DOMINANT™
Opto Technologies
Innovating Illumination

DATA SHEET:

Power DomiLED™

InGaN White : DWW-UJG

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.
> 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.

Luminous Intensity Grouping (Tj=25˚C)

Part Ordering Number	Color	Viewing Angle˚	Luminous Intensity @ IF = 30mA IV (mcd) Min.	Typ.	Max.	Total Flux @ IF=30mA, mlm
DWW-UJG-VW1-1	White	120	715.0	1125.0	1400.0	2100 - 4150
DWW-UJG-WX1-1	White	120	1125.0	1400.0	2240.0	3300 - 6500

NOTE
1. All part number above comes in a quantity of 2000 units per reel.
2. Other luminous intensity groups may also be available upon request.
3. Luminous intensity is measured with an accuracy of ± 11%.
4. Wavelength binning is carried for all units as per the wavelength-binning table. Only one wavelength group is allowed for each reel.
5. 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.
6. An optional Vf bining is also available upon request. Bining scheme is as per following table.
7. Data provided for luminous flux is based on approximation.

Electrical Characteristics at Tj=25˚C

Part Number	Vf @ If = 30mA Min. (V)	Typ. (V)	Max. (V)	V_r @ I_r = 10uA Min. (V)
DWW-UJG	3.05	3.40	4.00	5

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

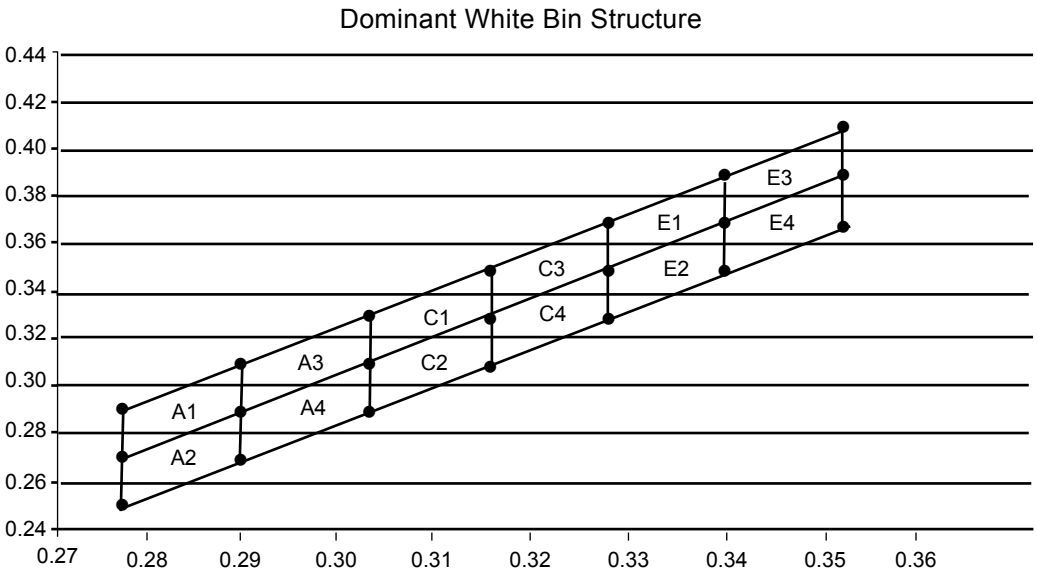
Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	50	mA
Peak pulse current; (tp ≤ 10μs, Duty cycle = 0.1)	200	mA
Reverse voltage; Ir (max) = 10μA	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, $R_{th\ JA}$ - Junction / solder point, $R_{th\ JS}$ (Mounting on FR4 PCB, pad size >= 16 mm^2 per pad)	 300 130	 K/W K/W

Characteristics (Ta = 25˚C)

	Symbol	Part Number	Value	Unit
Temperature coefficient of V_F (typ) I_F = 30mA; 0 ˚C <= T <= 100 ˚C	TC_V	DWW-UJG	-2.90	mV / K
Temperature coefficient of I_V (typ) I_F = 30mA; 0 ˚C <= T <= 100 ˚C	TC_{IV}	DWW-UJG	-3.3	mcd / K
Temperature coefficient of Cx (typ) I_F = 30mA; 0 ˚C <= T <= 100 ˚C	TC_{Cx}	DWW-UJG	-0.0002	
Temperature coefficient of Cy (typ) I_F = 30mA; 0 ˚C <= T <= 100 ˚C	TC_{Cy}	DWW-UJG	-0.0002	

DWW, White Color Grouping (Tj = 25˚C)



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

Bin		W			
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

Bin		X			
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.

Luminous Intensity Group at Tj=25˚C

Brightness Group	Luminous Intensity @ IV (mcd)
V1	715.0...900.0
V2	900.0..1125.0
W1	1125.0...1400.0
W2	1400.0...1800.0
X1	1800.0...2240.0

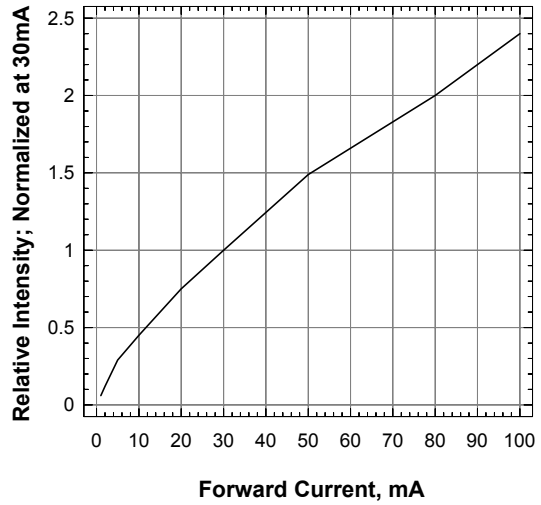
Luminous intensity is measured with an accuracy of ± 11%.

