

Domiled™

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



Features:

- > High brightness surface mount LED.
- > 120° viewing angle.
- > Small package outline.
- > 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
- > Consumer Appliances: Backlighting illumination as in PDAs, LCD TV.
- > Communication: indicator and backlight in mobile phone, flash light.
- > Signage: full colour display video notice board, signage, special effect lighting.
- > Lighting: general lighting.



Optical Characteristics at Tj=25°C

Part Ordering Number	Color	Viewing Angle°	Luminous Intensity @ IF = 20mA IV (mcd)		
			Min.	Typ.	Max.
DDW-MJG-W2X-1	White	120	1400.0	1800.0	2850.0
DDW-MJG-W2X-JKPL	White	120	1400.0	1800.0	2850.0

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. 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 µA
	Min. (V)	Typ. (V)	Max. (V)	Min. (V)
DDW-MJG	2.8	3.2	3.5	5.0

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

Absolute Maximum Ratings

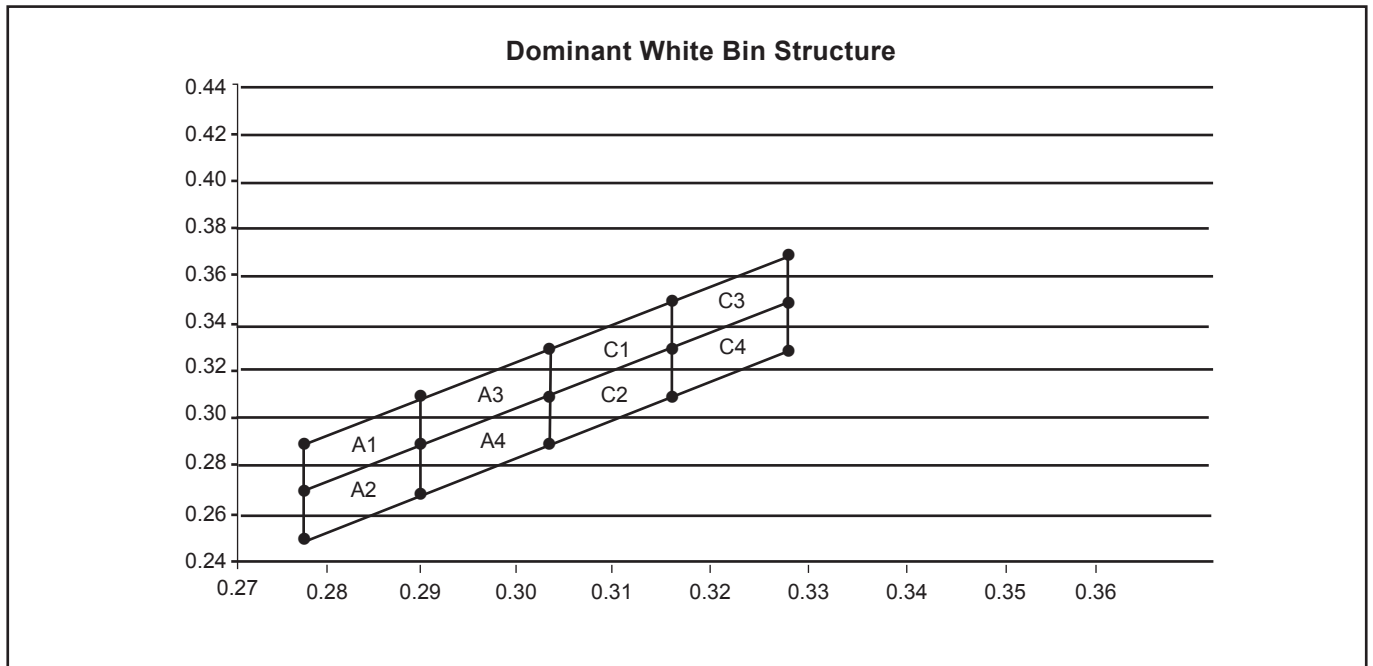
	Maximum Value	Unit
DC forward current	50	mA
Peak pulse current; (tp ≤ 10µs, Duty cycle = 0.005)	100	mA
Reverse voltage; Ir max = 10µA	5	V
ESD threshold (HBM)	2000	V
LED junction temperature	125	°C
Operating temperature	-40 ... +110	°C
Storage temperature	-40 ... +110	°C
Power dissipation (at room temperature)	180	mW
Thermal resistance		
- Junction / ambient, Rth JA	275	K/W
- Junction / solder point, Rth JS	145	K/W
(Mounting on FR4 PCB, pad size ≥ 16mm ² per pad)		

