

Power DomiLED™

With its significant power in terms brightness, viewing angle and variety of application possibilities, Power DomiLED™ 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.
- > 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),
- > Display: full color display video notice board.
- > Industry: white goods (eg: Oven, microwave, etc.).
- > Lighting: architecture lighting, general lighting, garden light, etc



Luminous Intensity Grouping (Tj=25°C)

Part Ordering Number	Color	Viewing Angle°	Luminous Intensity @ IF = 30mA			Total Flux IF=30mA, mlm (typ.)
			Min.	Typ.	Max.	
DWW-MJG-W2X-1	White	120	1400.0	2240.0	2850.0	7000
DWW-MJG-W2X-JKPL	White	120	1400.0	2240.0	2850.0	7000

NOTE

1. All part number above comes in a quantity of 2000 units per reel.
2. Luminous intensity is measured with an accuracy of $\pm 11\%$.
3. Wavelength binning is carried for all units as per the wavelength-binning table. Only one wavelength group is allowed for each reel.
4. 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.

Electrical Characteristics at Tj=25°C

Part Number	Min. (V)	Vf @ If = 30mA		Vr @ Ir = 10uA Min. (V)
		Typ. (V)	Max. (V)	
DWW-MJG	2.90	3.40	4.00	5

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

Absolute Maximum Ratings

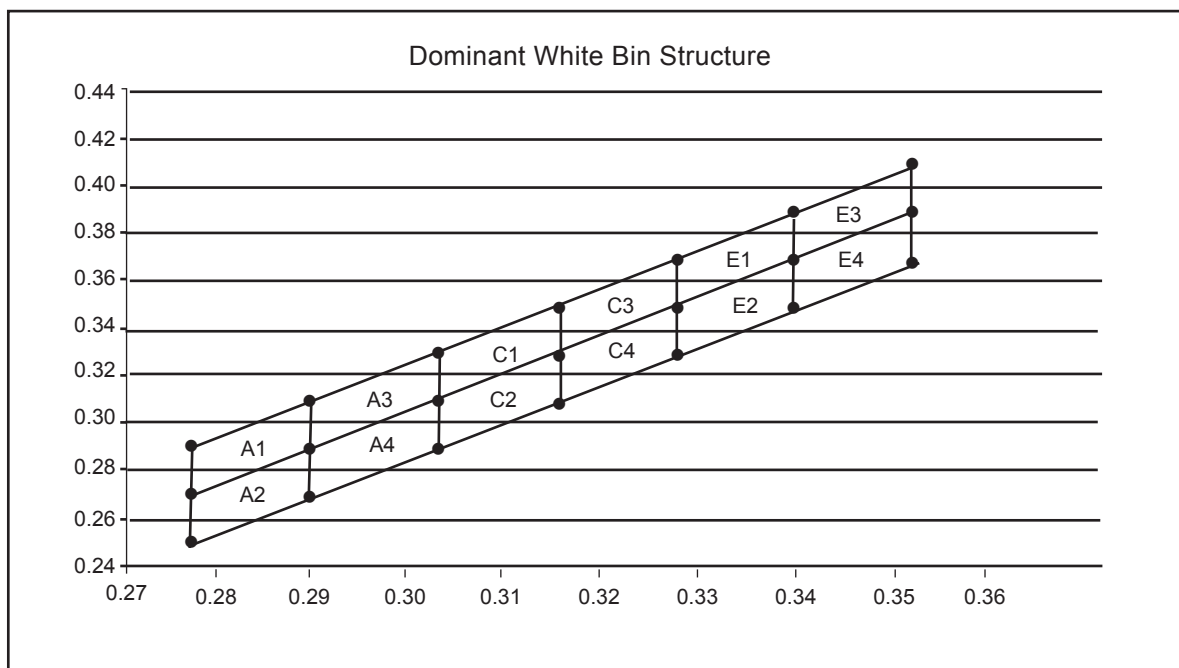
	Maximum Value	Unit
DC forward current	50	mA
Peak pulse current; (tp $\leq$ 10 μ s, Duty cycle = 0.1)	100	mA
Reverse voltage; Ir (max) = 10 μ A	5	V
ESD threshold (HBM)	2	kV
LED junction temperature	125	°C
Operating temperature	-40 ... +110	°C
Storage temperature	-40 ... +110	°C
Power dissipation (at room temperature)	200	mW
Thermal resistance		
- Junction / ambient, Rth JA	300	K/W
- Junction / solder point, Rth JS	130	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-MJG	-1.00	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-MJG	-0.10	% / 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-MJG	0.000007	
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-MJG	0.00007	

DWW, White Color Grouping (T_j = 25°C)

