

Mini DomiLED™

With the intense colors that seem to glow with energy and its significant brightness, Mini DomiLED™ white LED is a highly reliable design device. Its dynamic nature makes it perfect choice for lighthing applications, office and home applications and standard industrial applications.



Features:

- > High brightness surface mount LED.
- > Based on InGaN technology.
- > 120° viewing angle.
- > Small package outline (LxWxH) of 2.0 x 1.4 x 1.3mm.
- > Qualified according to JEDEC moisture sensitivity Level 2.
- > Compatible to both IR reflow soldering.
- > Environmental friendly; RoHS compliance.



Applications:

- > Automotive: interior applications, eg: switches, telematics, climate control system, dashboard, etc.
- > Backlighting: button, LCD display



Optical Characteristics at Tj=25°C

Part Ordering Number	Color	Viewing Angle°	Luminous Intensity @ IF = 20mA IV (mcd)		
			Min.	Typ.	Max.
DNW-UJG-TU2-1	White	120	285.0	450.0	715.0
DNW-UJG-UV2-1	White	120	450.0	715.0	1125.0

NOTE

1. All part number above comes in a quantity of 3000 units per reel.
2. Other luminous intensity groups are also available upon request.
3. Luminous intensity is measured with an accuracy of $\pm 11\%$.
4. Color binning is carried for all units as per the color binning table. Only one color group is allowed for each reel.

Electrical Characteristics at Tj=25°C

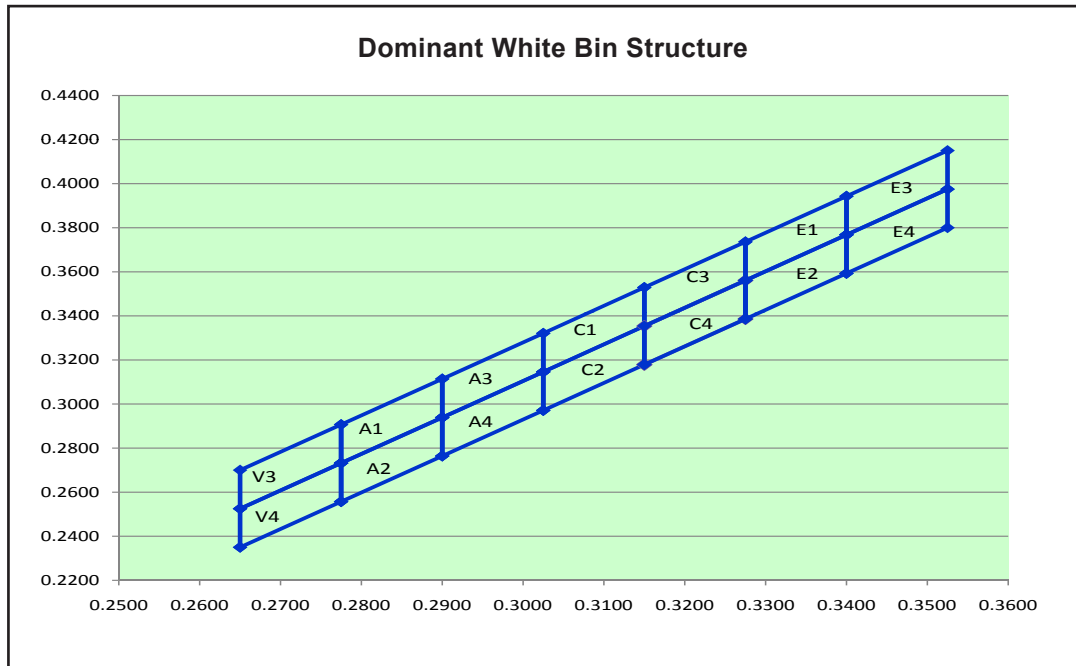
Part Number	Vf @ If = 20 mA			Vr @ Ir = 10 μ A
	Min. (V)	Typ. (V)	Max. (V)	Min. (V)
DNW-UJG	2.9	3.2	3.8	5.0