Vf Bining (Optional)

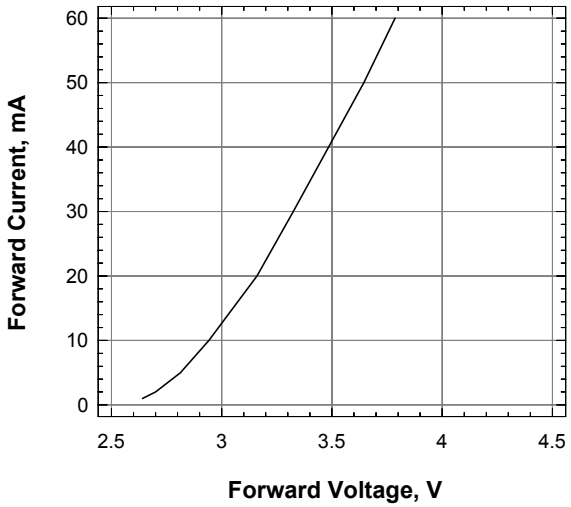
Vf @ If = 30mA	Forward Voltage (V)
3A	3.05 ... 3.35
30	3.35 ... 3.65
31	3.65 ... 3.95
32	3.95 ... 4.25

Forward voltage, Vf is measured with an accuracy of ± 0.1V.
Please consult sales and marketing to incorporate special part number to incorporate Vf binning.