For this color bin selection, part number will be DWW-MJG-xxxx-1



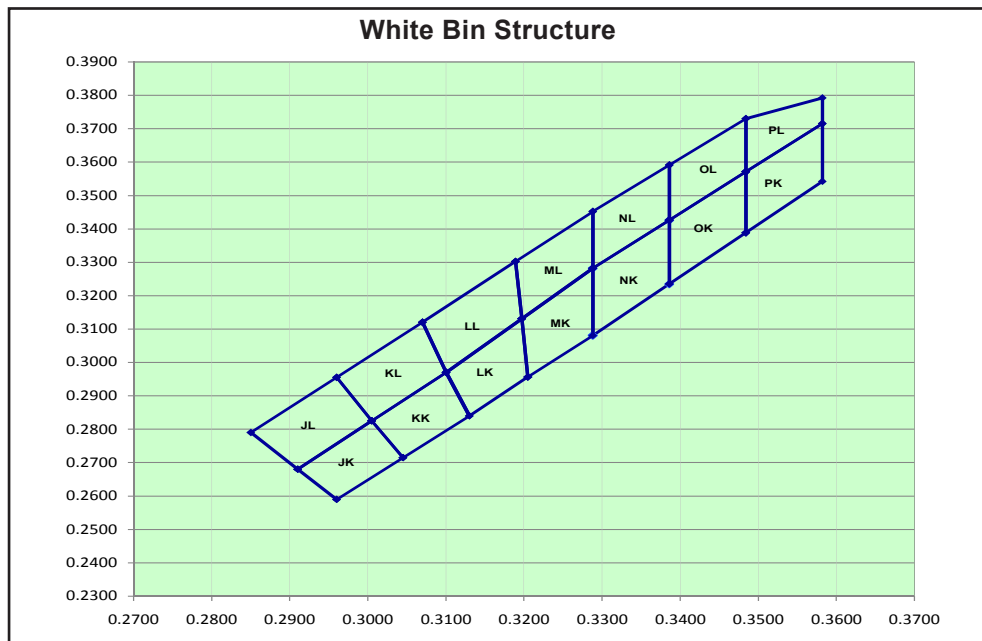
Chromaticity coordinate groups are measured with an accuracy of ± 0.01 .

Bin		1	2	3	4
A1	Cx	0.2775	0.2900	0.2900	0.2775
	Cy	0.2732	0.2939	0.3114	0.2907
A2	Cx	0.2775	0.2900	0.2900	0.2775
	Cy	0.2557	0.2764	0.2939	0.2732
A3	Cx	0.2900	0.3025	0.3025	0.2900
	Cy	0.2939	0.3146	0.3321	0.3114
A4	Cx	0.2900	0.3025	0.3025	0.2900
	Cy	0.2764	0.2971	0.3146	0.2939
C1	Cx	0.3025	0.3150	0.3150	0.3025
	Cy	0.3146	0.3354	0.3529	0.3321
C2	Cx	0.3025	0.3150	0.3150	0.3025
	Cy	0.2971	0.3179	0.3354	0.3146
C3	Cx	0.3150	0.3275	0.3275	0.3150
	Cy	0.3354	0.3561	0.3736	0.3529
C4	Cx	0.3150	0.3275	0.3275	0.3150
	Cy	0.3179	0.3386	0.3561	0.3354
E1	Cx	0.3275	0.3400	0.3400	0.3275
	Cy	0.3561	0.3768	0.3943	0.3736
E2	Cx	0.3275	0.3400	0.3400	0.3275
	Cy	0.3386	0.3593	0.3768	0.3561
E3	Cx	0.3400	0.3525	0.3525	0.3400
	Cy	0.3768	0.3975	0.4150	0.3943
E4	Cx	0.3400	0.3525	0.3525	0.3400
	Cy	0.3593	0.3800	0.3975	0.3768

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

DWW, White Color Grouping

For this color bin selection, part number will be DWW-MJG-xxxx-JKPL



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

Bin		1	2	3	4
JK	Cx	0.2960	0.2910	0.3005	0.3045
	Cy	0.2590	0.2680	0.2825	0.2715
JL	Cx	0.291	0.2850	0.2960	0.3005
	Cy	0.2680	0.2790	0.2955	0.2825
KK	Cx	0.3045	0.3005	0.3100	0.3130
	Cy	0.2715	0.2825	0.2970	0.2840
KL	Cx	0.3005	0.2960	0.3070	0.3100
	Cy	0.2825	0.2955	0.3120	0.2970
NK	Cx	0.3288	0.3288	0.3386	0.3386
	Cy	0.3081	0.3282	0.3426	0.3235
NL	Cx	0.3288	0.3288	0.3386	0.3386
	Cy	0.3282	0.3453	0.3591	0.3426
OK	Cx	0.3386	0.3386	0.3484	0.3484
	Cy	0.3235	0.3426	0.3571	0.3388
OL	Cx	0.3386	0.3386	0.3484	0.3484
	Cy	0.3426	0.3591	0.3730	0.3571
LK	Cx	0.3100	0.3197	0.3205	0.3130
	Cy	0.2970	0.3131	0.2956	0.2840
LL	Cx	0.3070	0.3189	0.3197	0.3100
	Cy	0.3120	0.3302	0.3131	0.2970
MK	Cx	0.3197	0.3288	0.3288	0.3205
	Cy	0.3131	0.3282	0.3081	0.2956
ML	Cx	0.3189	0.3288	0.3288	0.3197
	Cy	0.3302	0.3452	0.3282	0.3131
PK	Cx	0.3484	0.3484	0.3582	0.3582
	Cy	0.3388	0.3571	0.3715	0.3542
PL	Cx	0.3484	0.3484	0.3582	0.3582
	Cy	0.3571	0.3730	0.3792	0.3715

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

Luminous intensity is measured with an accuracy of $\pm 11\%$.