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

Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	20	mA
Peak pulse current; (tp $\leq$ 10 μ s, Duty cycle = 0.005)	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
Power dissipation (at room temperature)	85	mW
Thermal resistance		
- Junction / ambient, Rth JA	480	K/W
- Junction / solder point, Rth JS	230	K/W
(Mounting on FR4 PCB, pad size $\geq$ 16 mm ² per pad)		

DNW, White Color Grouping



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

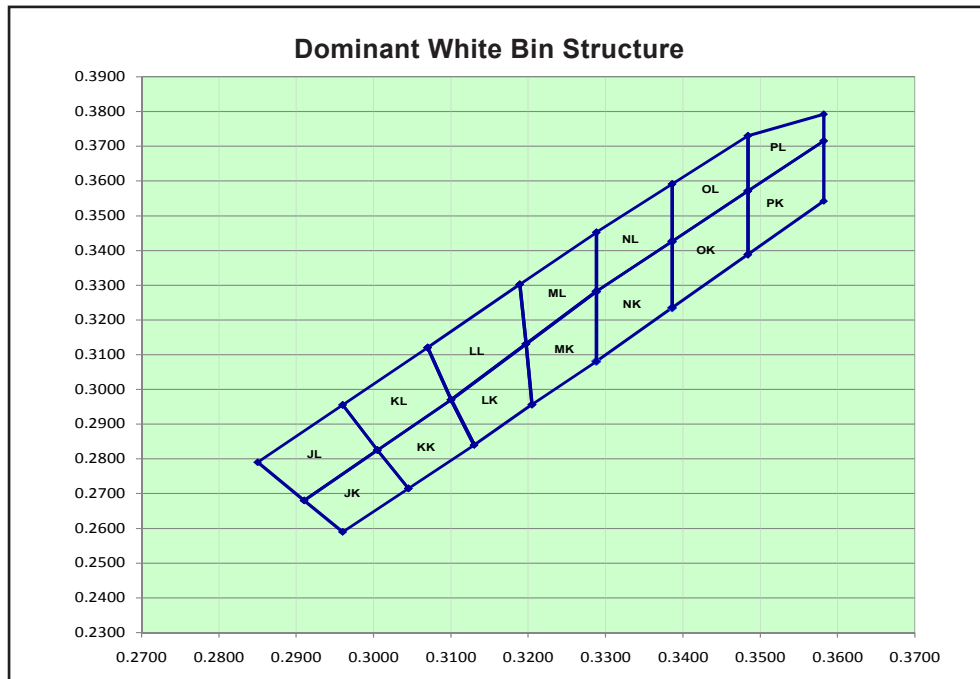
Bin		1	2	3	4
V3	Cx	0.2650	0.2775	0.2775	0.2650
	Cy	0.2525	0.2732	0.2907	0.2700
V4	Cx	0.2650	0.2775	0.2775	0.2650
	Cy	0.2350	0.2557	0.2732	0.2525
A1	Cx	0.2775	0.2900	0.2900	0.2775
	Cy	0.2732	0.2939	0.3114	0.2907
A2	Cx	0.2775	0.2900	0.2900	0.2775
	Cy	0.2557	0.2764	0.2939	0.2732
A3	Cx	0.2900	0.3025	0.3025	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

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

Bin		1	2	3	4
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 .

DNW, White Color Grouping



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

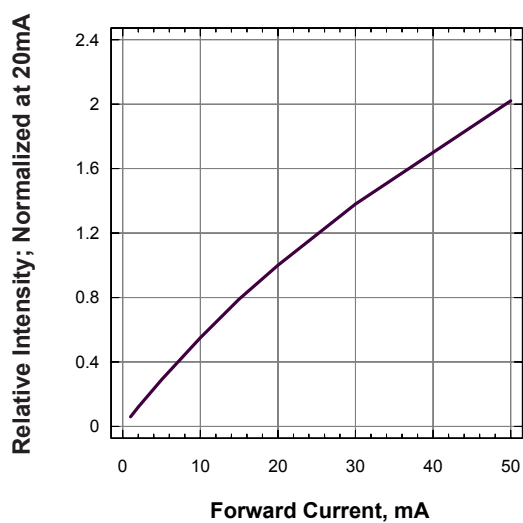
Dominant color coordinate is measured with an accuracy of ± 0.01 .