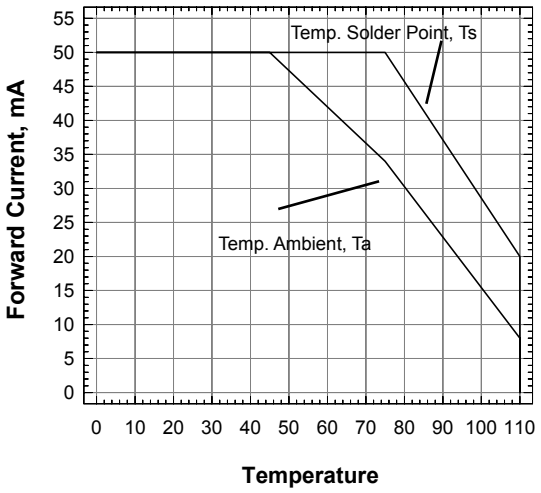
Relative Intensity Vs Forward Current



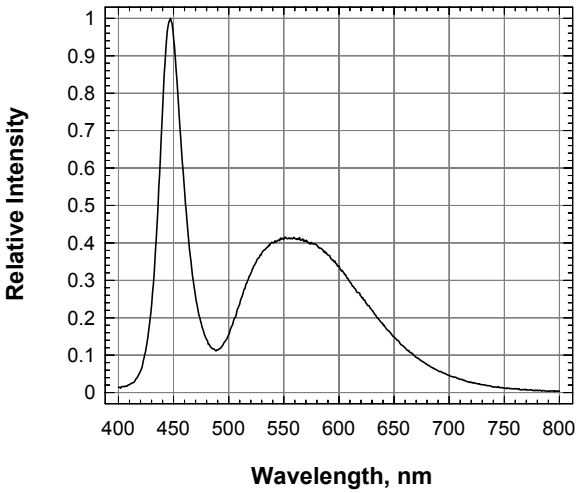
Forward Current Vs Forward Voltage



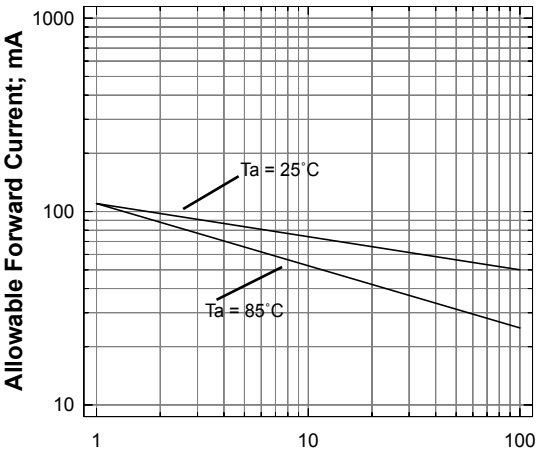
Forward Current Vs Temperature



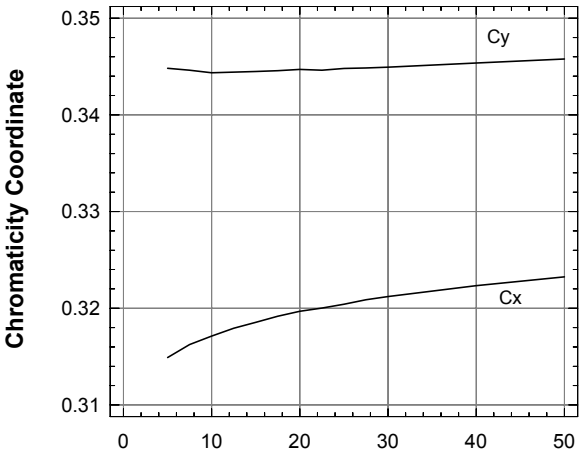
Relative Intensity Vs Wavelength



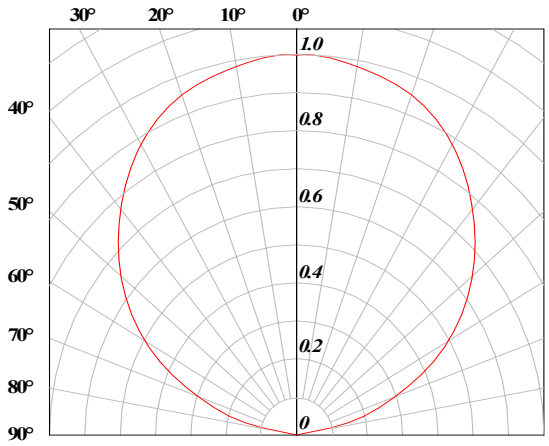
Allowable Forward Current Vs Duty Ratio



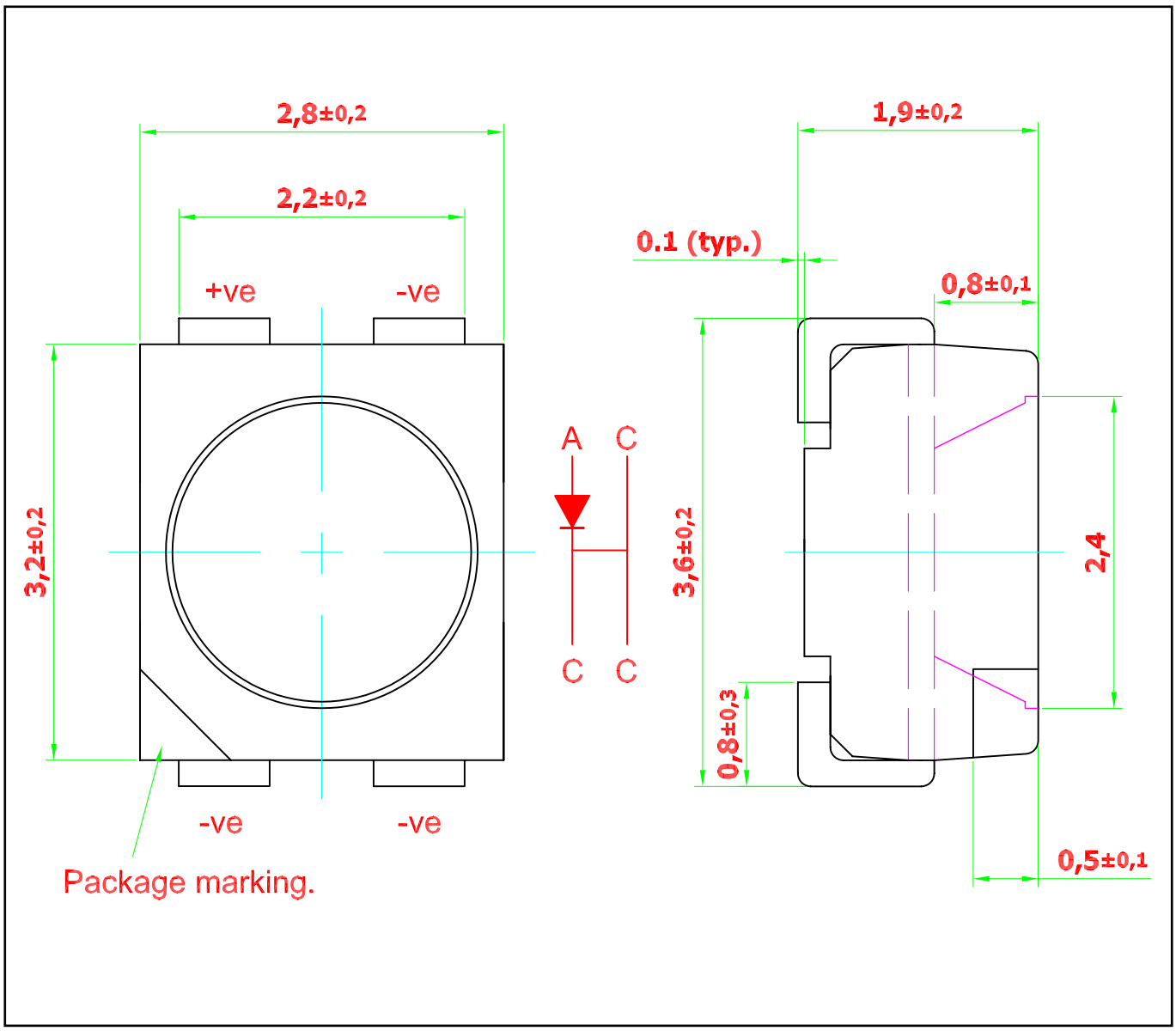
Chromaticity Coordinate Shift Vs Forward Current



