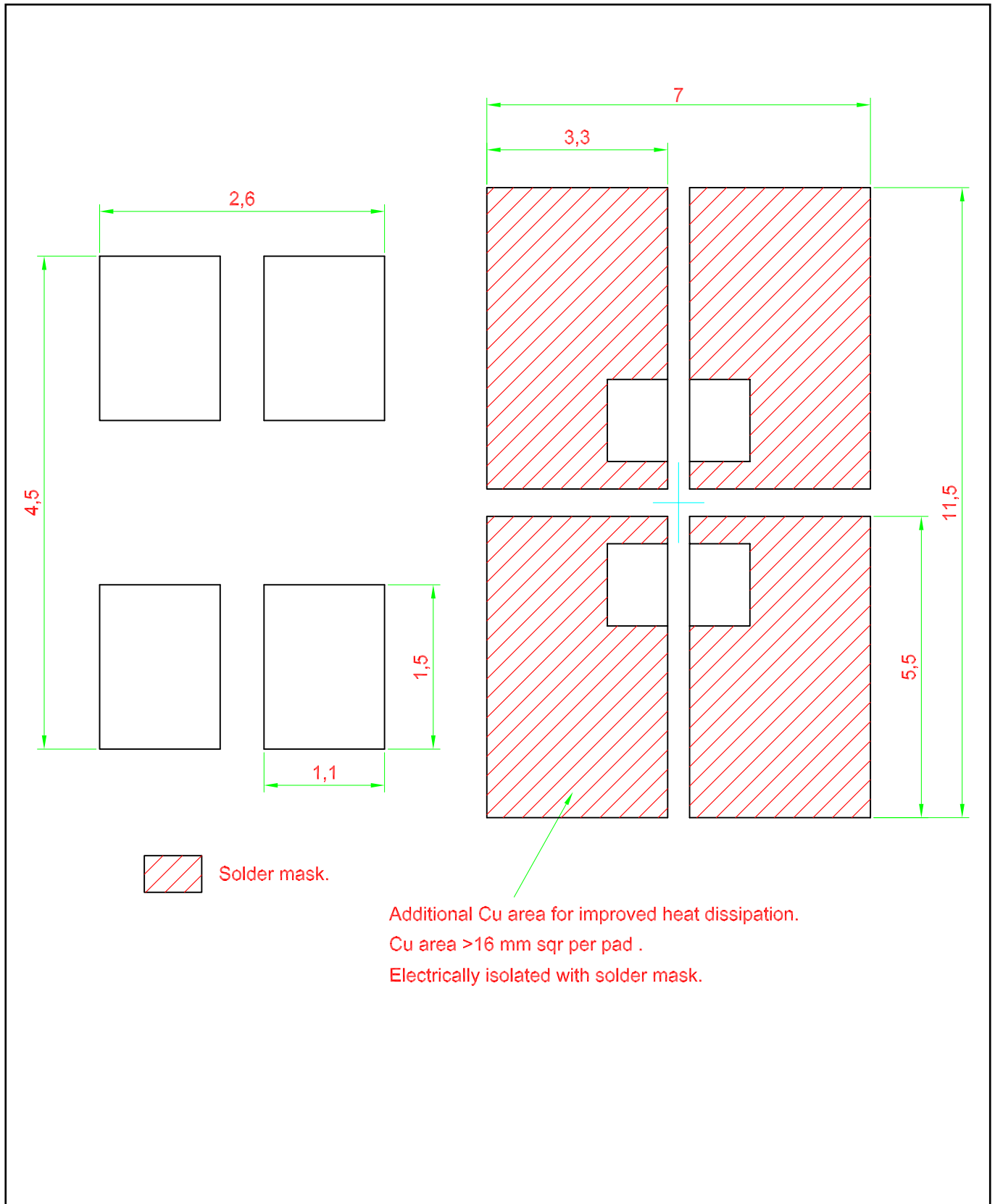
Power DomiLED™ • InGaN White : DWW-YJG(5K8L) Package Outlines