Luminous Intensity Group at Tj=25°C

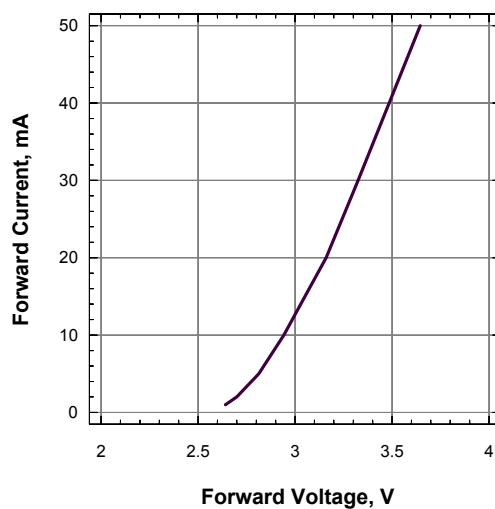
Brightness Group	Luminous Intensity IV (mcd)
T1	285.0...355.0
T2	355.0...450.0
U1	450.0...560.0
U2	560.0...715.0
V1	715.0...900.0
V2	900.0...1125.0

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

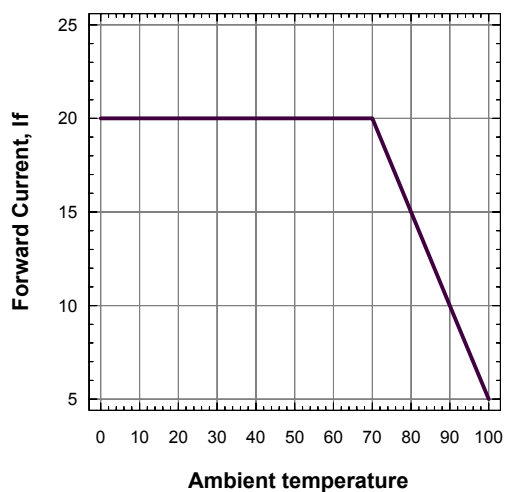
Relative Luminous Intensity Vs Forward Current