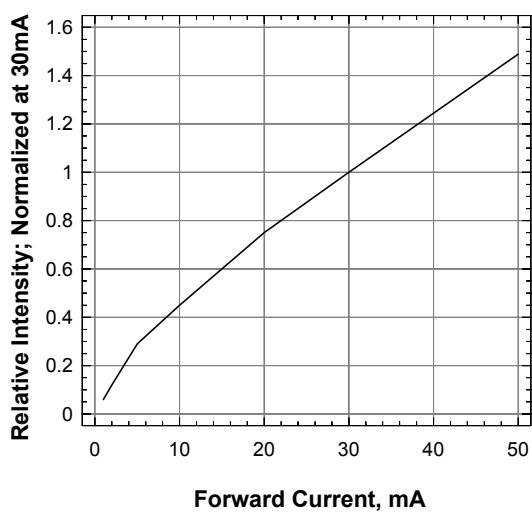
Vf Bining (Optional)

Vf @ If = 30mA	Forward Voltage (V)
3B	2.75 ... 3.05
3A	3.05 ... 3.35
30	3.35 ... 3.65
31	3.65 ... 3.95
32	3.95 ... 4.25

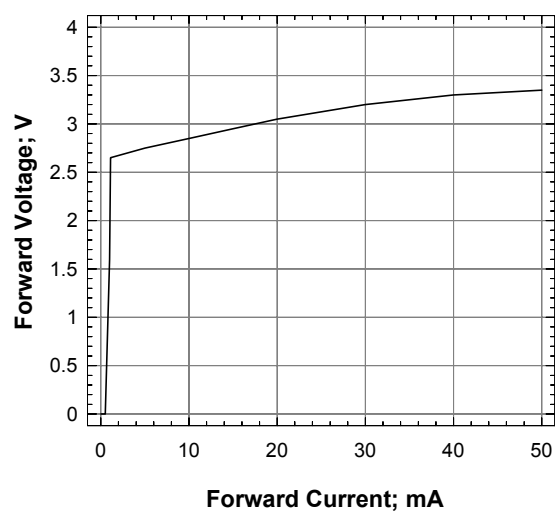
Forward voltage, Vf is measured with an accuracy of $\pm 0.1V$.