Radiation Pattern



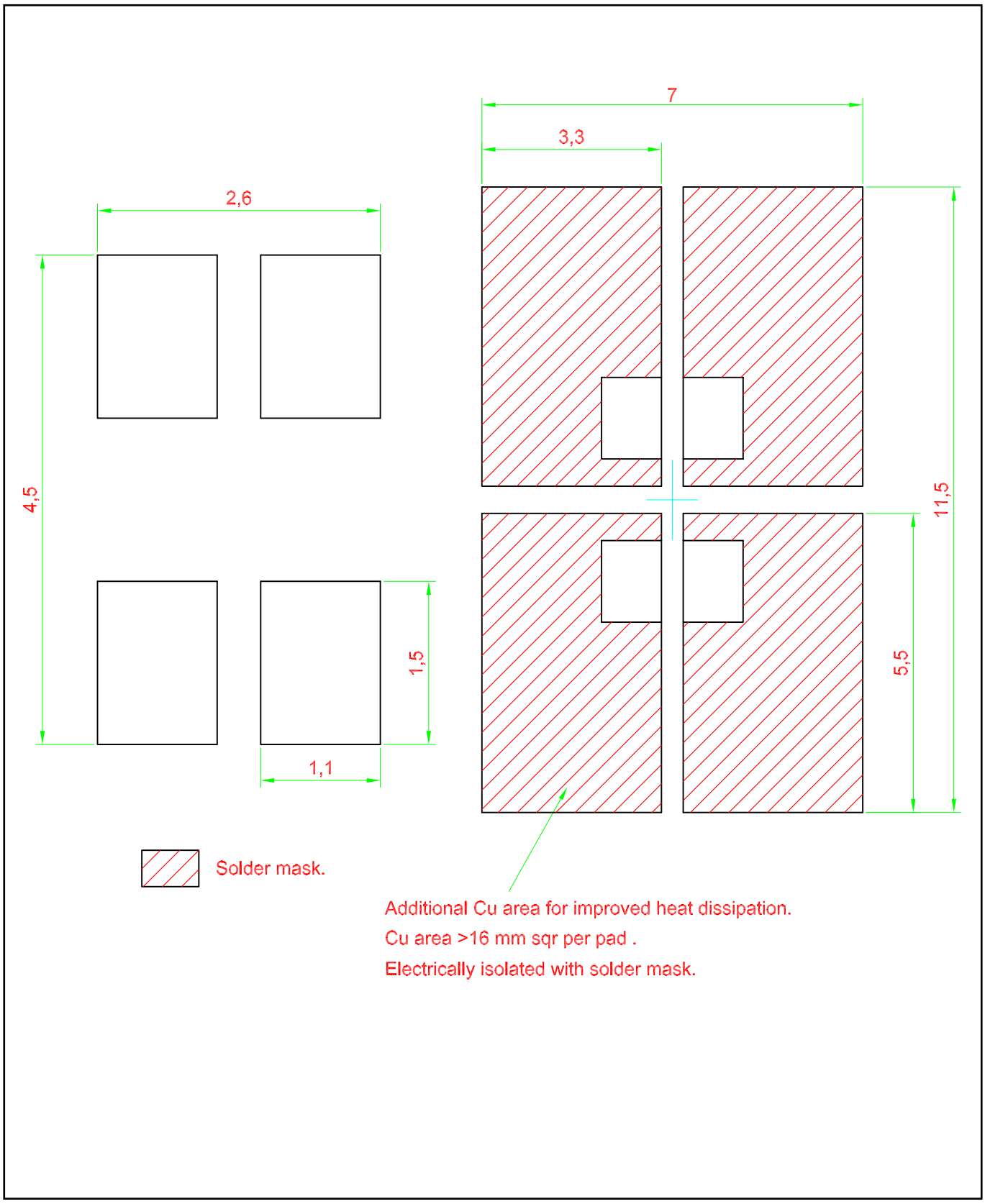
Power DomiLED™ • InGaN White : DWW-UJG Package Outlines



Material

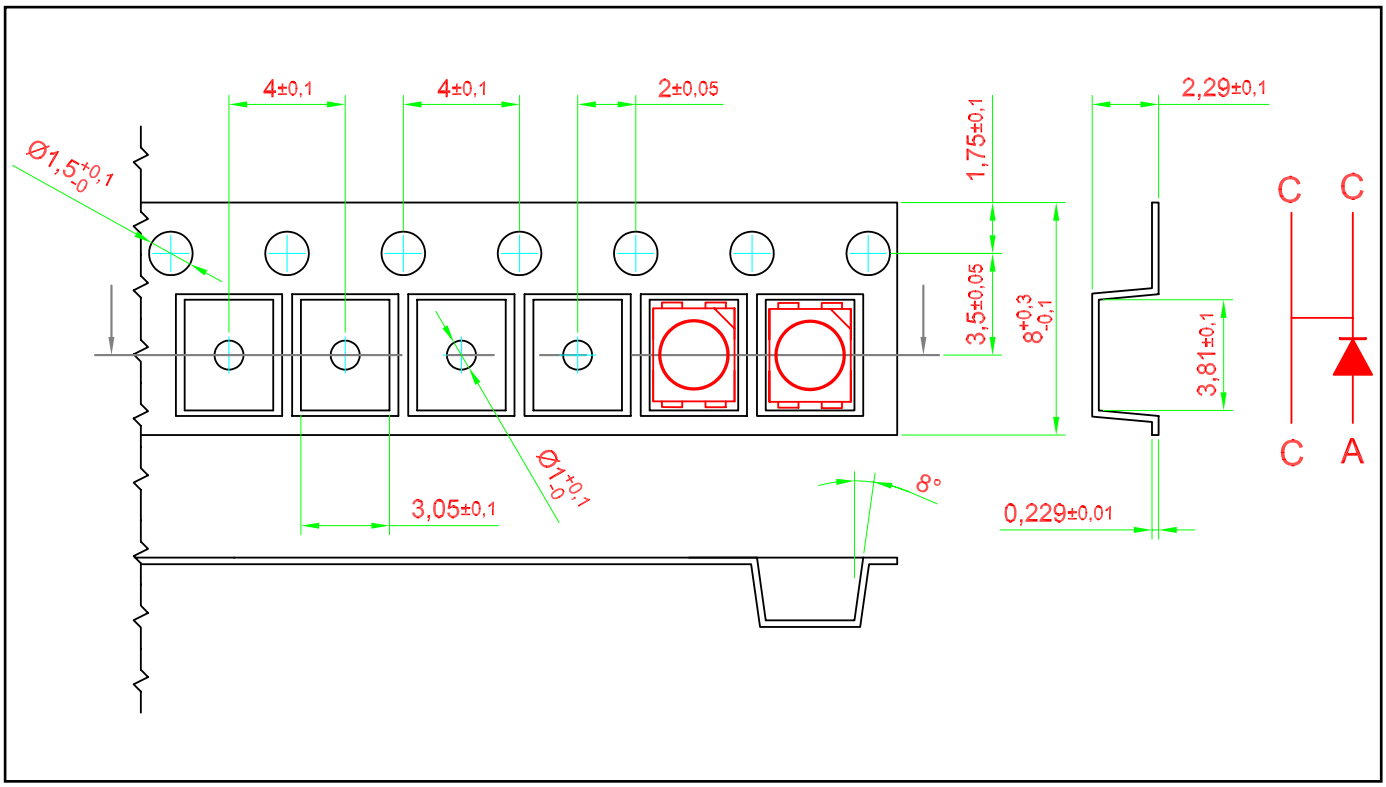
	Material
Lead-frame	Cu Alloy With Ag Plating
Package	High Temperature Resistant Plastic, PPA
Encapsulant	Silicone Resin
Soldering Leads	Sn-Sn Plating