Characteristics

	Symbol	Part Number	Value	Unit
Temperature coefficient of V_F (typ) $I_F = 20\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	TC_V	DDW-MJG	-2.60	mV / K
Temperature coefficient of I_V (typ) $I_F = 20\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	TC_{IV}	DDW-MJG	-0.10	% / K
Temperature coefficient of C_x (typ) $I_F = 20\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	TC_{Cx}	DDW-MJG	-0.00005	/ $^\circ\text{C}$
Temperature coefficient of C_y (typ) $I_F = 20\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	TC_{Cy}	DDW-MJG	-0.00007	/ $^\circ\text{C}$

DDW, White Color Grouping

For this color bin selection, part number will be DDW-MJG-W2X-1



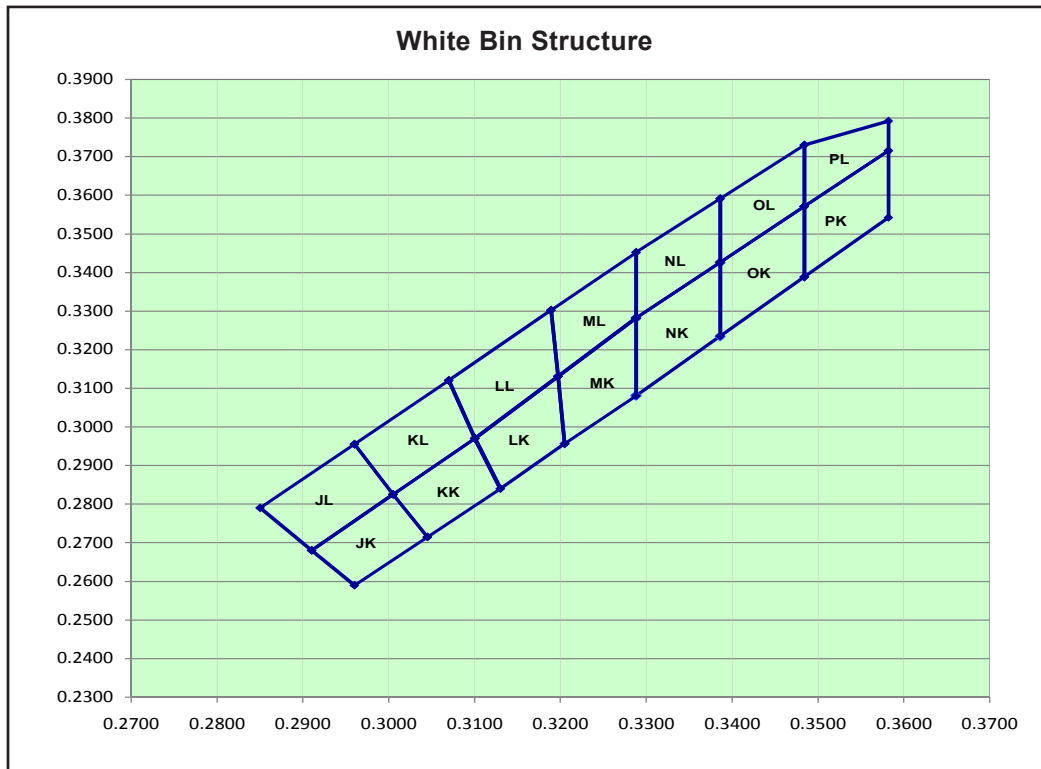
Chromaticity coordinate groups are measured with an accuracy of ± 0.01 .

Bin		Cx	Cy	Cx	Cy	Cx	Cy
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 .

DDW, White Color Grouping

For this color bin selection, part number will be DDW-MJG-W2X-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

Bin		1	2	3	4
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

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.

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 ± 11%.