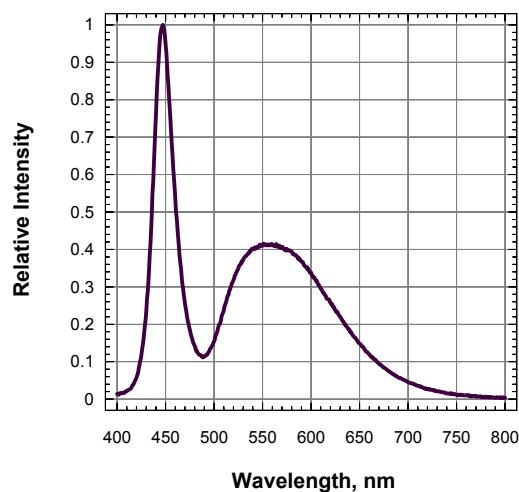
Forward Current Vs Forward Voltage



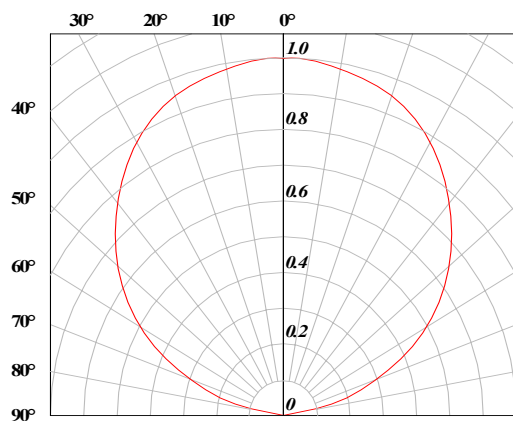
Maximum Current Vs Ambient Temperature



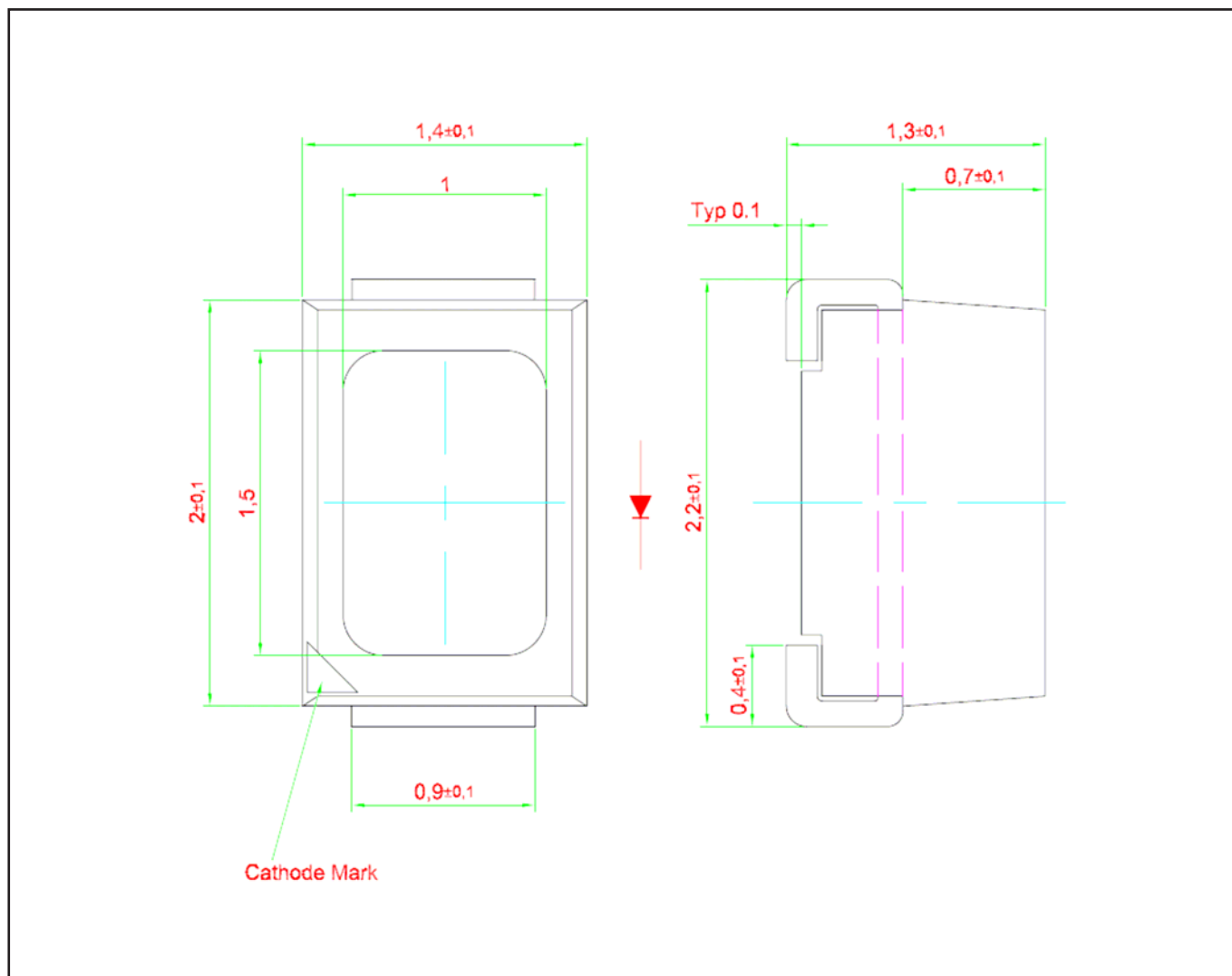
Relative Intensity Vs. Wavelength



Radiation Pattern



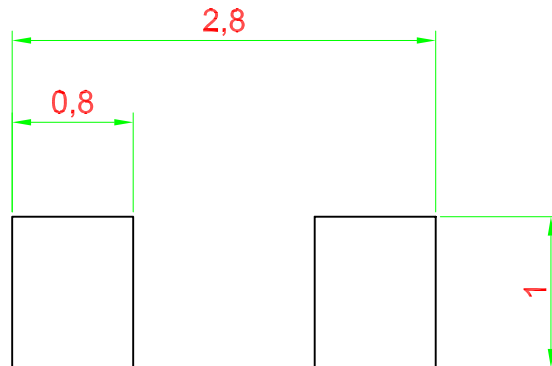
Mini DomiLED™ • InGaN White : DNW-UJG Package Outlines