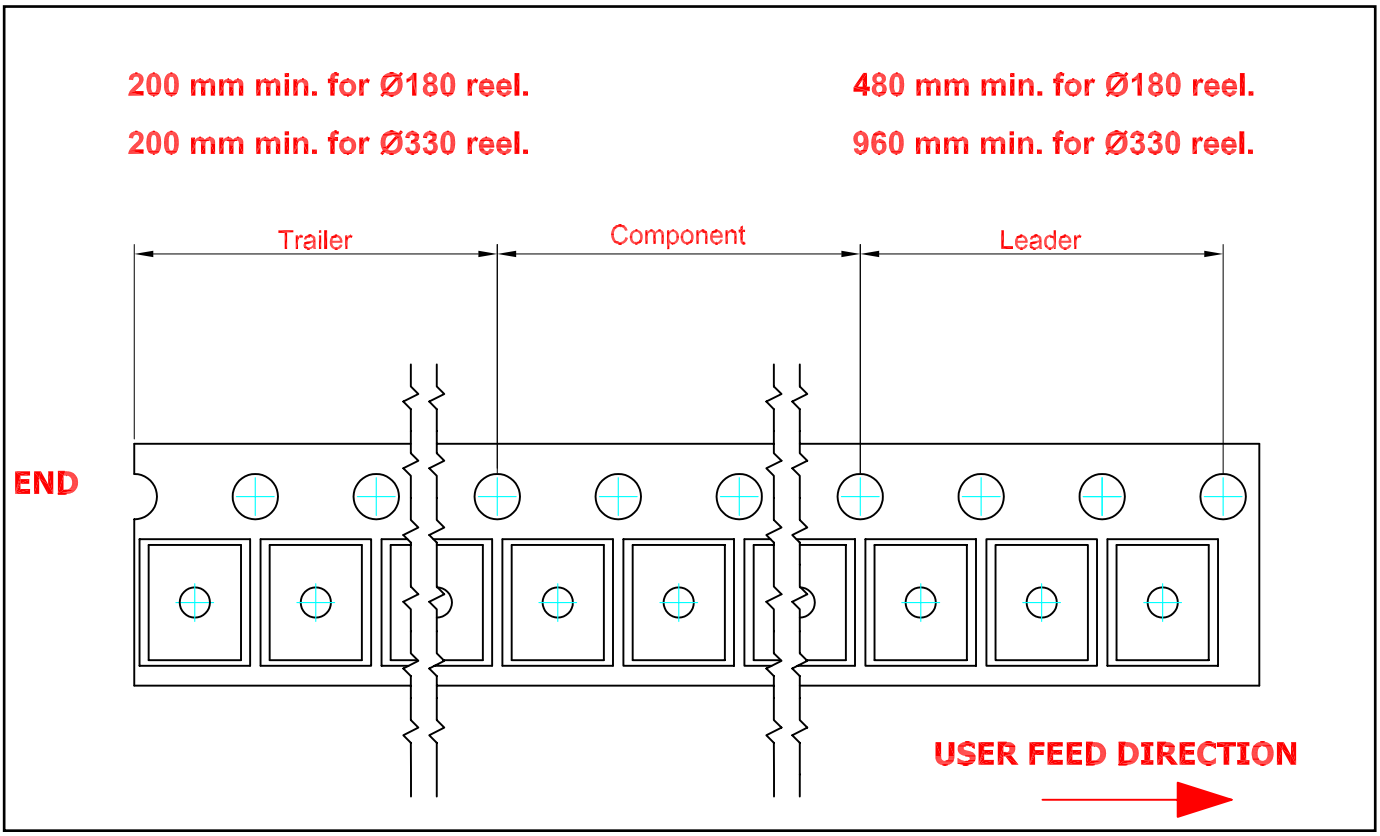
Recommended Solder Pad



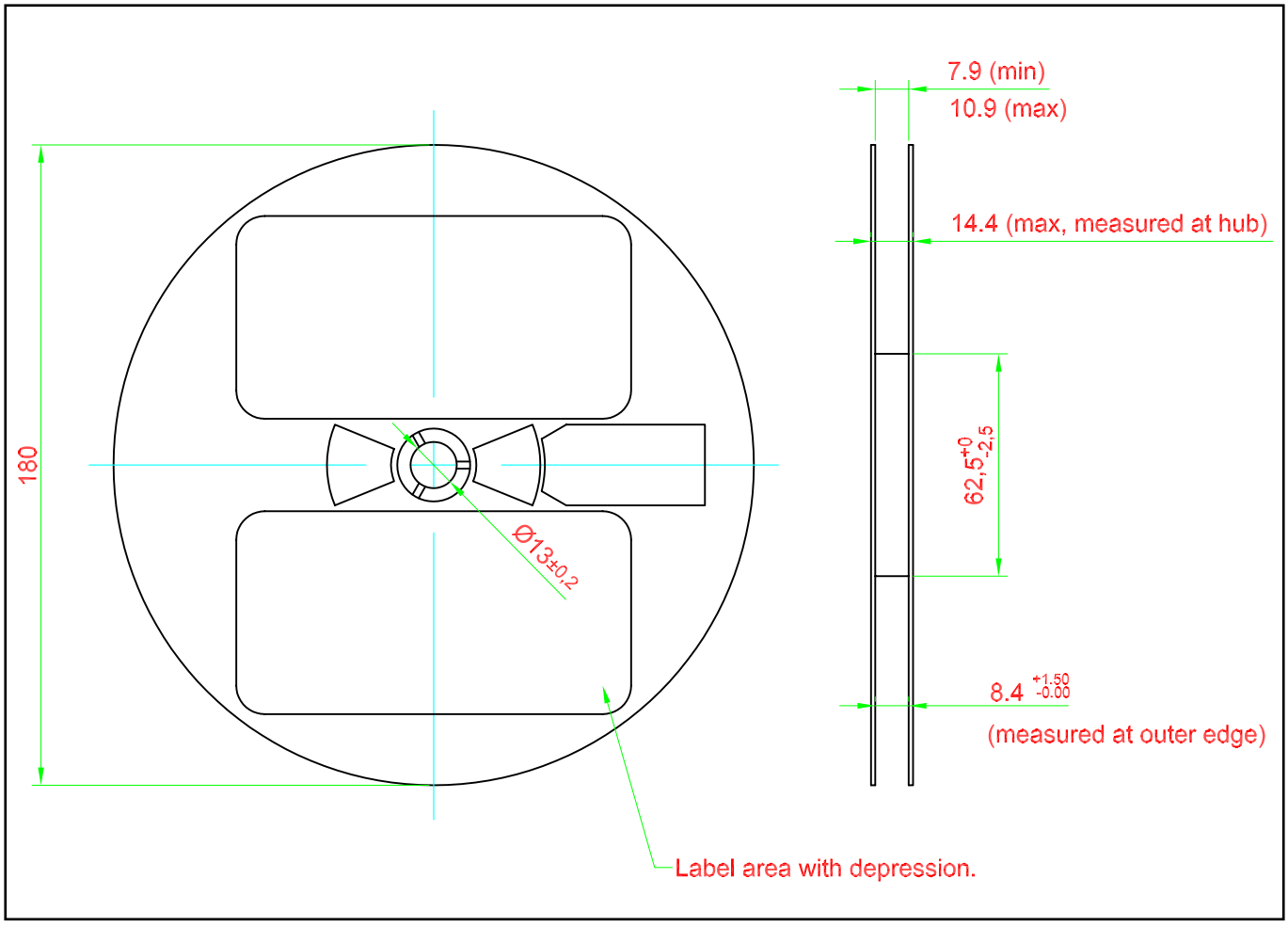
Taping and orientation