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

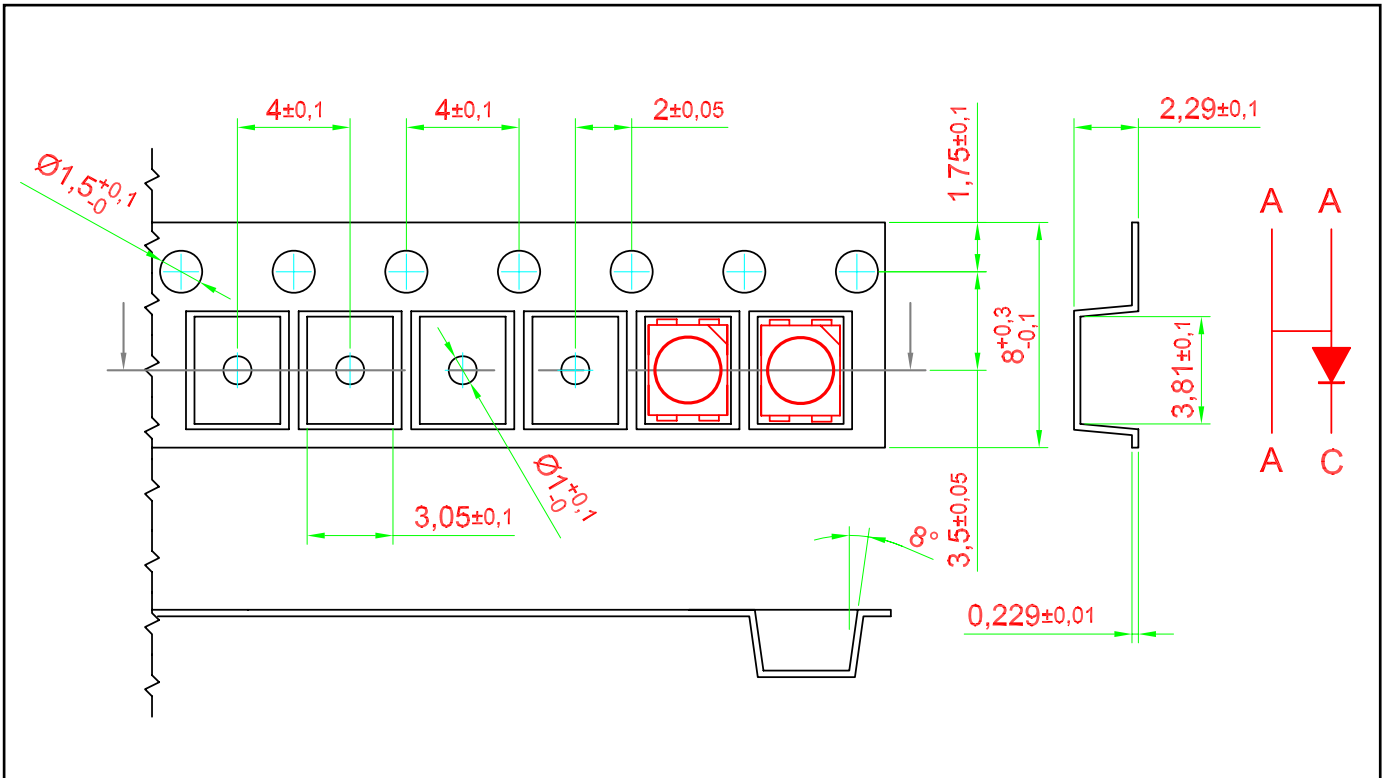


 Solder mask.

Additional Cu area for improved heat dissipation.
Cu area >16 mm sqr per pad .
Electrically isolated with solder mask.