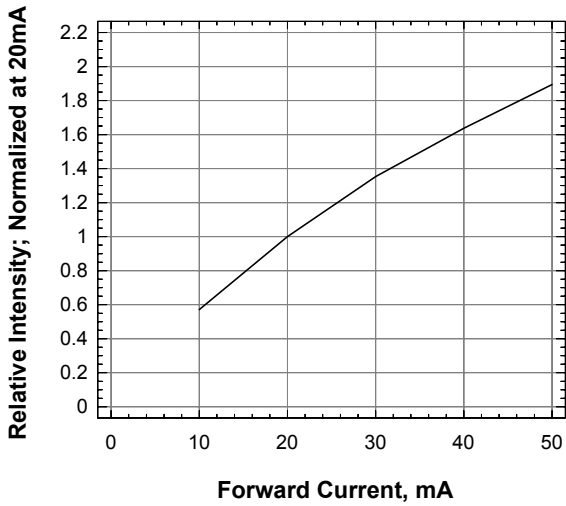
Vf Binning (Optional)

Vf Bin @ 20mA	Forward Voltage (V)
V1	2.70 ... 3.00
V2	3.00 ... 3.30
V3	3.30 ... 3.60

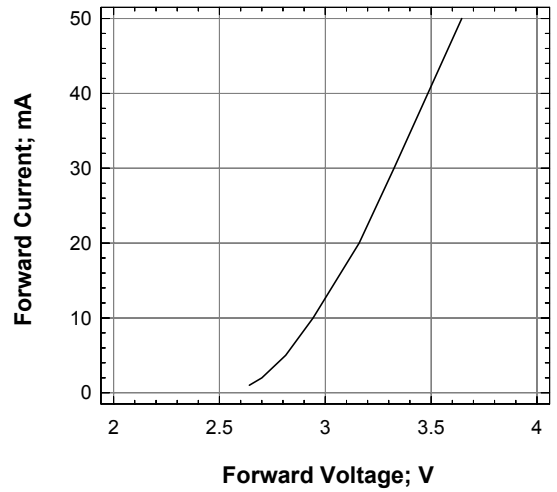
Forward voltage, Vf is measured with an accuracy of ± 0.1 V.

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

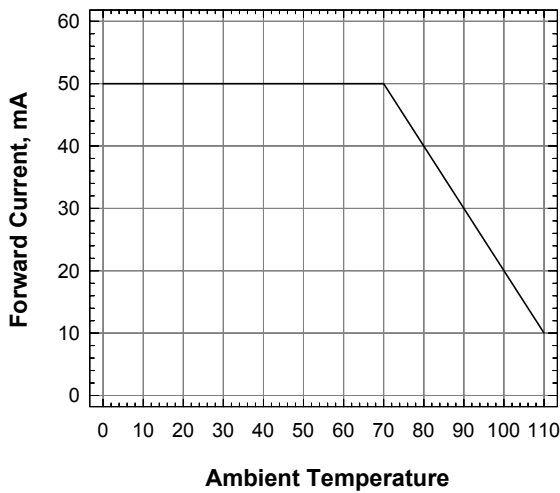
Relative Luminous Intensity Vs Forward Current