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

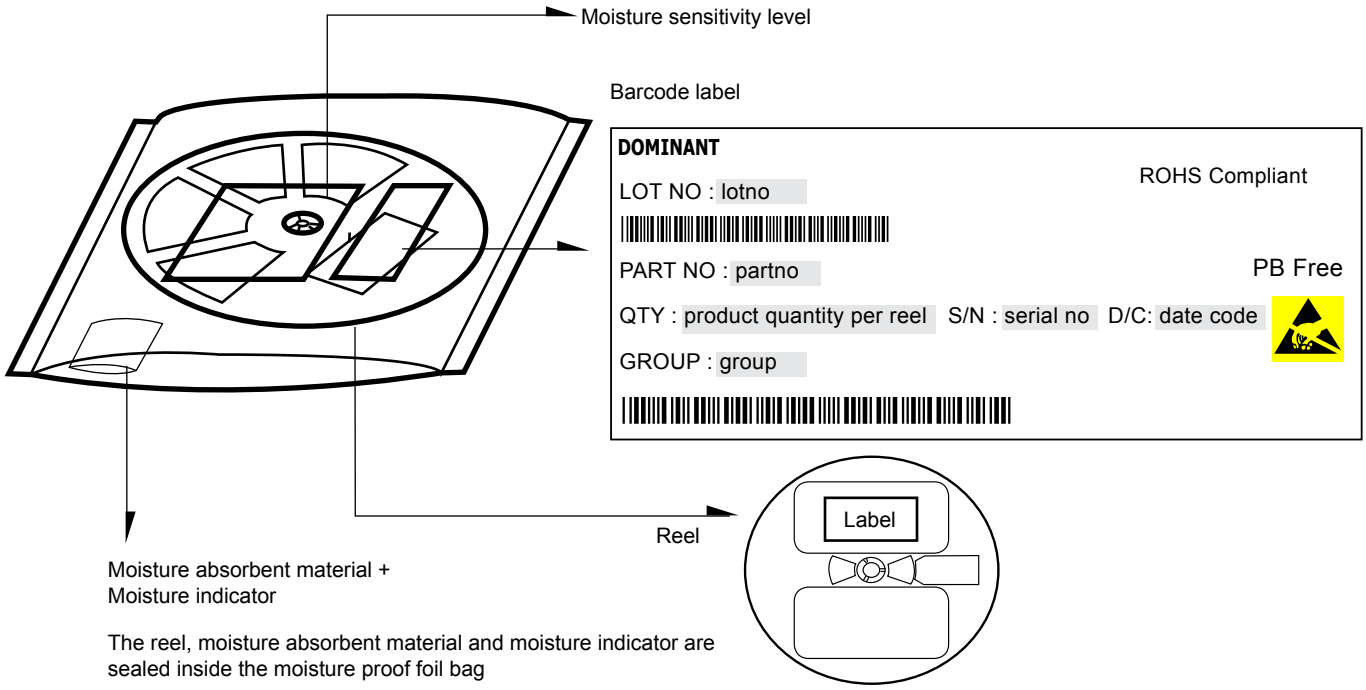




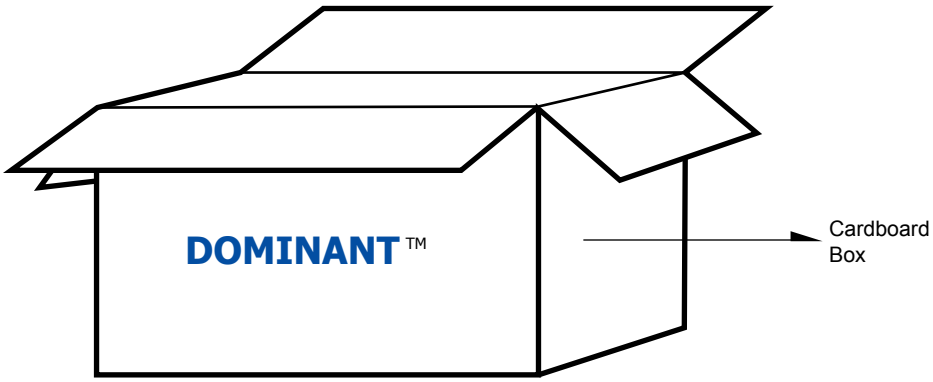
Packaging Specification