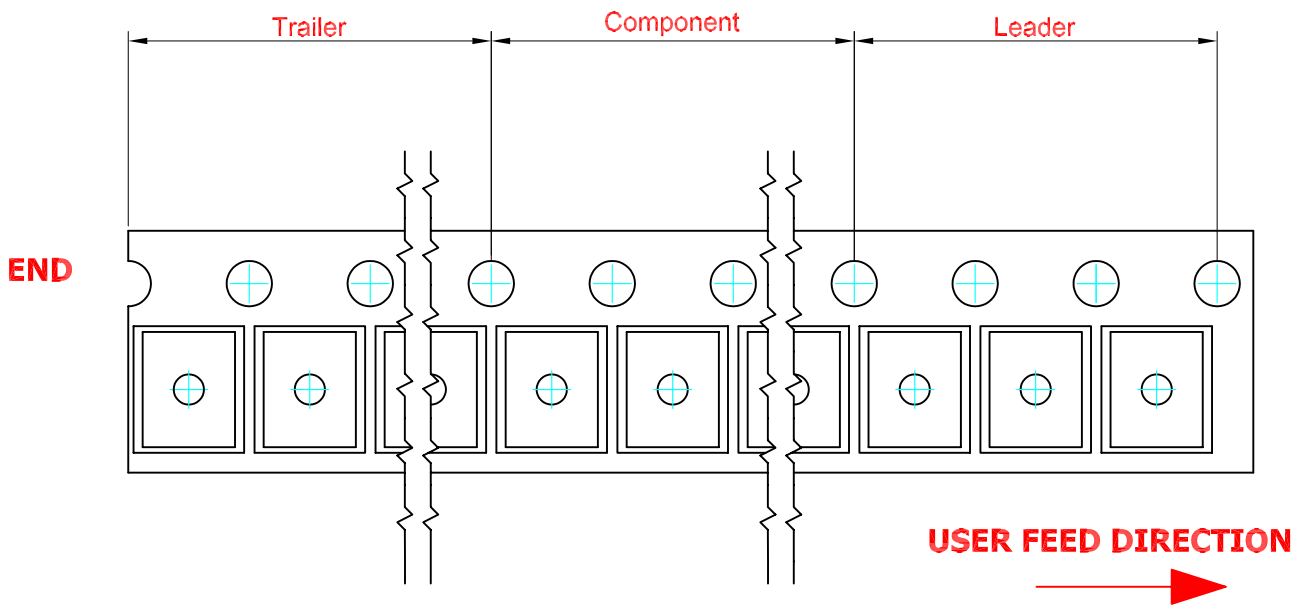
Taping and orientation

- Reels come in quantity of 2000 units.
- Reel diameter is 180 mm.