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

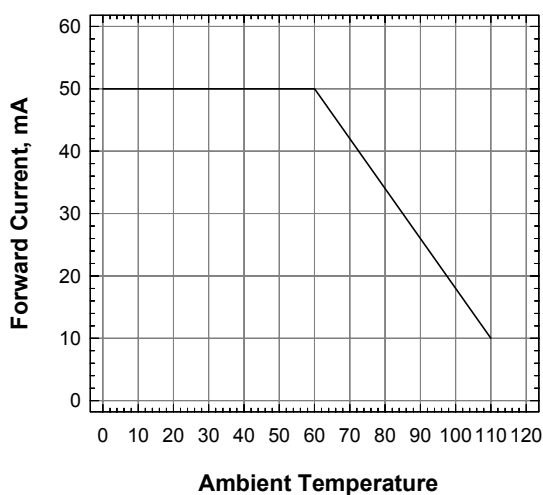
Relative Intensity Vs Forward Current



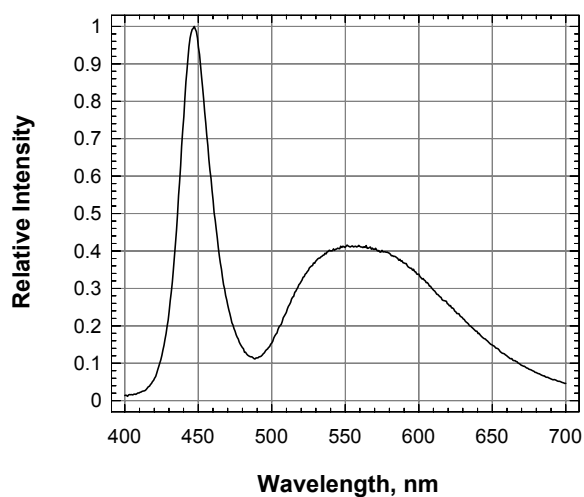
Forward Voltage Vs Forward Current



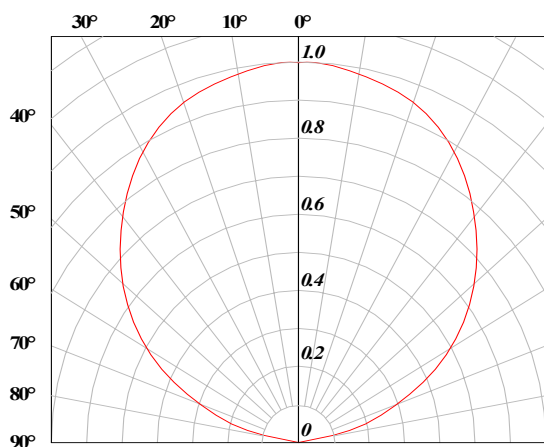
Maximum Current Vs Ambient Temperature



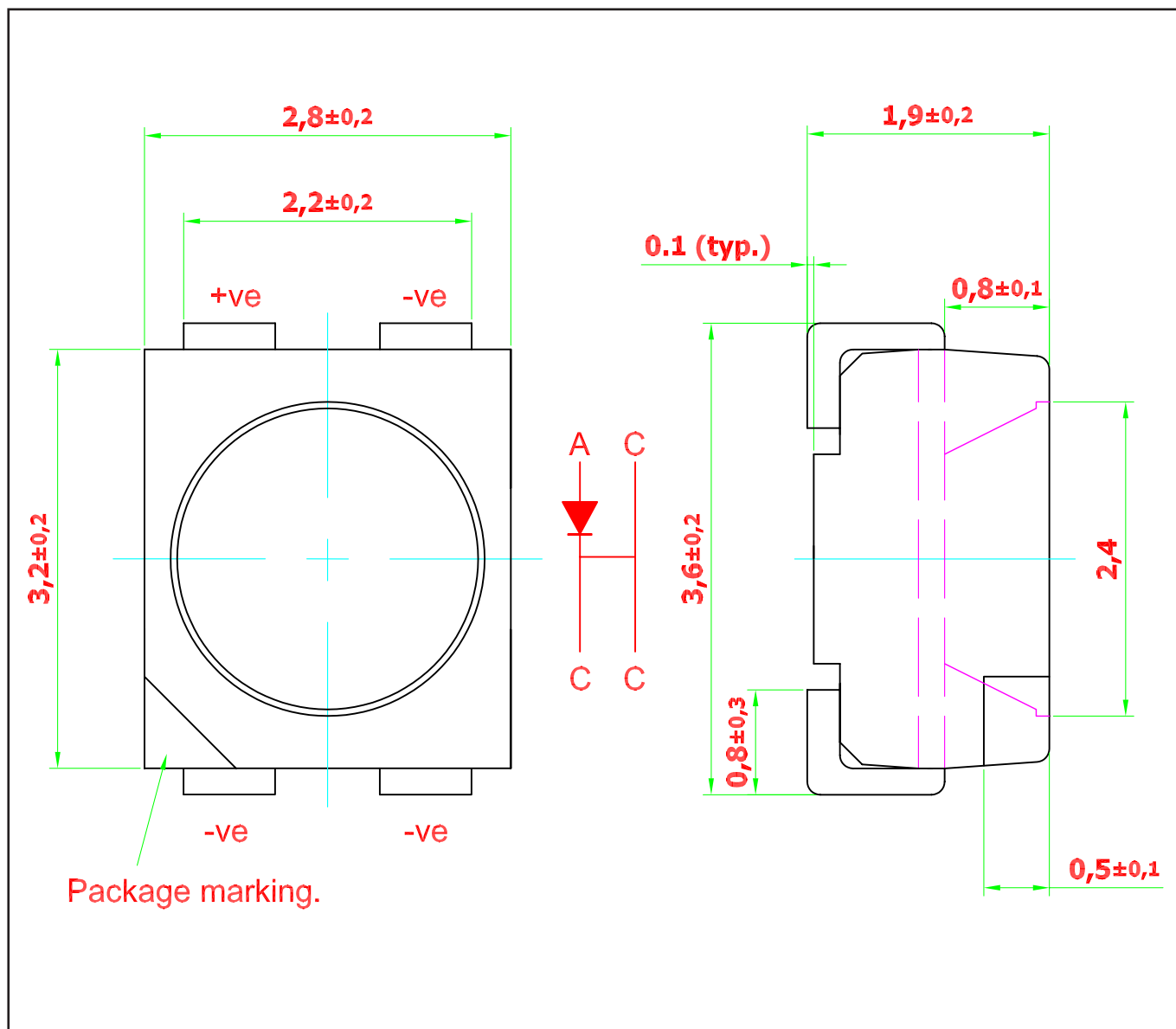