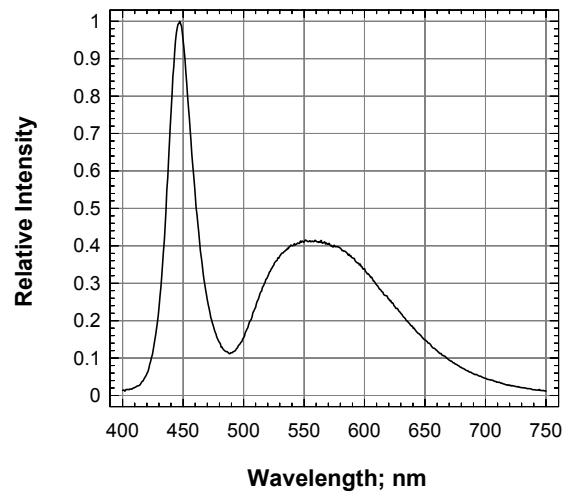
Forward Current Vs Forward Voltage



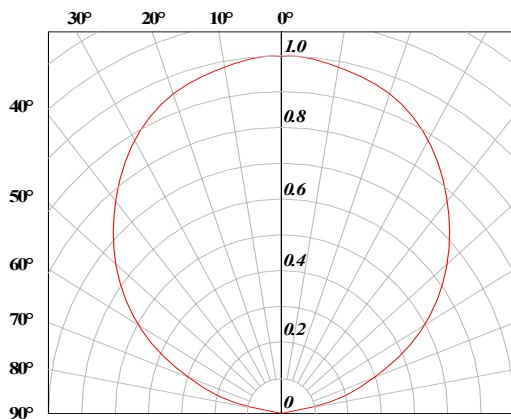
Maximum Current Vs Ambient Temperature



