

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.
- > Compliance to automotive standard; AEC-Q101.



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



Optical Characteristics (Tj=25°C)

Part Ordering Number	Color	Viewing Angle°	Luminous Intensity @ 30mA IV (mcd)		
			Min.	Typ.	Max.
DWT-LJG-WX2-1	True Green; 525nm	120	1125.0	1800.0	2850.0
DWT-LJG-X2Y-1	True Green; 525nm	120	2240.0	3550.0	4500.0
DWB-LJG-T2V1-1	Blue; 470nm	120	355.0	560.0	900.0

NOTE

1. All part number above comes in a quantity of 2000 units per reel.
2. Luminous intensity is measured with an accuracy of ± 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	Vf @ If = 30mA			Vr @ Ir = 10uA
	Min. (V)	Typ. (V)	Max. (V)	Min. (V)
DWx-LJG	3.00	3.30	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 = 0.005)	100	mA
Reverse voltage; Ir (max) = 10µA	5	V
ESD threshold (HBM)	2000	V
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 ≥ 16 mm ² per pad)		

Characteristics

	Symbol	Part Number	Value	Unit
Temperature coefficient of λ_{dom} (typ) $I_F = 50\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	$TC_{\lambda_{dom}}$ (typ)	DWT-LJG	0.04	nm / K
		DWB-LJG	0.02	
Temperature coefficient of V_F (typ) $I_F = 50\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	TC_V	DWT-LJG	-2.2	mV / K
		DWB-LJG	-2.3	
Temperature coefficient of I_V (typ) $I_F = 50\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	TC_{I_V}	DWT-LJG	-0.14	% / K
		DWB-LJG	-0.30	

Wavelength Grouping at Tj=25°C

Color	Group	Wavelength distribution (nm)
DWT; True Green	Full	520 - 535
	A	520 - 525
	B	525 - 530
	C	530 - 535
DWB; Blue	Full	460 - 475
	A0	460 - 465
	A	465 - 470
	B	470 - 475

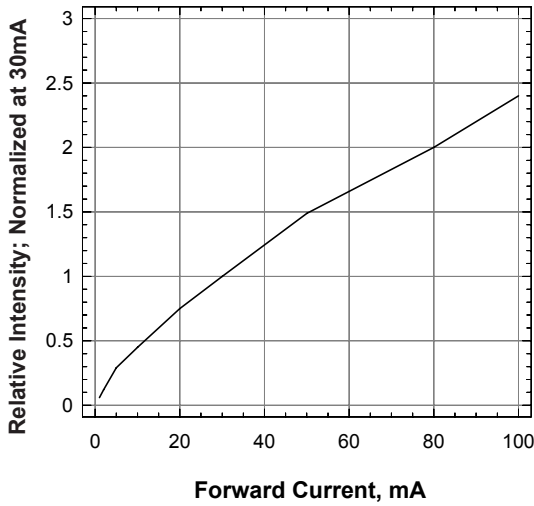
Dominant wavelength is measured with an accuracy of ± 1 nm.

Luminous Intensity Group at Tj=25°C

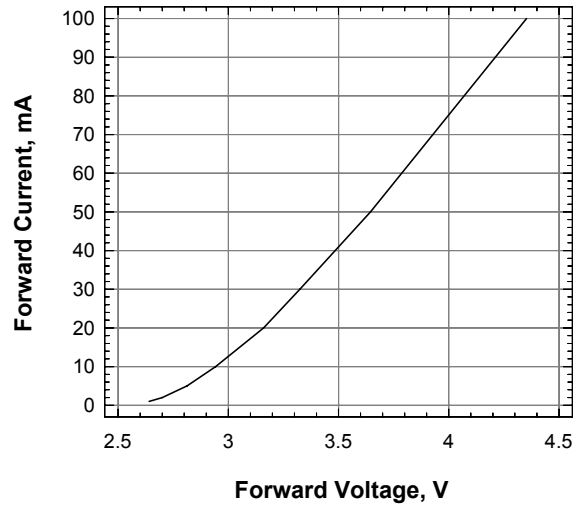
Brightness Group	Luminous Intensity IV (mcd)
T2	355.0 ... 450.0
U1	450.0 ... 560.0
U2	560.0 ... 715.0
V1	715.0 ... 900.0
W1	1125.0 ... 1400.0
W2	1400.0 ... 1800.0
X1	1800.0 ... 2240.0
X2	2240.0 ... 2850.0
Y1	2850.0 ... 3550.0
Y2	3550.0 ... 4500.0