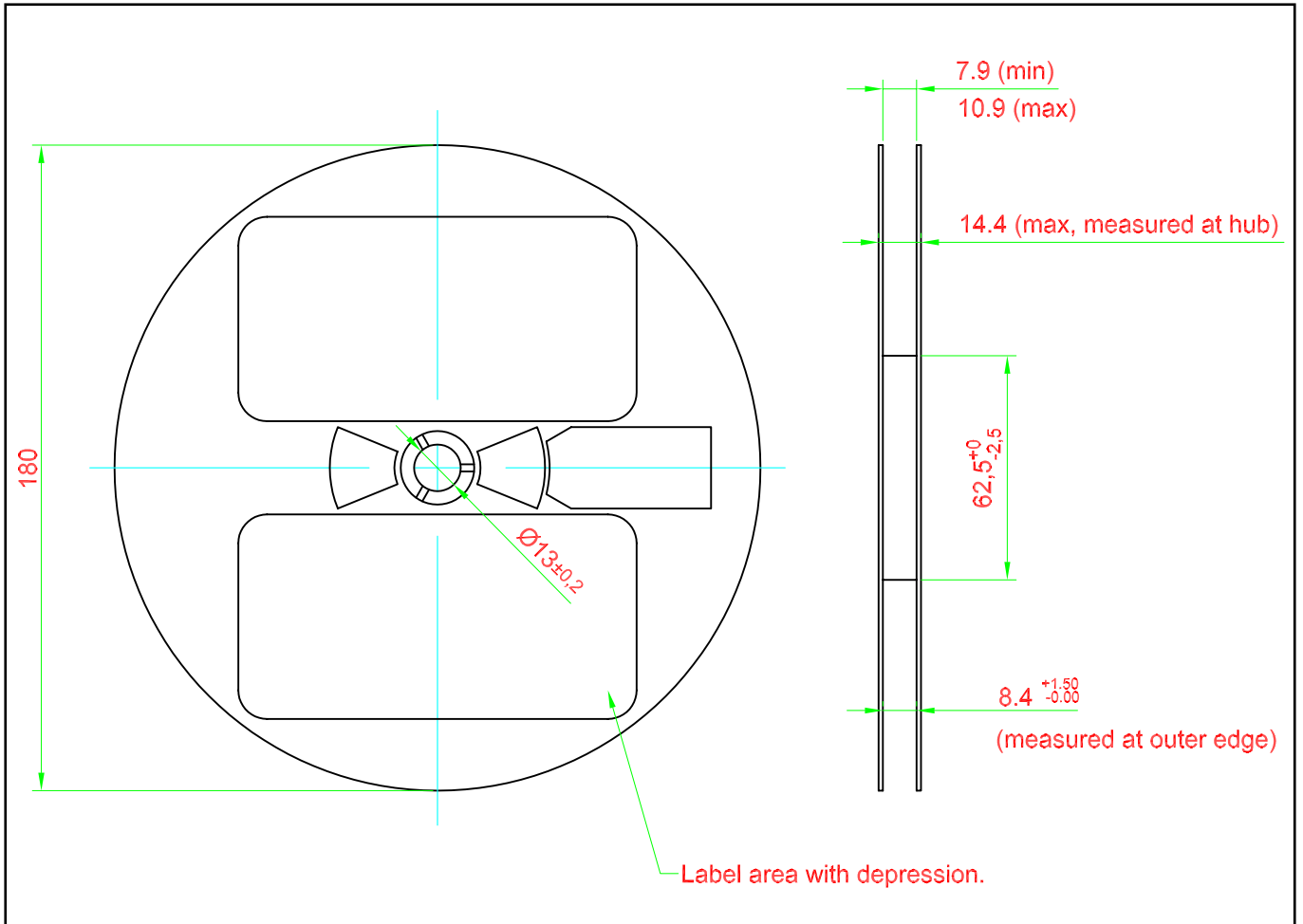


200 mm min. for Ø180 reel.
 200 mm min. for Ø330 reel.

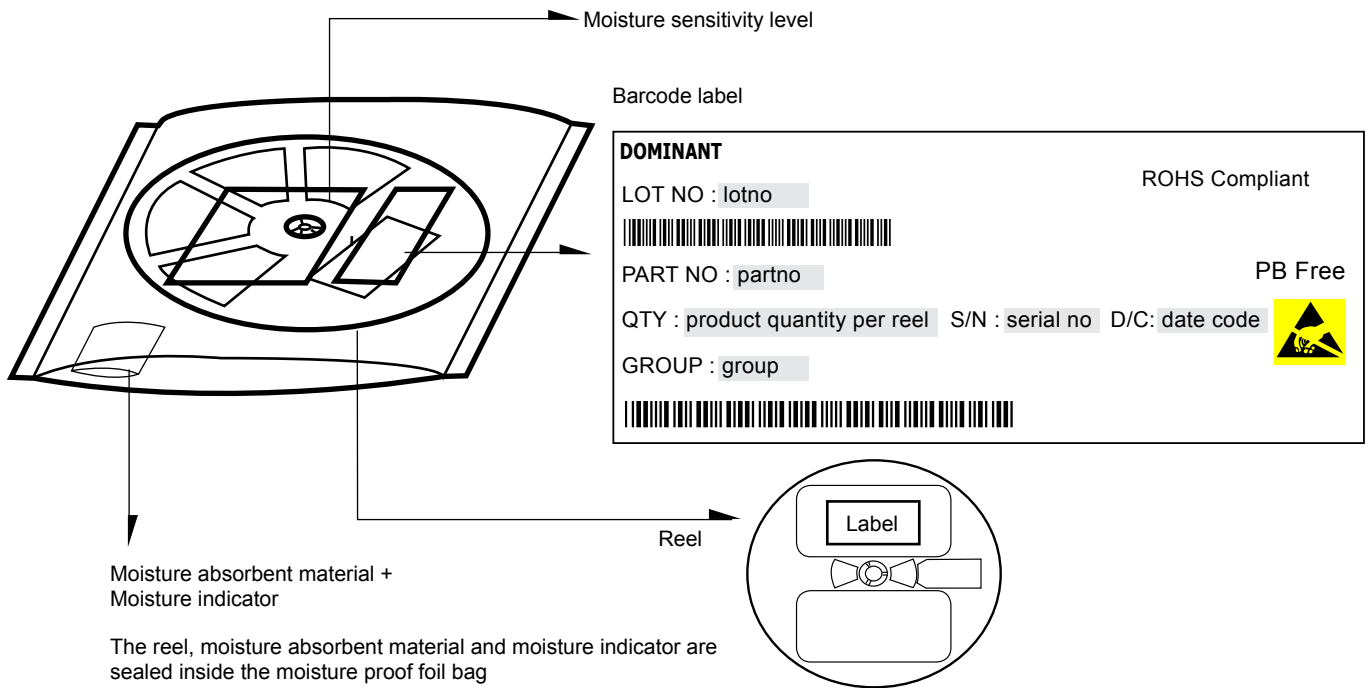
480 mm min. for Ø180 reel.
 960 mm min. for Ø330 reel.