Packaging Specification



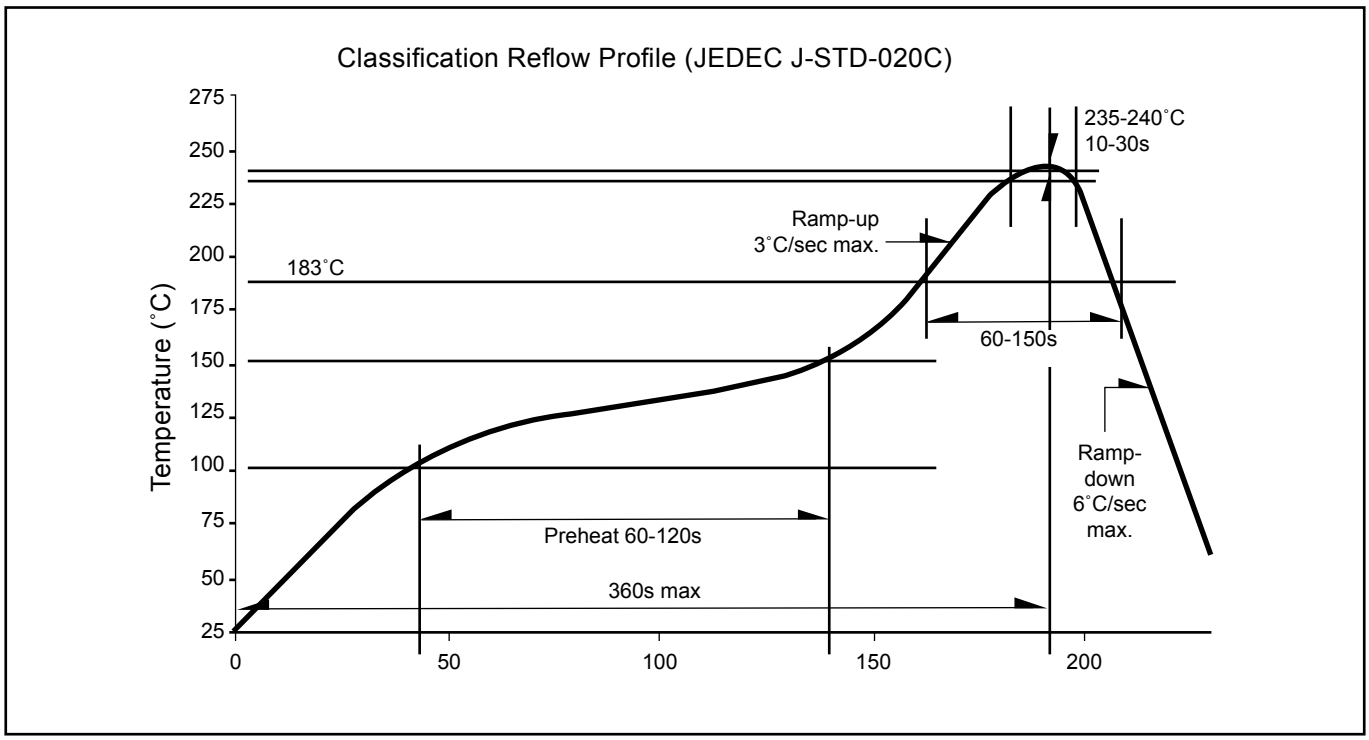
	Average 1pc Power DomiLED	1 completed bag (2000pcs)
Weight (gram)	**0.034**	**190 ± 10**