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

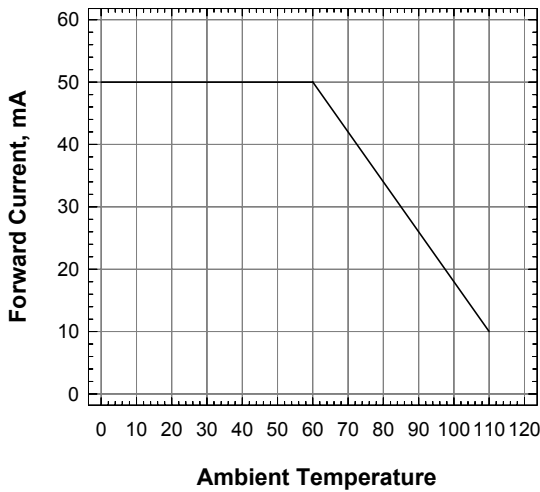
Relative Intensity Vs Forward Current



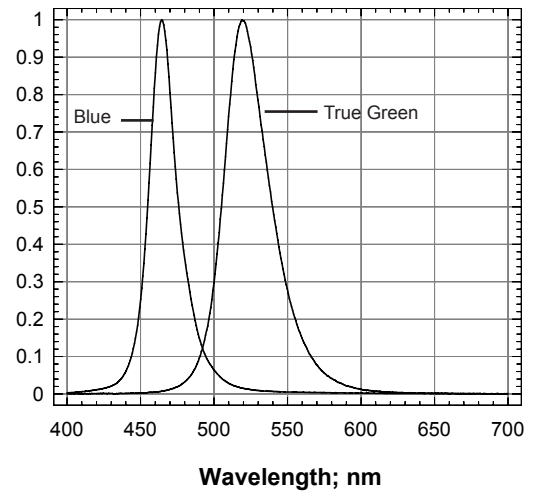
Forward Current Vs Forward Voltage



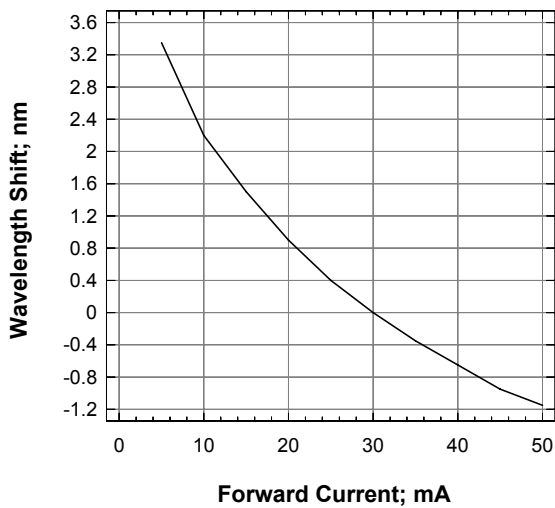
Maximum Current Vs Temperature



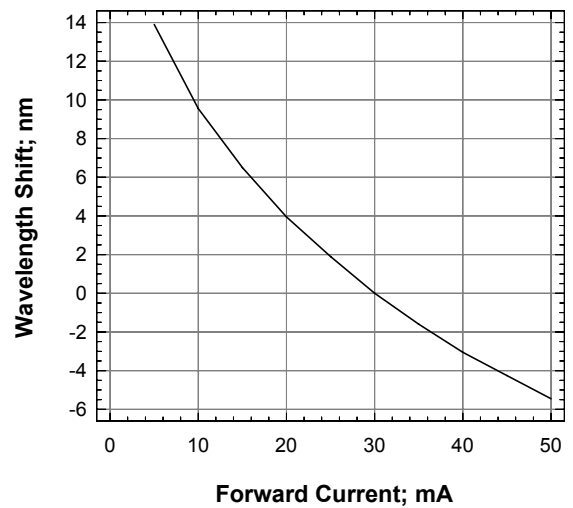
Relative Intensity vs Wavelength



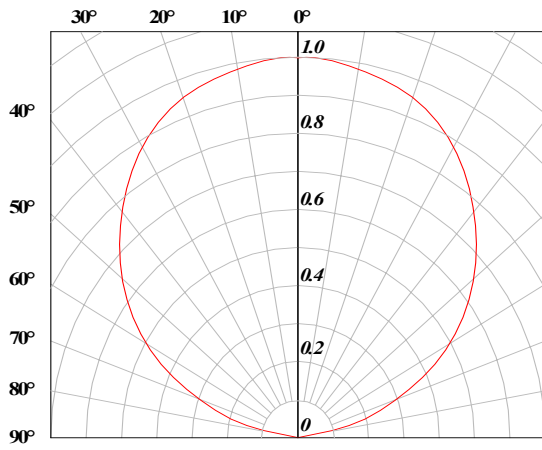
Wavelength Shift vs Forward Current (True Green)