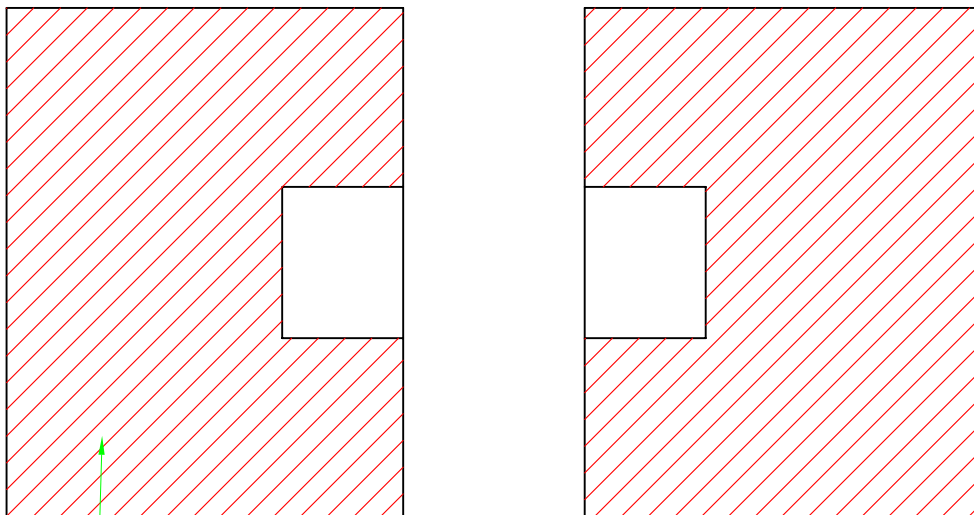
Material

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

Recommended Solder Pad



Improved Design For Better Heat Dissipation

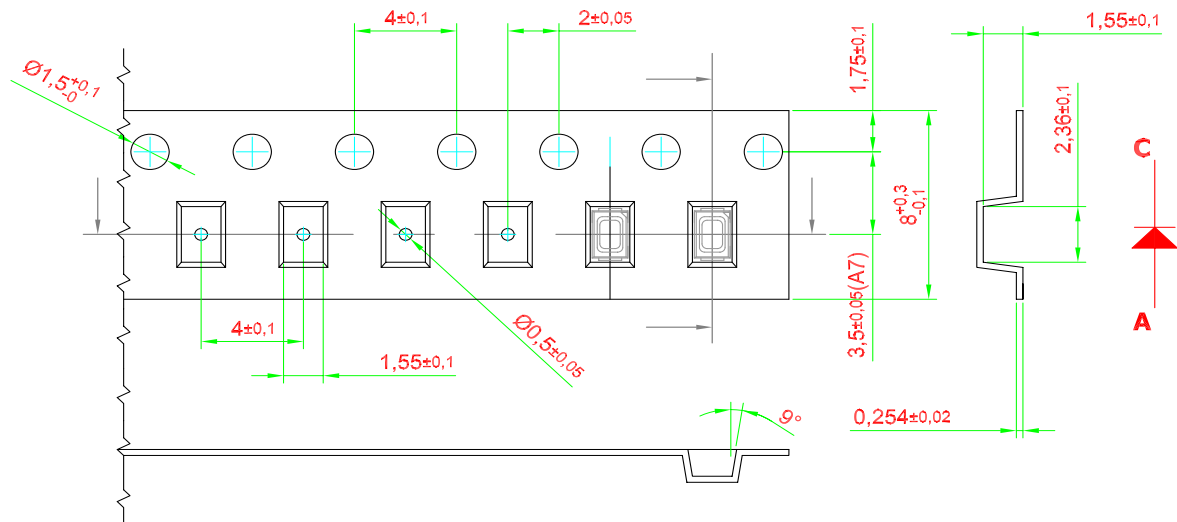


Additional Cu area for improved heat dissipation, > 16mm sq.