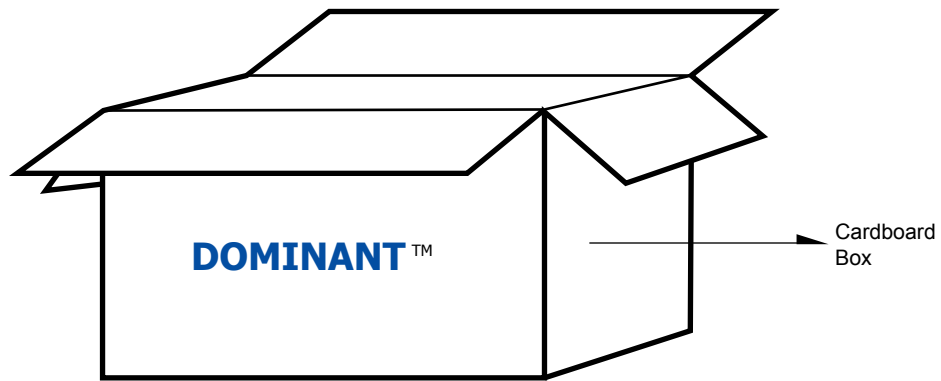
Packaging Specification



Packaging Specification



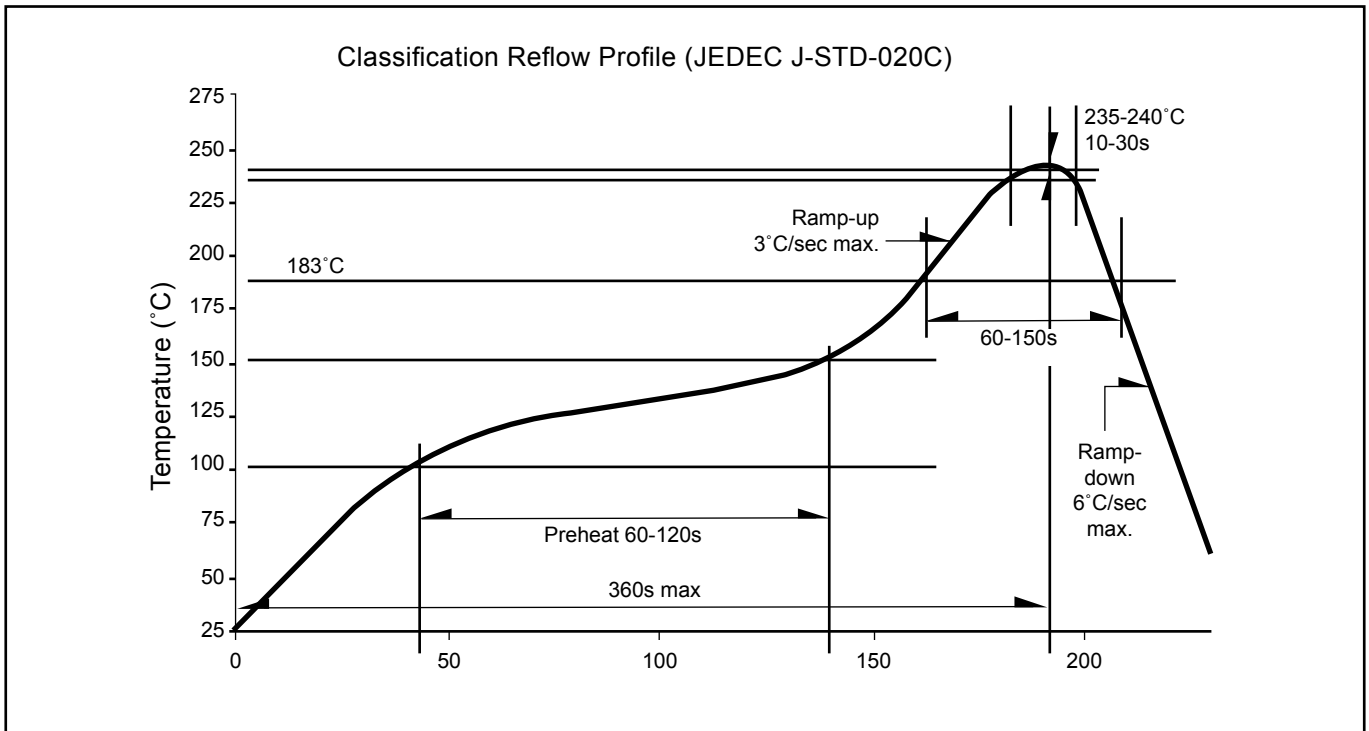
	Average 1pc Power DomiLED	1 completed bag (2000pcs)
Weight (gram)	0.034	190 ± 10