Relative Intensity Vs Wavelength



Radiation Pattern



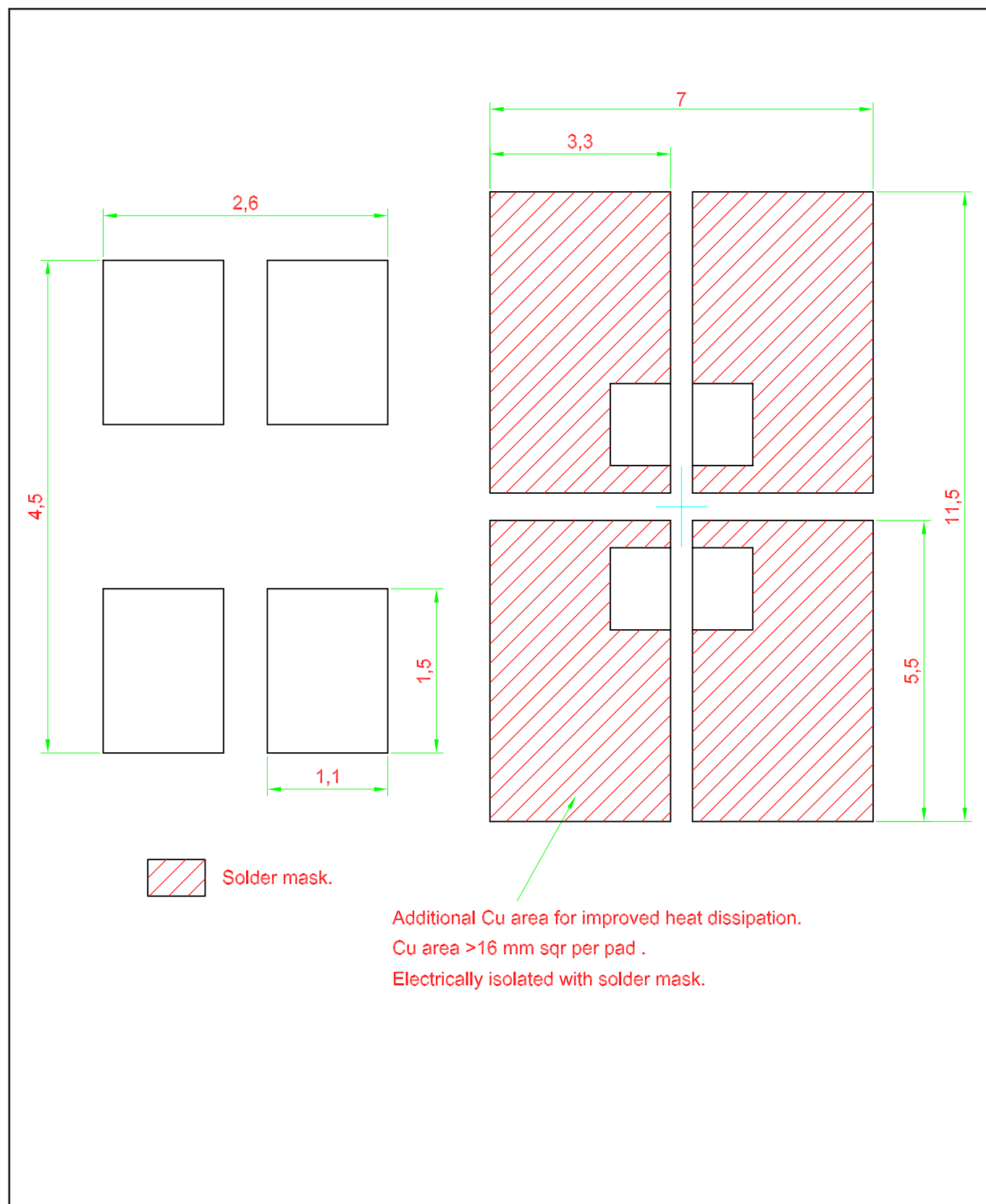
Power DomiLED™ • InGaN White : DWW-MJG Package Outlines



Material

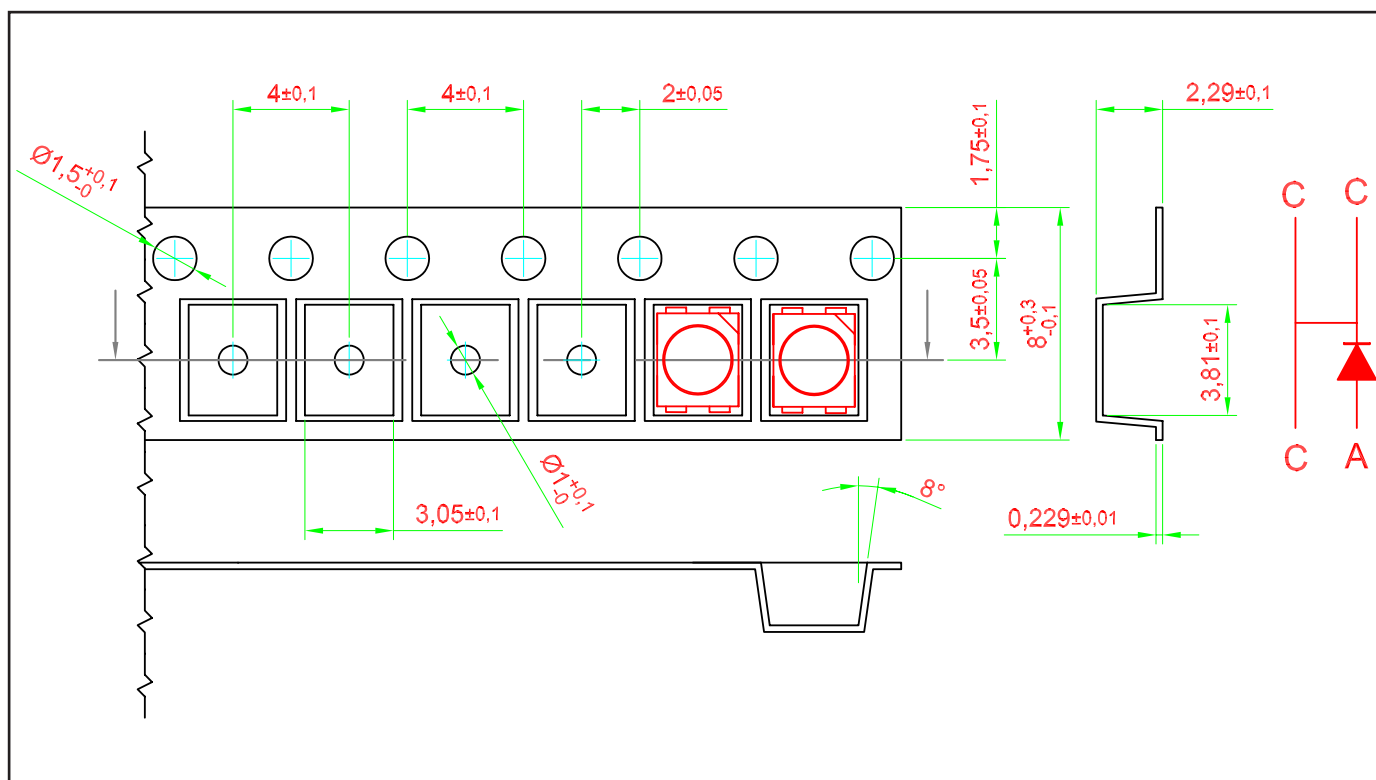
Material	
Lead-frame	Cu Alloy With Ag Plating
Package	High Temperature Resistant Plastic, PPA
Encapsulant	Silicone Resin
Soldering Leads	Sn-Sn Plating