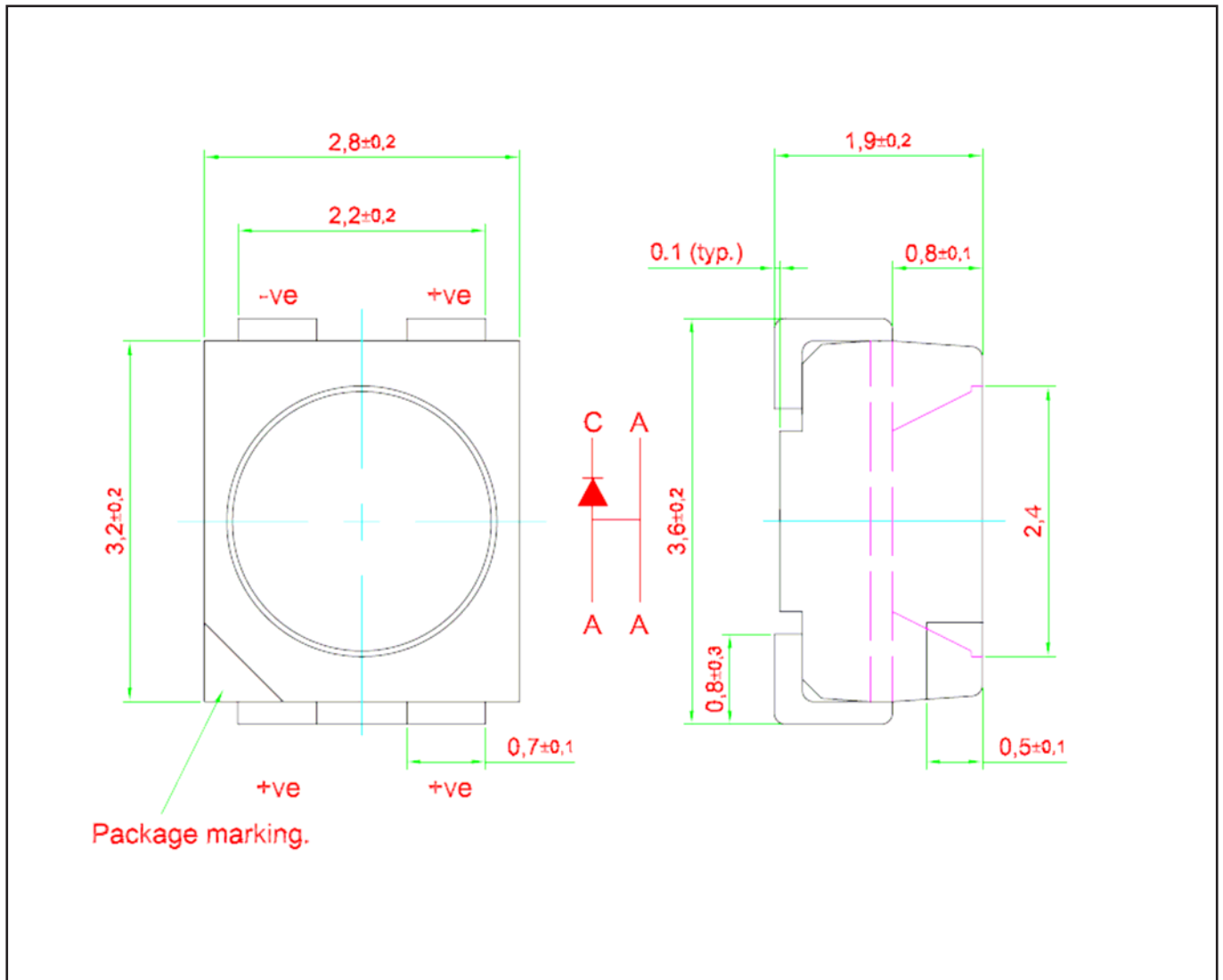
Wavelength Shift vs Forward Current (Blue)