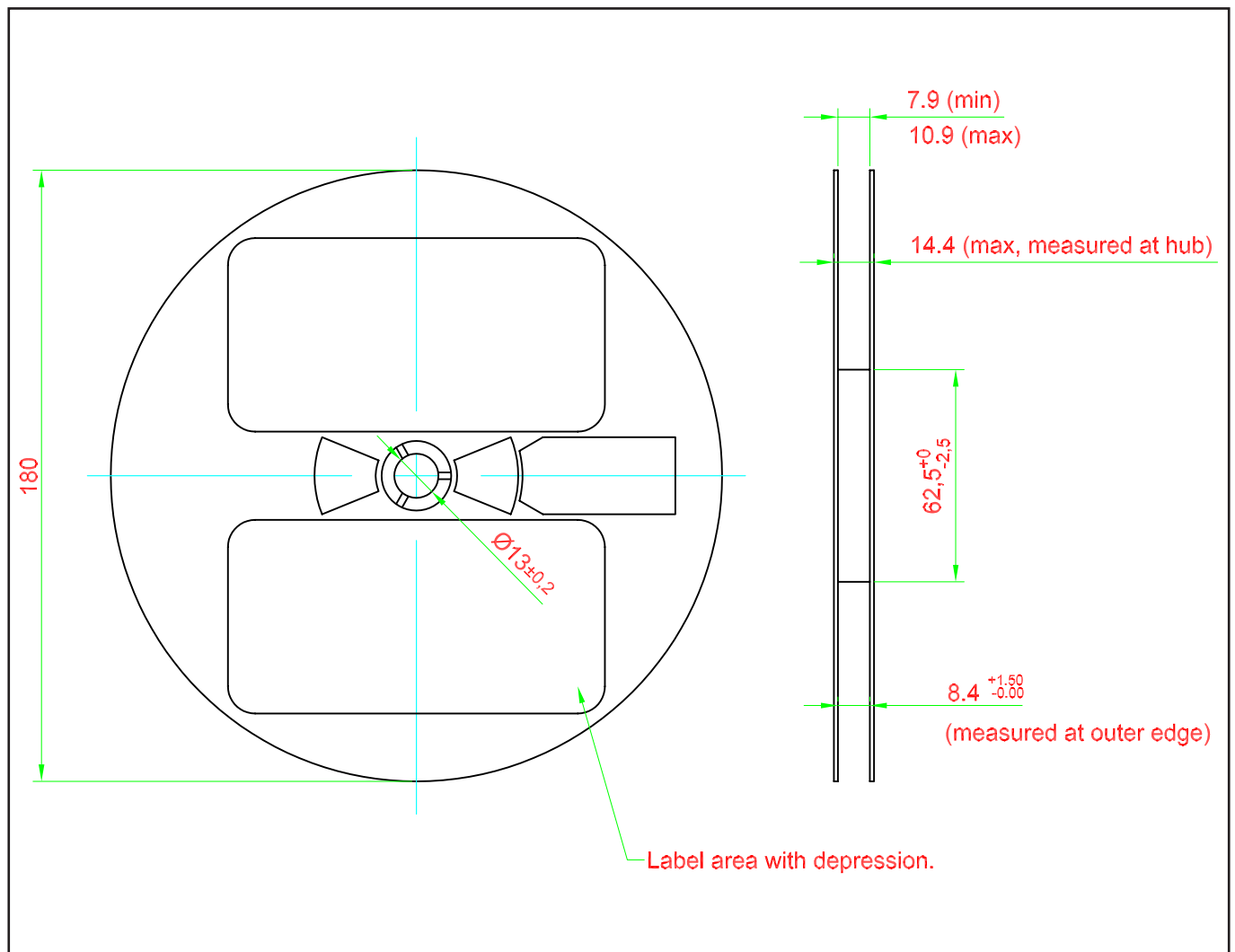


Taping and orientation

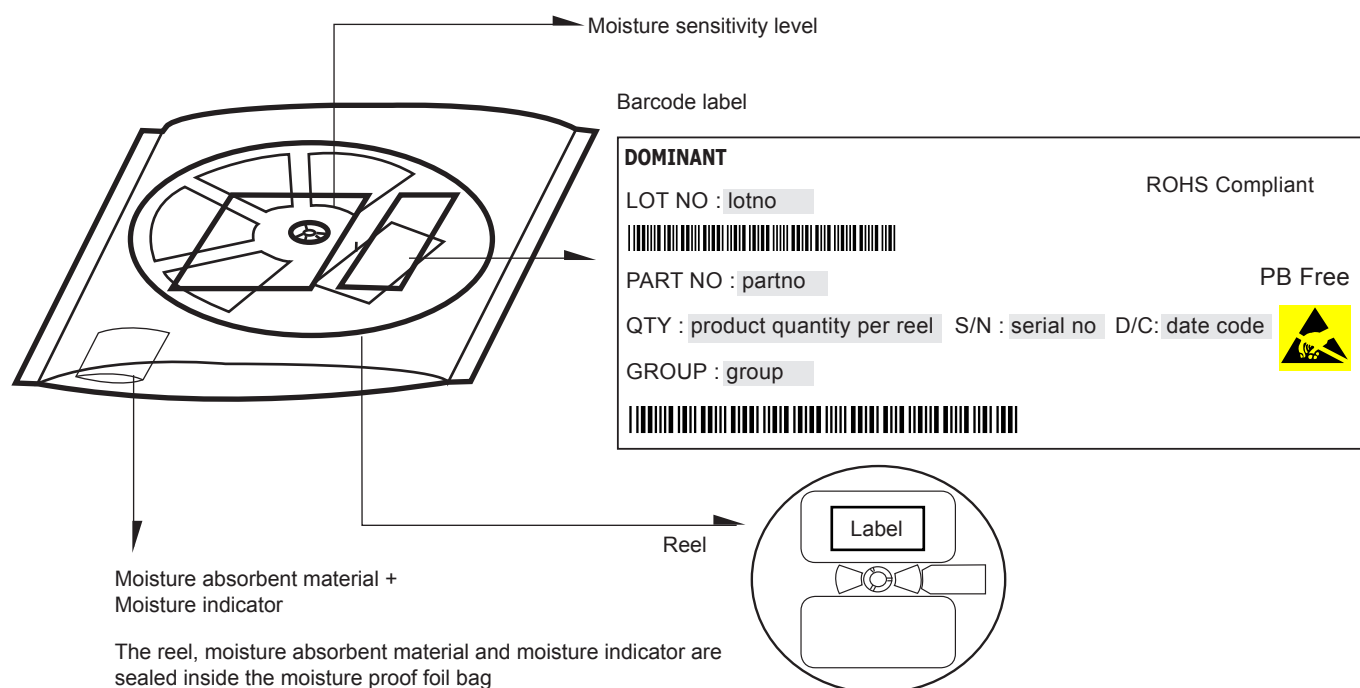
- Reels come in quantity of 3000 units.
- Reel diameter is 180 mm.