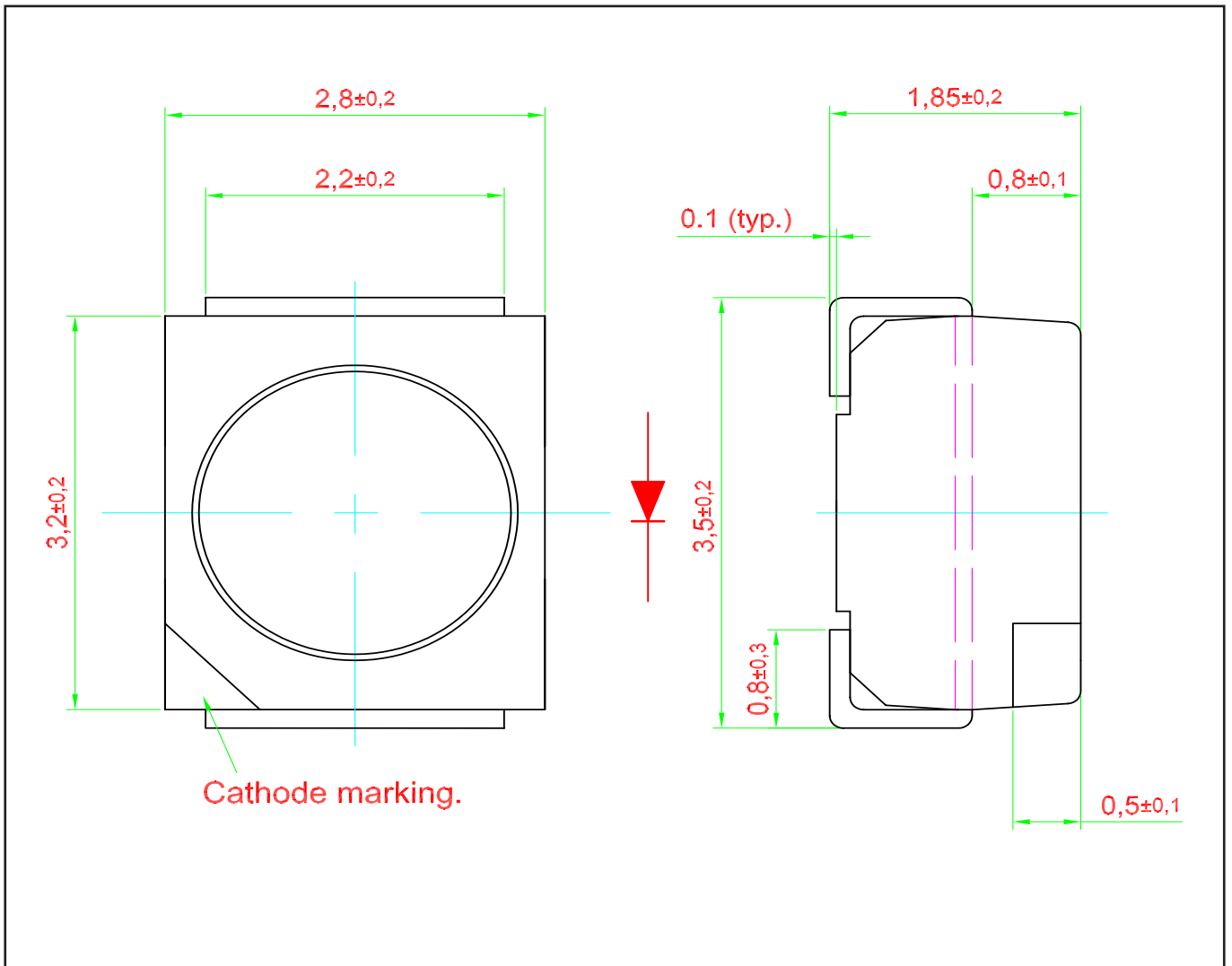
Relative Intensity Vs Wavelength



Radiation Pattern



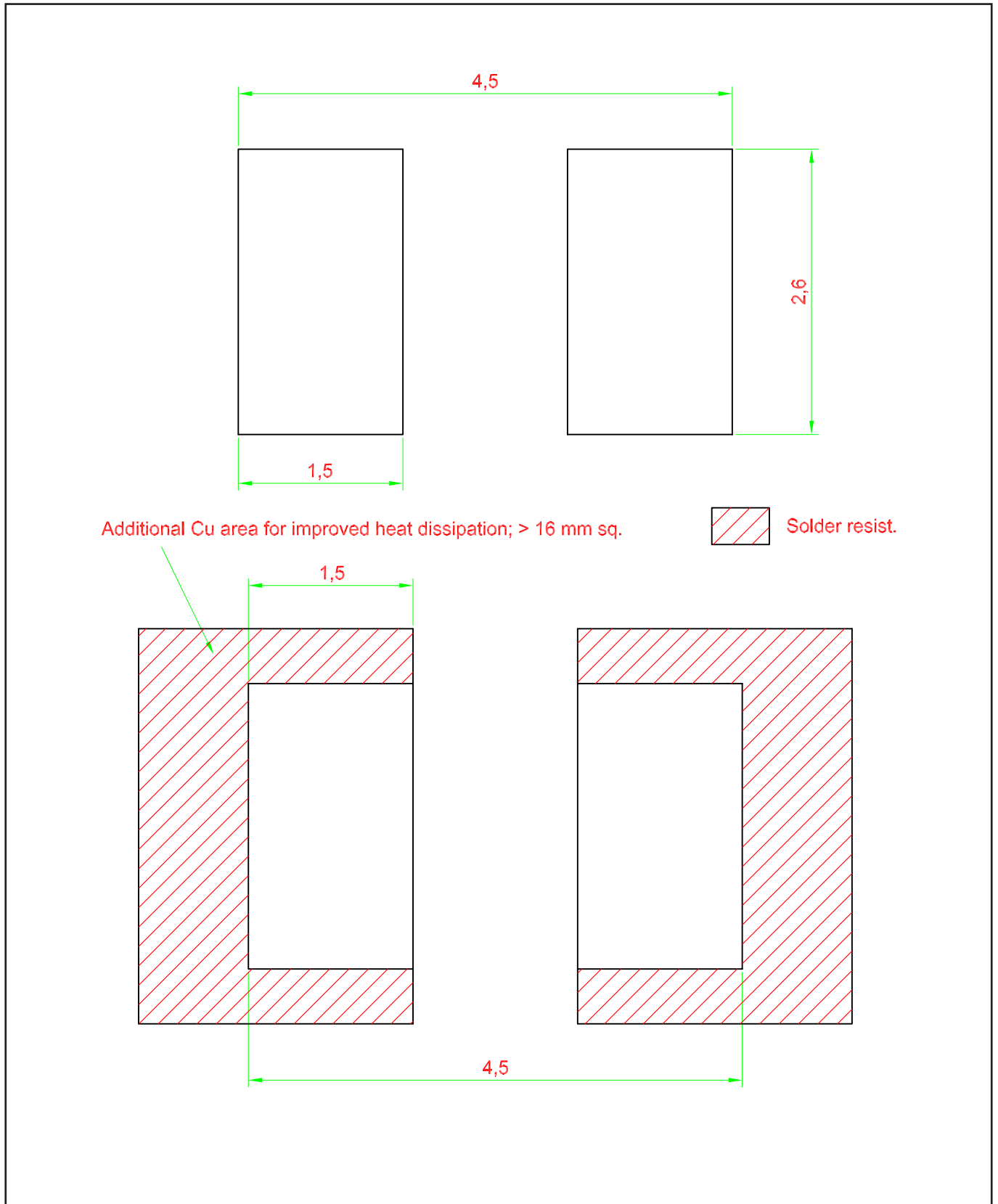
DomiLED™ • InGaN White: DDW-MJG Package Outlines