Radiation Pattern



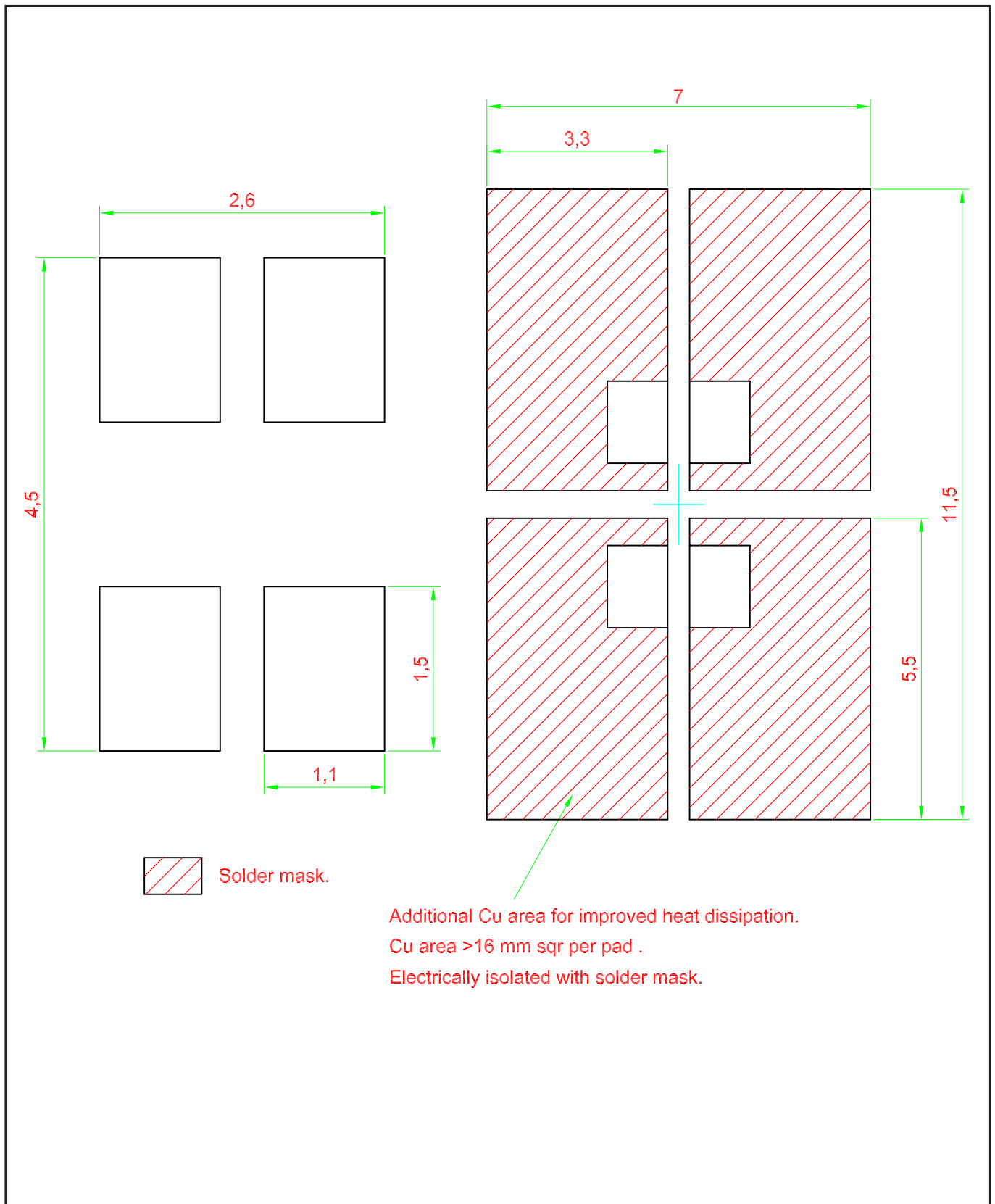
Power DomiLED™ • InGaN : DWx-LJG Package Outlines