Recommended Solder Pad



Taping and orientation

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

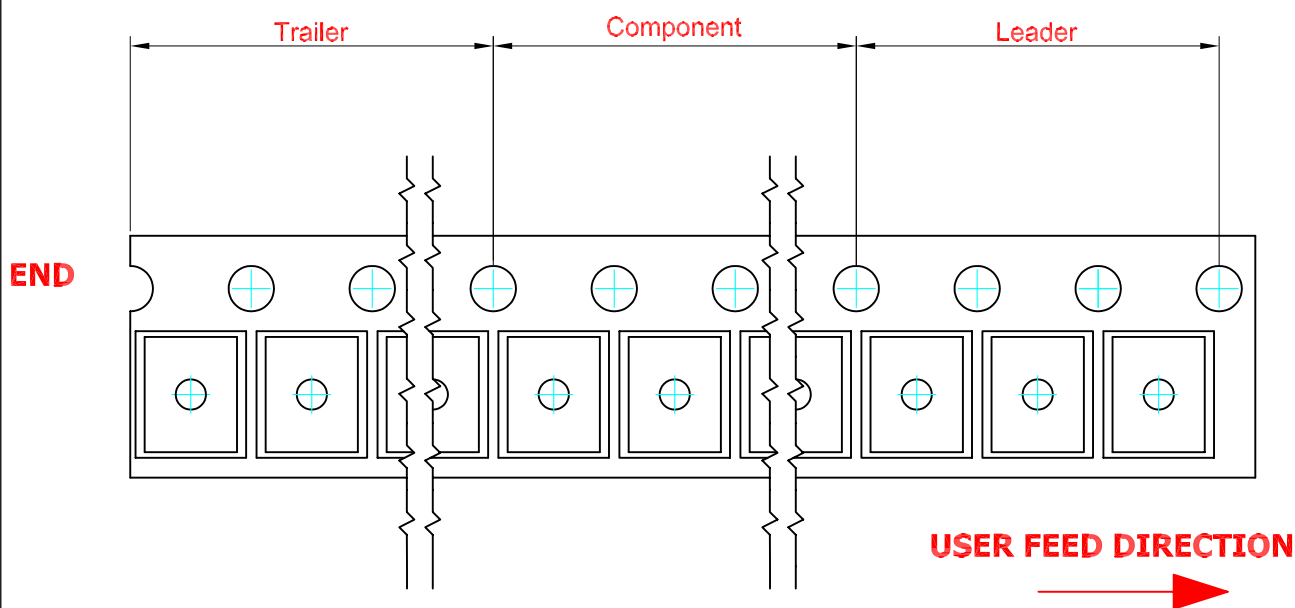


200 mm min. for $\varnothing 180$ reel.

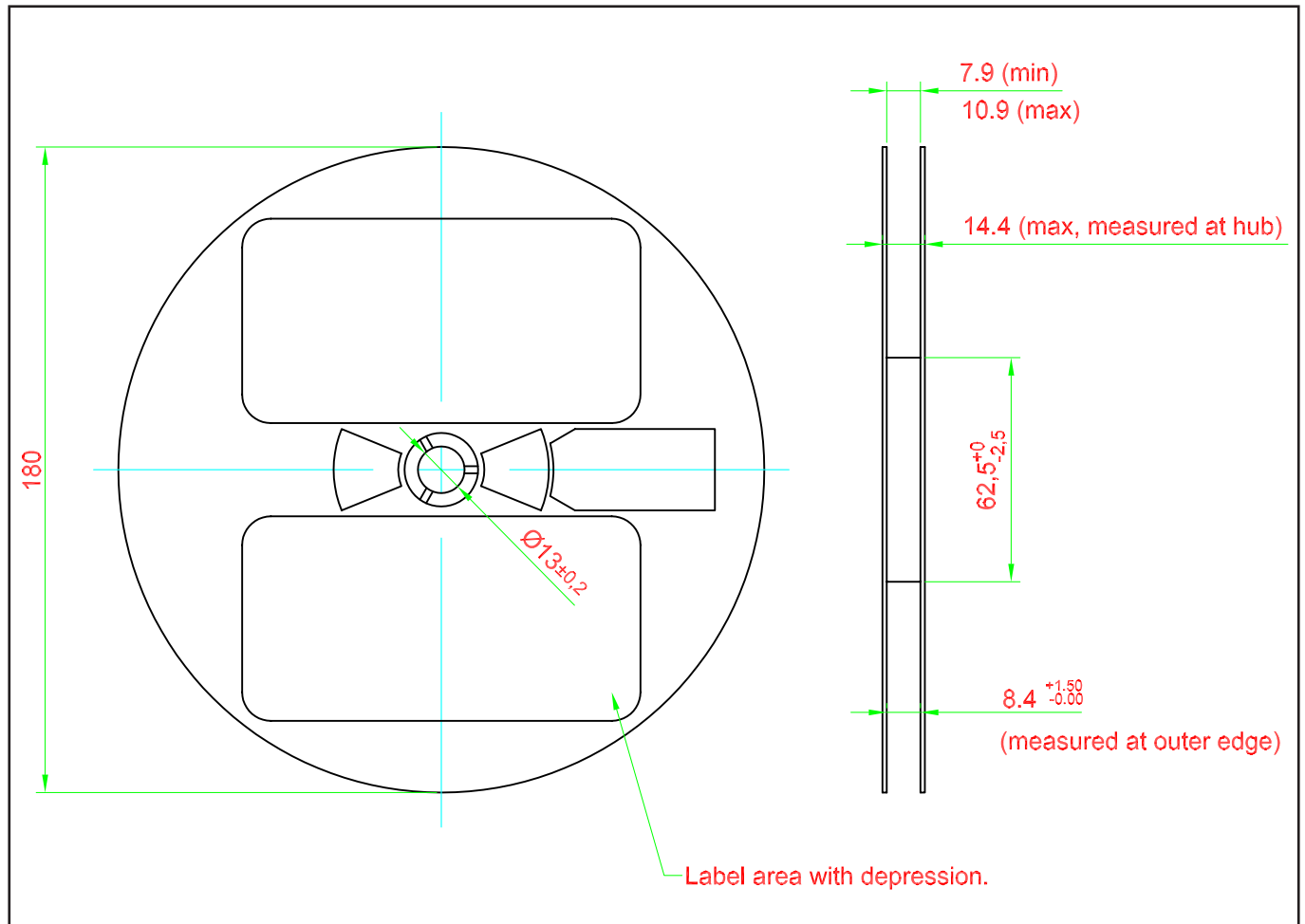
480 mm min. for $\varnothing 180$ reel.