Material

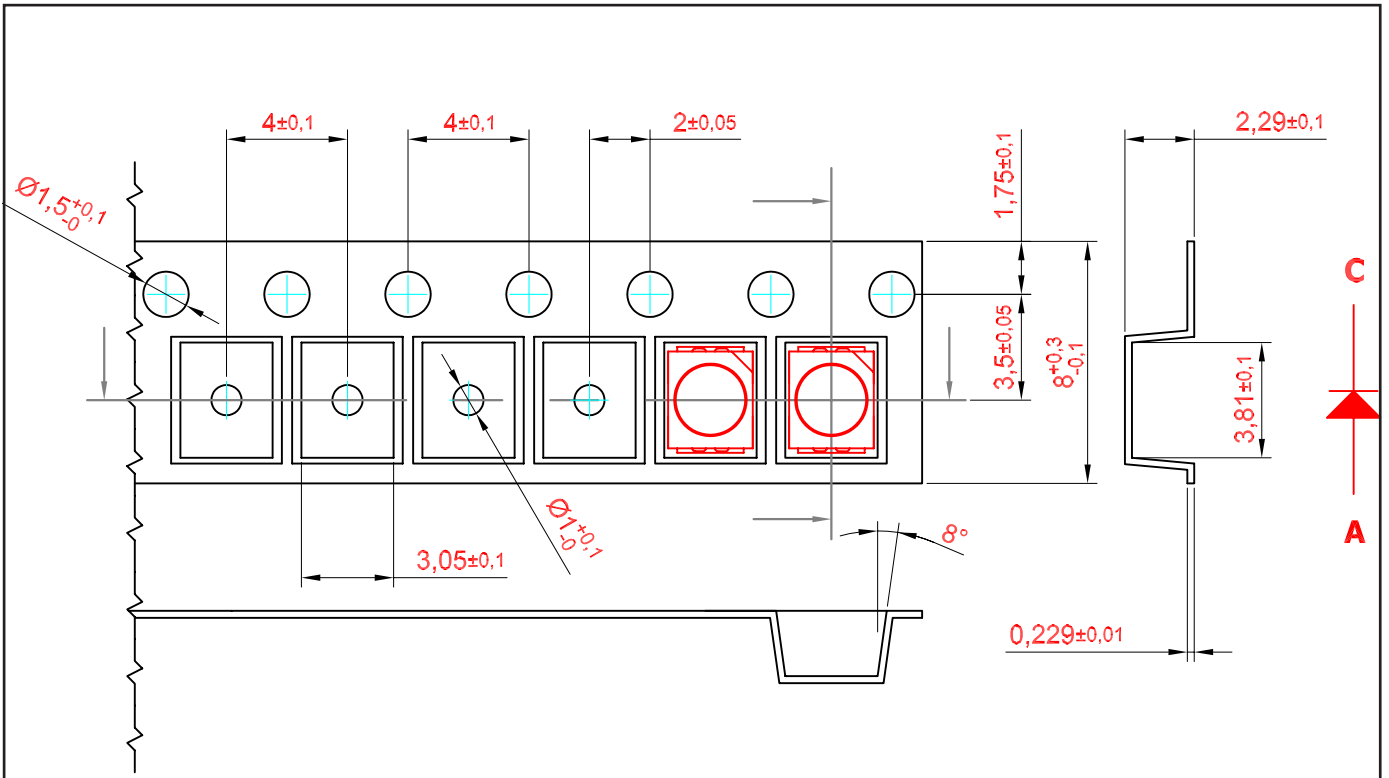
Material	
Lead-frame	Cu Alloy With Ag Plating
Package	High Temperature Resistant Plastic, PPA
Encapsulant	Silicone Resin
Soldering Leads	Sn-Sn Plating