Material

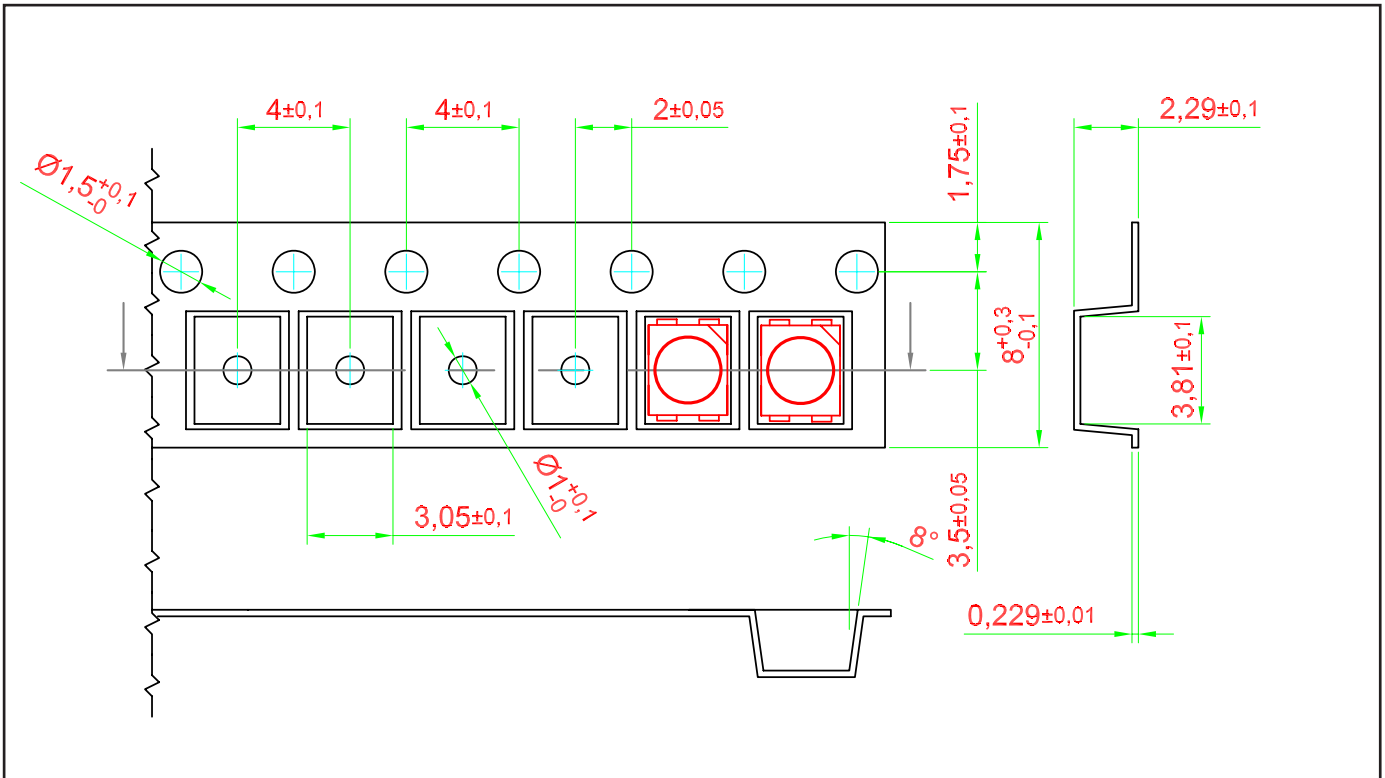
Material	
Lead-frame	Cu Alloy With Ag Plating
Package	High Temperature Resistant Plastic, PPA
Encapsulant	Silicone Resin
Soldering Leads	Sn-Sn Plating