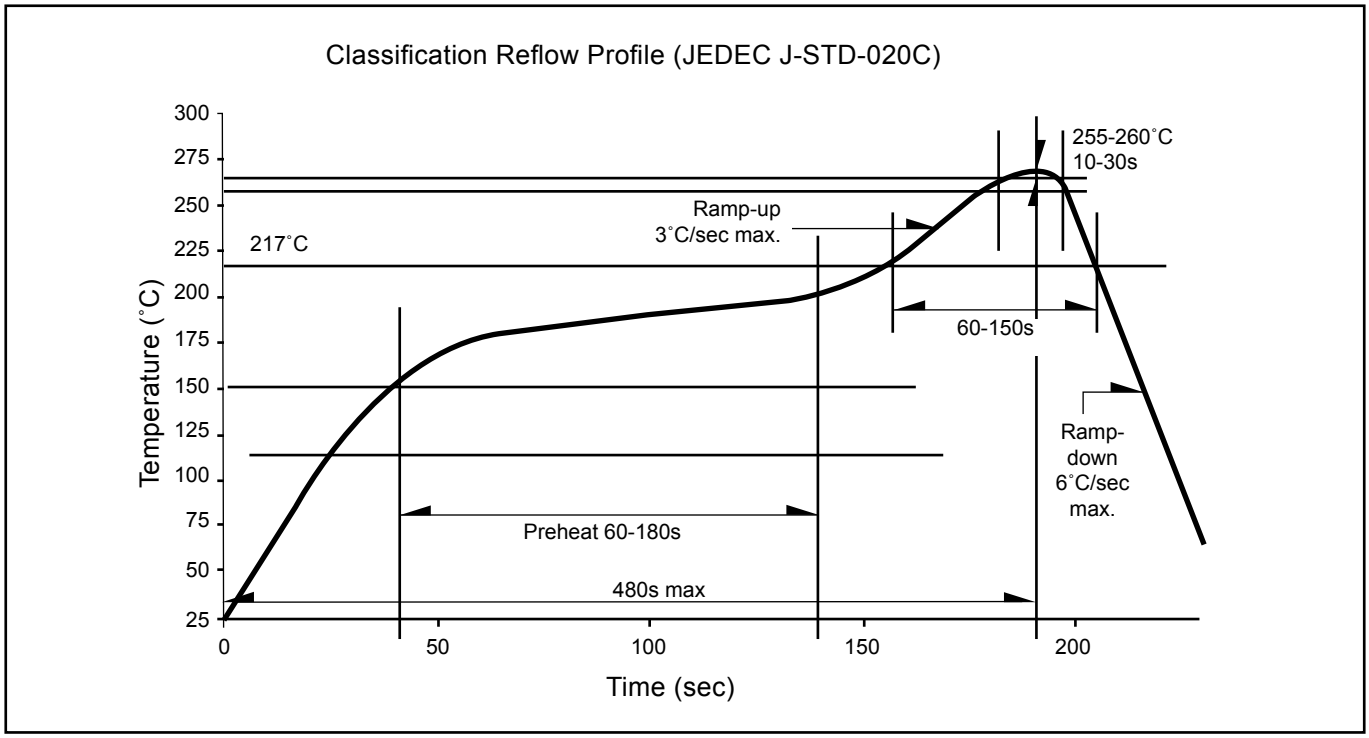
For Power DomiLED™

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	08 Jan 2007
2,3,4, 5 & 7	Add title; add thermal resistance at Absolute Maximum Ratings; add Allowable Forward Current Vs Duty Ratio and Chromaticity Coordinate Shift Versus Forward Current graphs.	12 Oct 2007
-	Update Company Name	15 Mar 2010
2	Add new partno: DWW-UJG-WX1-1	01 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.

Please contact us for more information:

Head Quarter

DOMINANT Opto Technologies Sdn. Bhd.
Lot 6, Batu Berendam, FTZ Phase III, 75350 Melaka, Malaysia
Tel: (606) 283 3566 Fax: (606) 283 0566
E-mail: sales@dominant-semi.com

DOMINANT Semiconductors Malaysia Sdn. Bhd. Shanghai Representative Office

DOMINANT Semiconductors (Shenzhen) Co. Ltd.
Rm 1007, DaZhong Building, No. 1515 Zhong Shan (W) Rd, Shanghai, China 200235
Tel: +86 21 6428 6428 Fax: +86 21 6428 6880
E-mail: sales_china@dominant-semi.com

DOMINANT Korea Sales Office

DOMINANT Semiconductors Korea Inc.
#709, Yatap Leaders Bldg., 342-1 Yatap-dong, Bundang-gu, Seongnam-si, Gyeonggi-do, 463-828 Korea.
Tel: +82-31-701-5203 Fax: +82-31-701-5204
E-mail: sales_korea@dominant-semi.com

DOMINANT U.S.A Sales Office

25 Rockaway Road, 08833 Lebanon, New Jersey, USA
Tel: (908) 439-9930 Cell: (908) 343-5810 Fax: (908) 439-9929
E-mail: don.wendel@dominant-semi.com

DOMINANT Europe Sales Office

DOMINANT Semiconductors Europe GmbH
Raiffeisenstr. 38, 74906 Bad Rappenau Germany
Tel: +49 (0) 7264-89010-10 / +49 (0) 7264-89010-11 Cell: +49 173-6907370 / +49 173-6907751
Fax: +49 (0) 7264-89010-29
E-mail: gerd.wachno@dominant-semi.eu; hartmut.wettengl@dominant-semi.eu

DOMINANT Semiconductors India Sales Office

C-11,Vasanth Business Centre #86, TTK Road, Alwarpet Chennai - 600 018, INDIA
Tel: 91-44-42030616 / 516 Cell: 91-9444920537 Fax: 91-9444920616
E-mail: pravat.behera@dominant-semi.com