Recommended Solder Pad



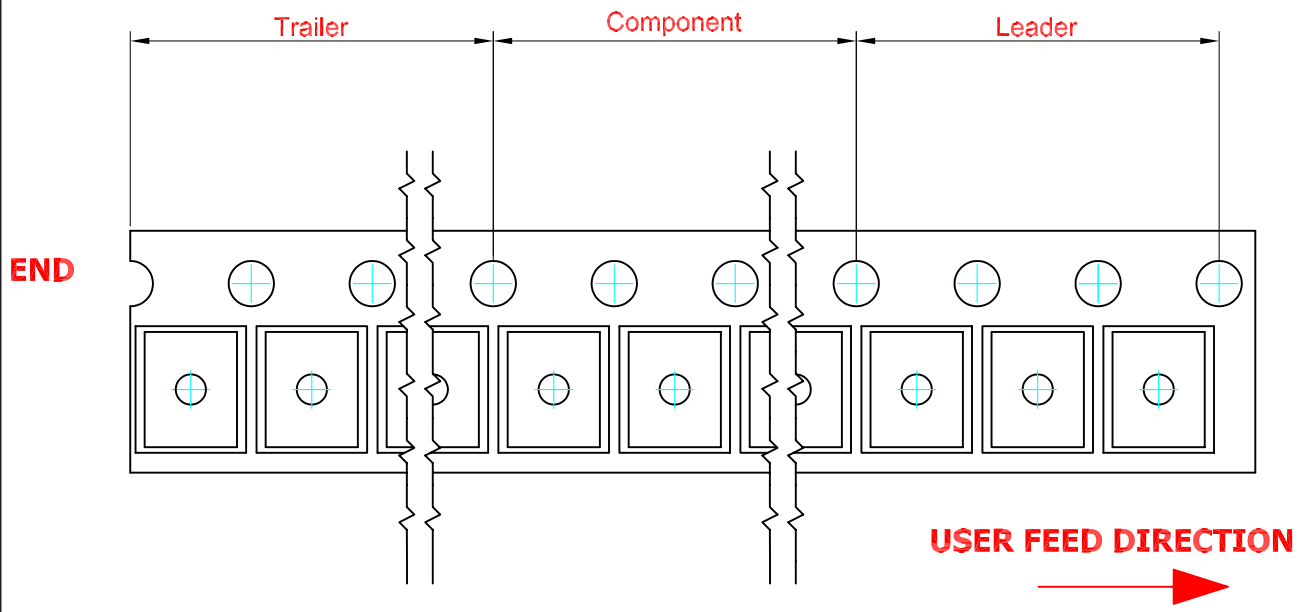
Taping and orientation

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

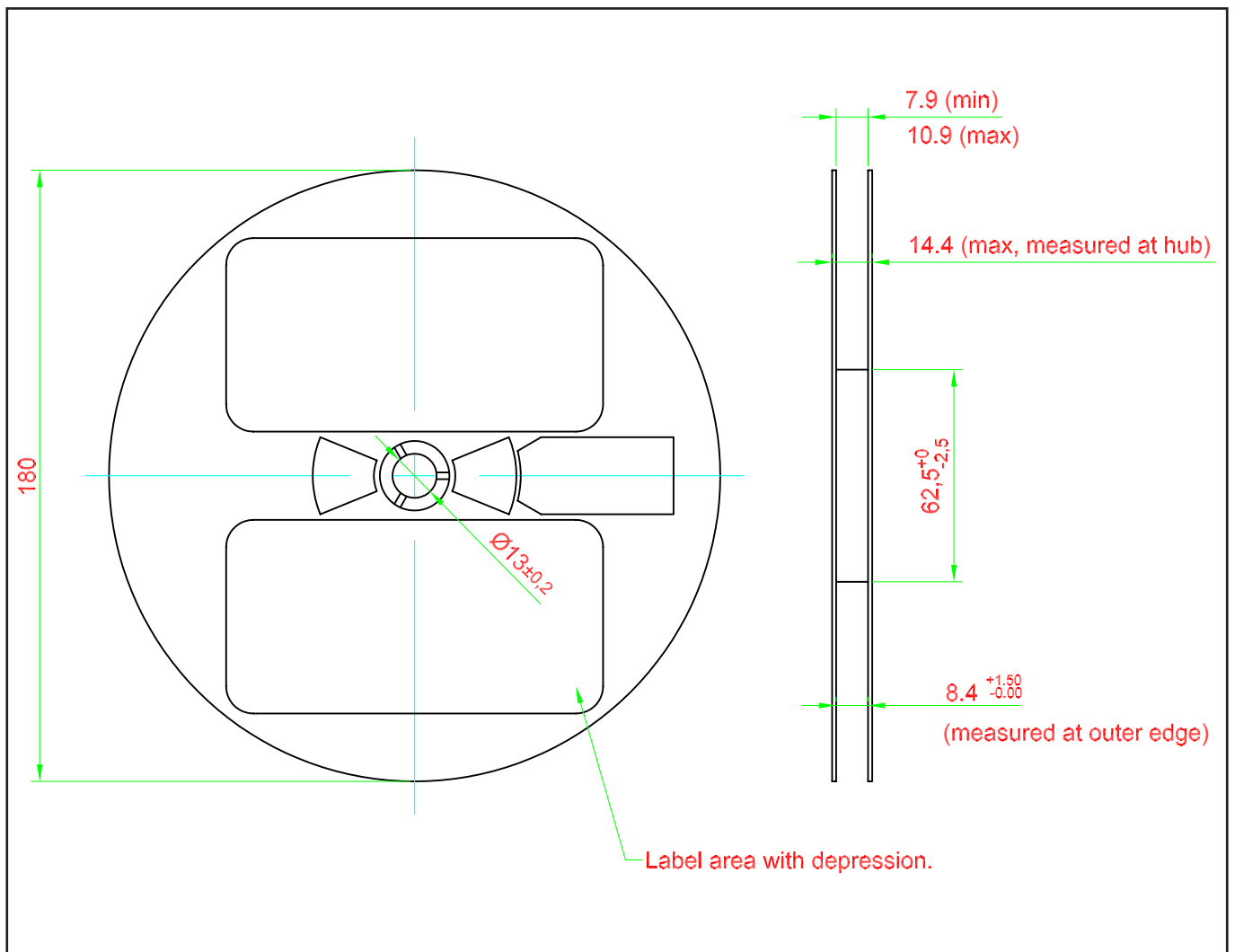


200 mm min. for $\varnothing 180$ reel.
 200 mm min. for $\varnothing 330$ reel.