Recommended Solder Pad



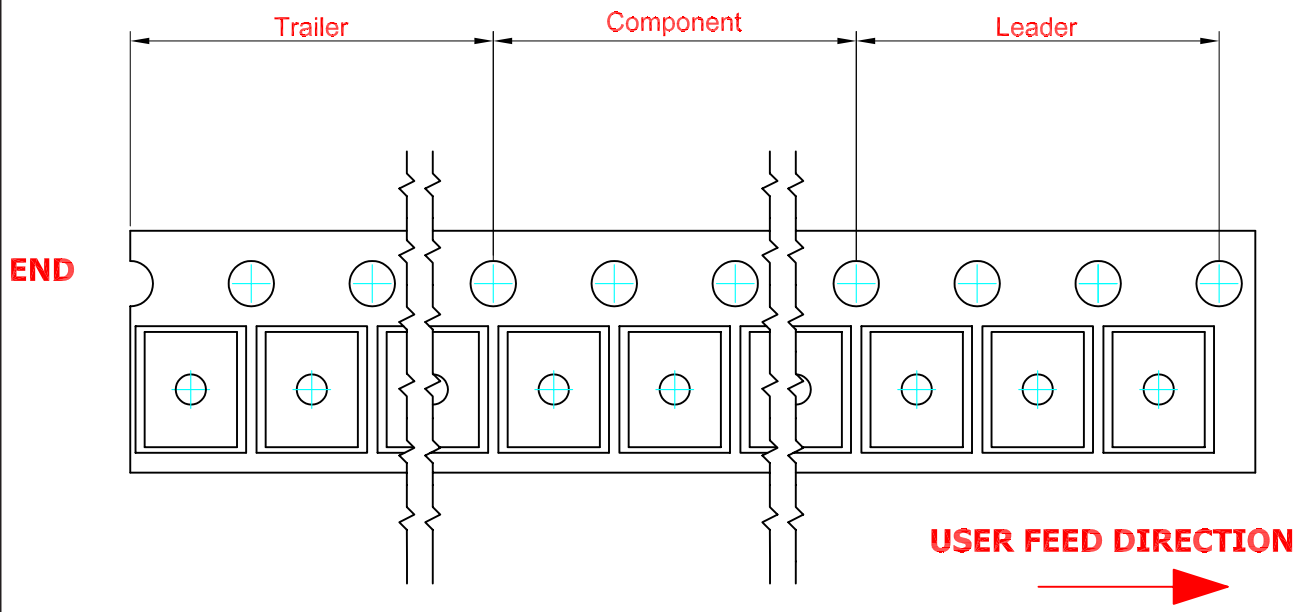
Taping and orientation

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

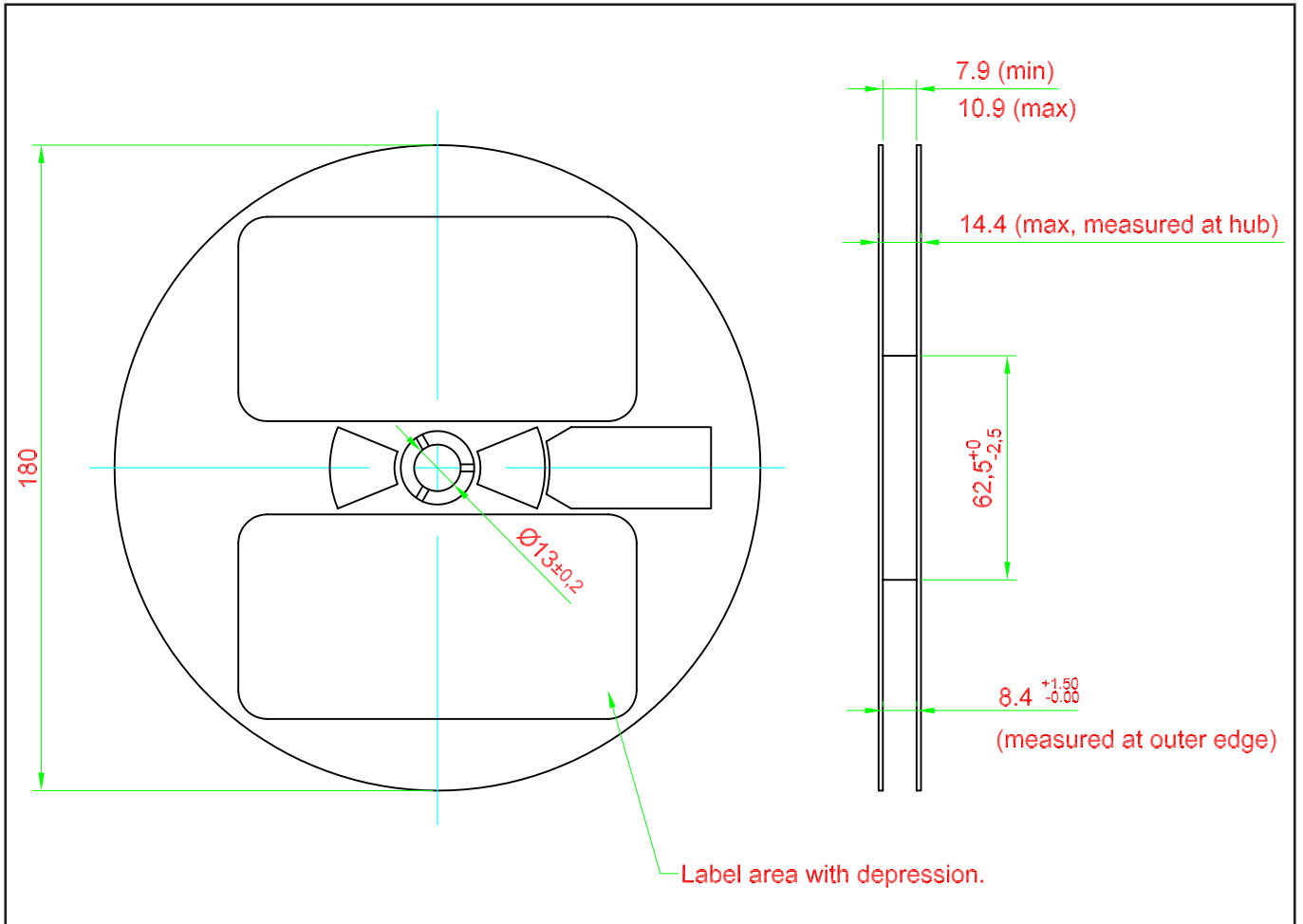


200 mm min. for $\varnothing 180$ reel.
 200 mm min. for $\varnothing 330$ reel.