200 mm min. for $\varnothing 330$ reel.

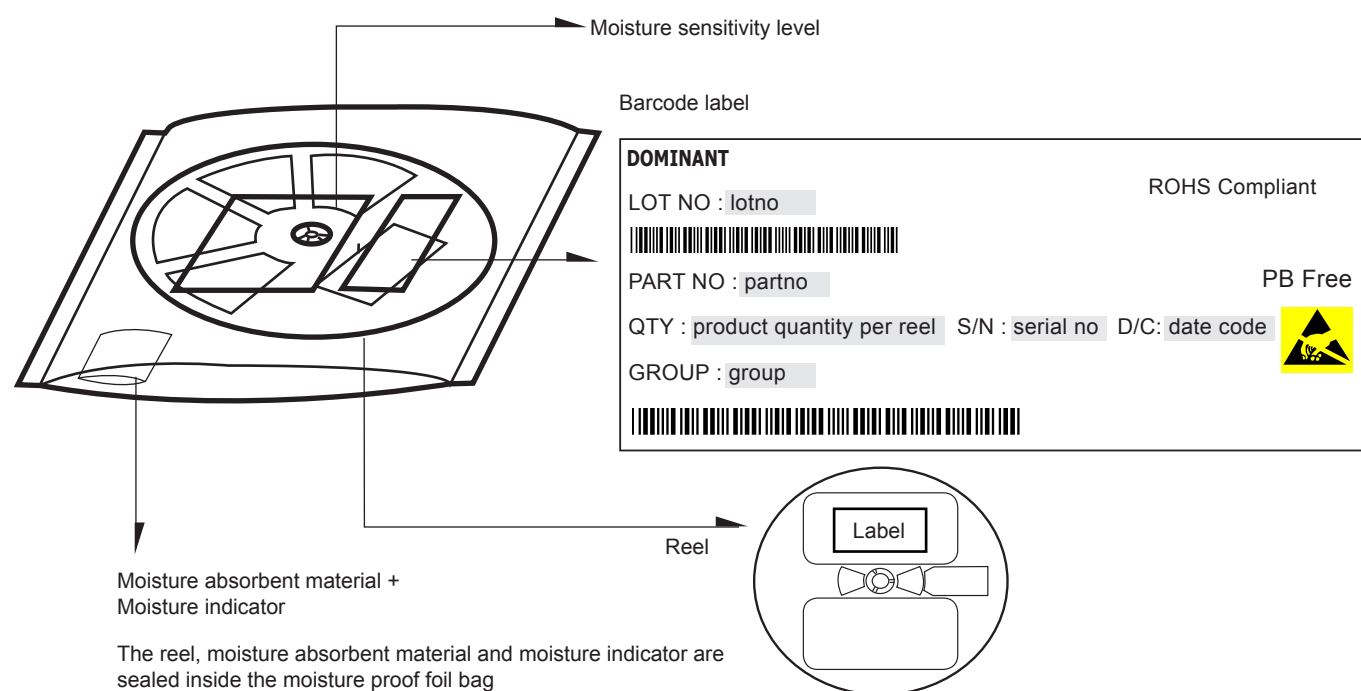
960 mm min. for $\varnothing 330$ reel.