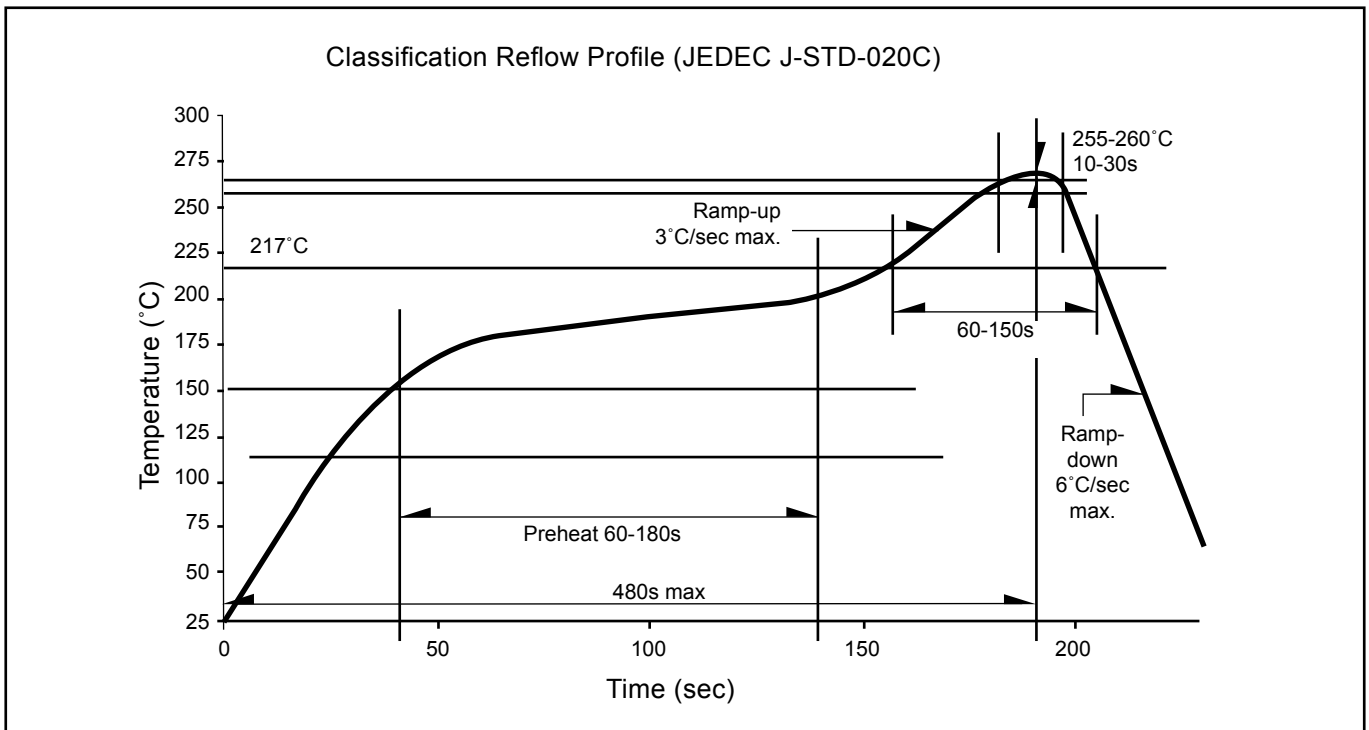
For Power DomiLED™

Cardboard Box Size	Dimensions (mm)	Empty Box Weight (kg)	Reel / Box	Quantity / Box (pcs)
Small	300 x 250 x 250	0.58	15 reels MAX	30,000 MAX
Large	416 x 516 x 476	1.74	96 reels MAX	192,000 MAX

Recommended Sn-Pb IR-Reflow Soldering Profile



Recommended Pb-free Soldering Profile



Revision History

Page	Subjects	Date of Modification
-	Initial Release	09 Apr 2008
2	Add new partno: DWW-YJG-XY1-5K8L	09 Oct 2009
-	Update Company Name	15 Mar 2010
2	Not for new design-->DWW-YJG-W2X-5K8L	05 Apr 2010

NOTE

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About Us

DOMINANT Opto Technologies 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 Opto Technologies can be found on the Internet at <http://www.dominant-semi.com>.

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