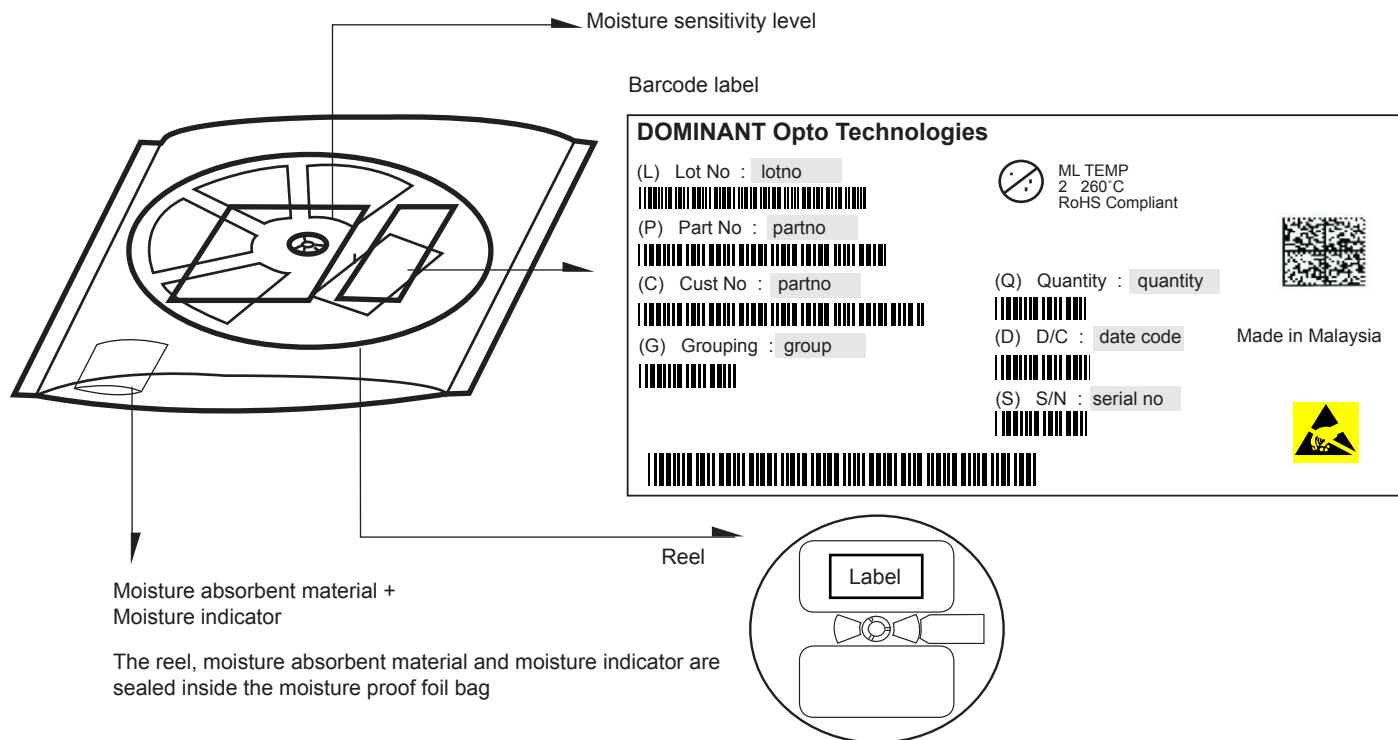
480 mm min. for $\varnothing 180$ reel.
 960 mm min. for $\varnothing 330$ reel.