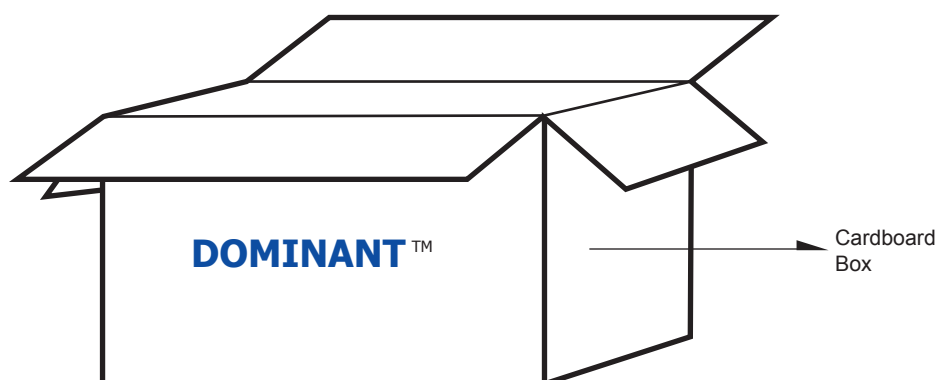
Packaging Specification



Packaging Specification



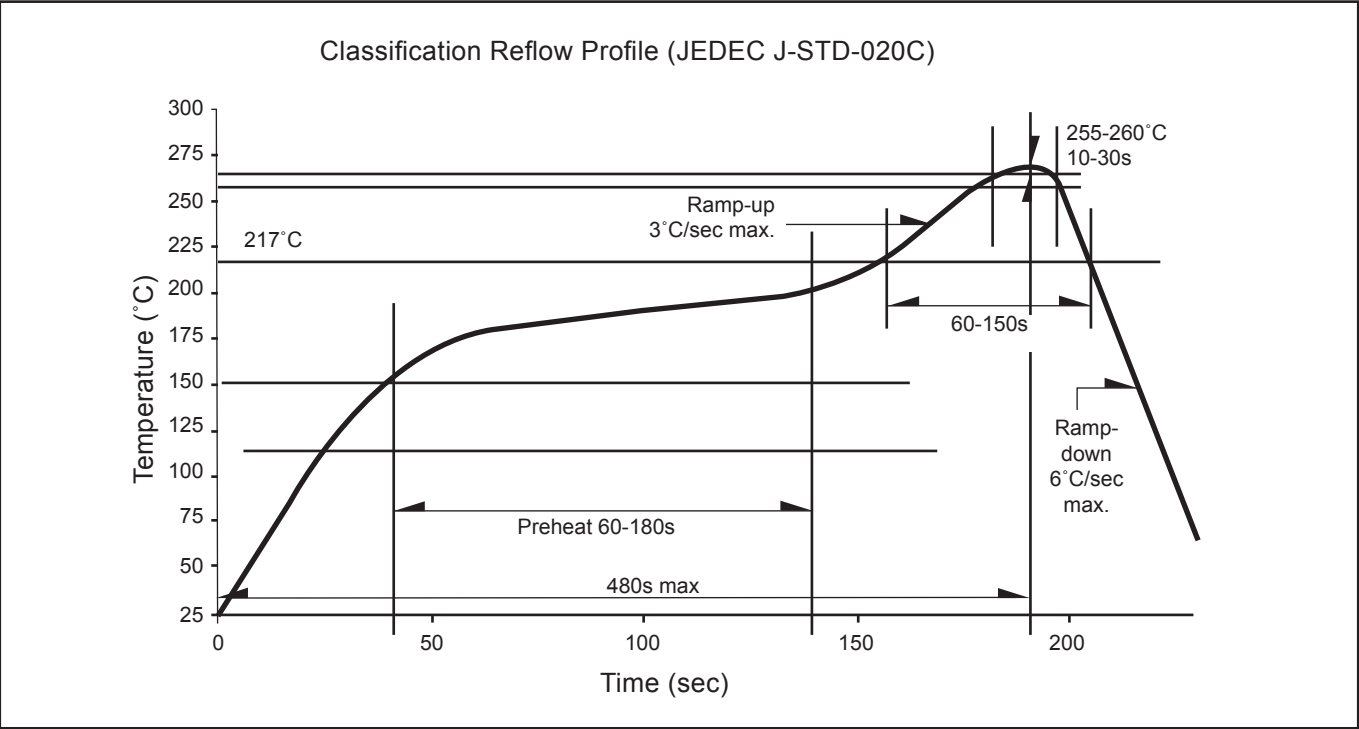
	Average 1pc Power DomiLED	1 completed bag (2000pcs)
Weight (gram)	0.034	190 ± 10



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 Pb-free Soldering Profile



Revision History

Page	Subjects	Date of Modification
-	Initial Release	24 Nov 2009
-	Update Company Name	15 Mar 2010
2	Add Thermal Resistance	10 Apr 2012
3	Add Characteristics	06 Jun 2012
2, 5	Add color bin structure, Add new partno: DWW-MJG-W2X-JKPL	23 Aug 2012

NOTE

All the information contained in this document is considered to be reliable at the time of publishing. However, DOMINANT Opto Technologies does not assume any liability arising out of the application or use of any product described herein.

DOMINANT Opto Technologies reserves the right to make changes to any products in order to improve reliability, function or design.

DOMINANT Opto Technologies products are not authorized for use as critical components in life support devices or systems without the express written approval from the Managing Director of DOMINANT Opto Technologies.

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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