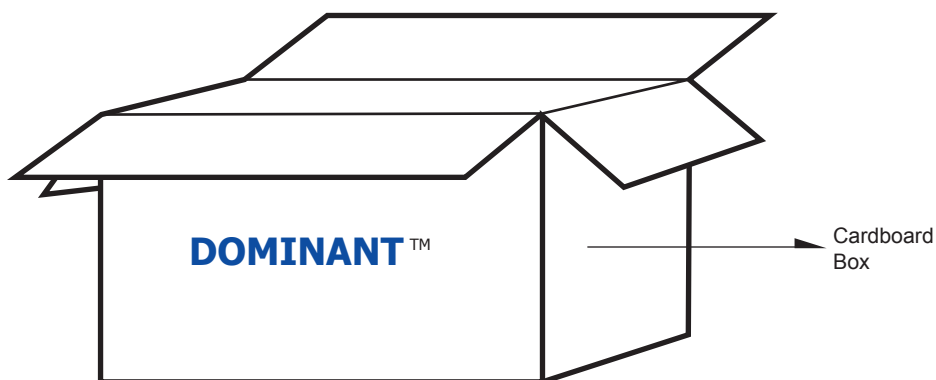
Packaging Specification



Packaging Specification



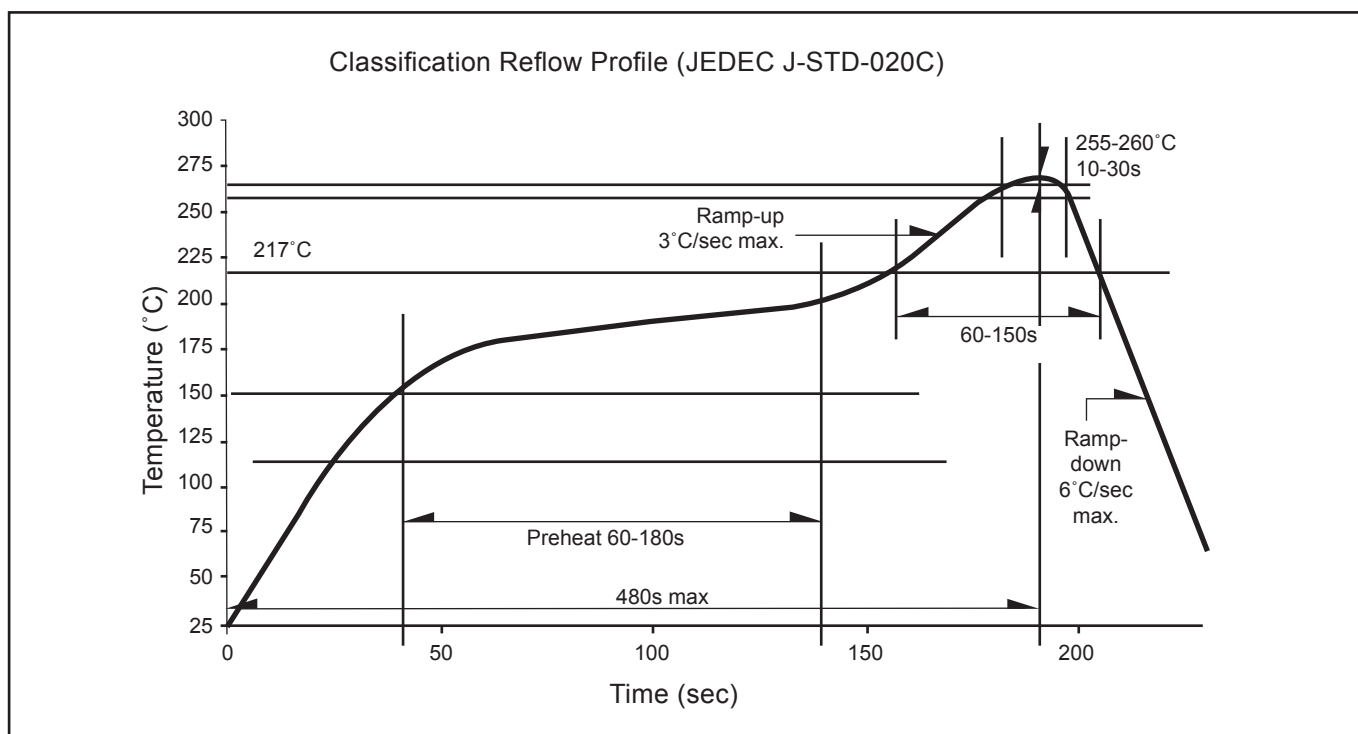
	Average 1pc Mini DomiLED	1 completed bag (3000pcs)
Weight (gram)	0.007	140 ± 10



For Mini 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	45,000 MAX
Large	416 x 516 x 476	1.74	96 reels MAX	288,000 MAX

Recommended Pb-free Soldering Profile



Revision History

Page	Subjects	Date of Modification
-	Initial Release	04 Feb 2008
2	Typo error on maximum value of luminous intensity for DNW-UJG-TU2-1	04 Mar 2009
6	Typo error on the encapsulant material	13 Jan 2010
7	Update carrier tape drawing	06 Jul 2010
3	Update Color Bin Structure	28 Jul 2011
5	Add Color Bin Structure	16 Feb 2012
2	Add Thermal Resistance	29 Mar 2013

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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