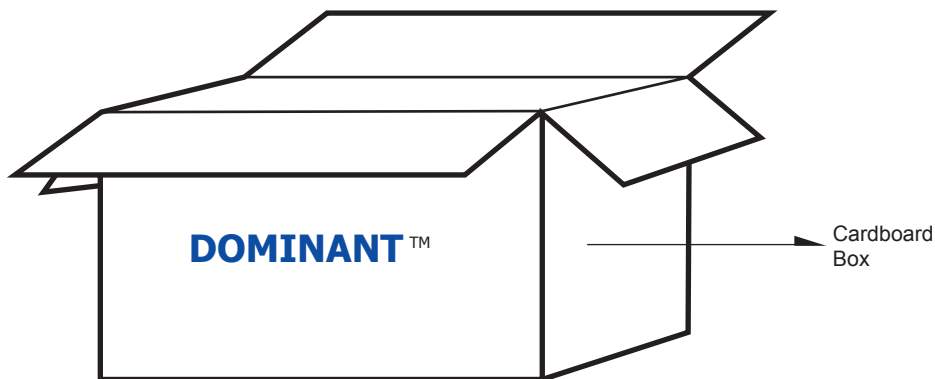
Packaging Specification



Packaging Specification



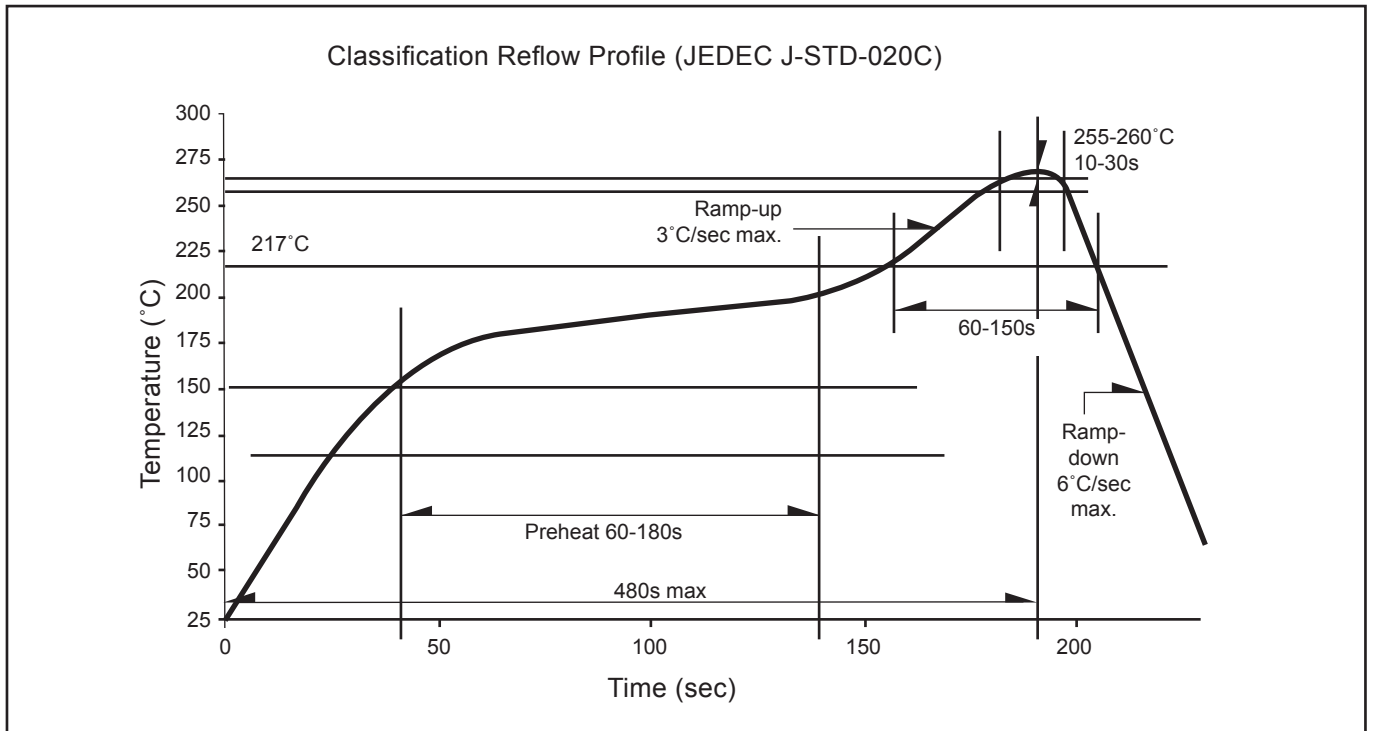
	Average 1pc Power DomiLED	1 completed bag (2000pcs)
Weight (gram)	0.034	240 ± 10



For Power DomiLED™

Cardboard Box Size	Dimensions (mm)	Empty Box Weight (kg)	Reel / Box
Super Small	325 x 225 x 190	0.38	9 reels MAX
Small	325 x 225 x 280	0.54	15 reels MAX
Medium	570 x 440 x 230	1.46	60 reels MAX
Large	570 x 440 x 460	1.92	120 reels MAX

Recommended Pb-free Soldering Profile



Revision History

Page	Subjects	Date of Modification
-	Initial Release	22 Mar 2010
3	Typo error on IV group: V2 --> V1	06 Sep 2010
4	Typo error on graph: Relative Intensity Vs Forward Current Update Operating Temperature and Storage Temperature	19 Aug 2013
1	Update product photo	13 Dec 2013
2, 3	Add Thermal Resistance and Characteristics	26 Jun 2014
1, 2, 11	Update Features Add new partno: DWT-LJG-X2Y-1 Update Packaging Specification	13 Jan 2016

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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