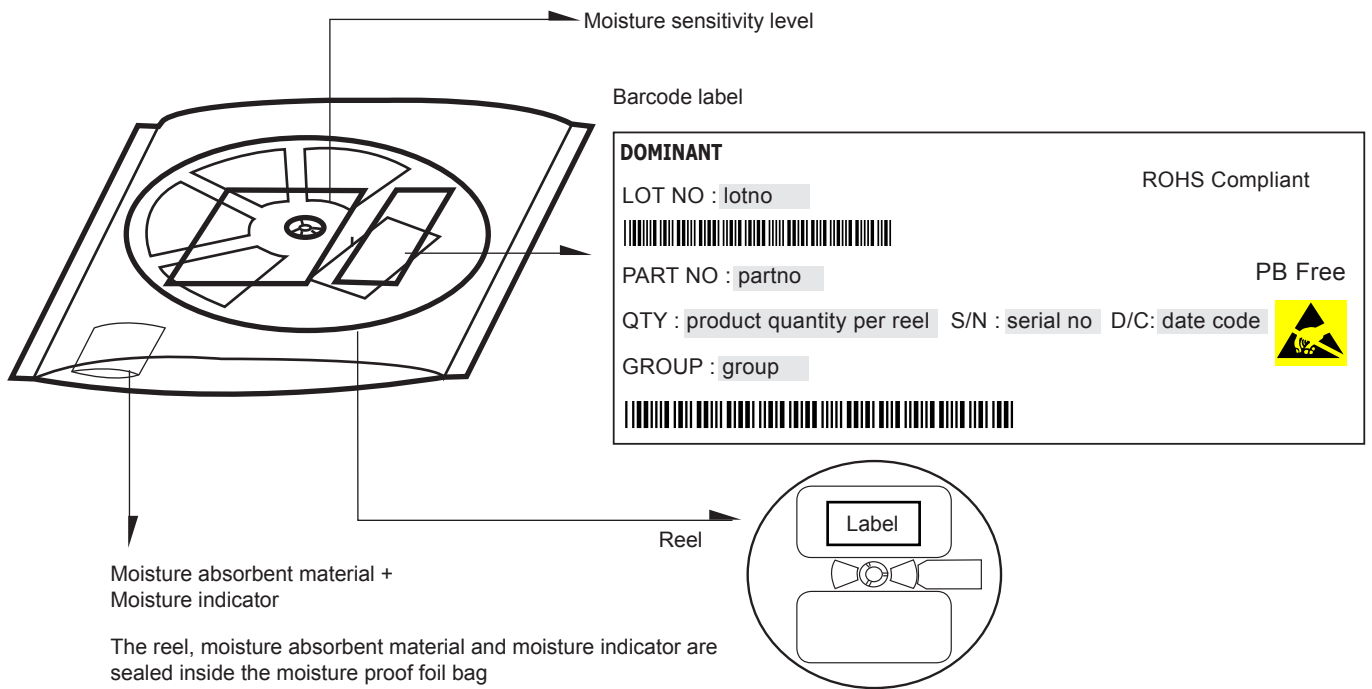
480 mm min. for $\varnothing 180$ reel.
 960 mm min. for $\varnothing 330$ reel.



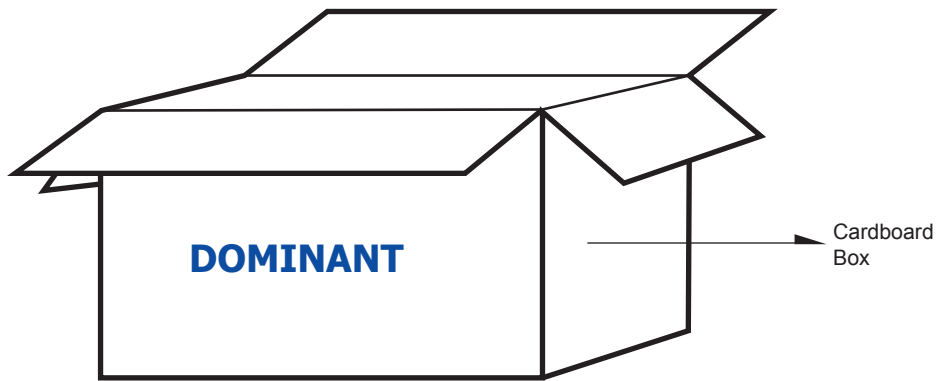
Packaging Specification



Packaging Specification



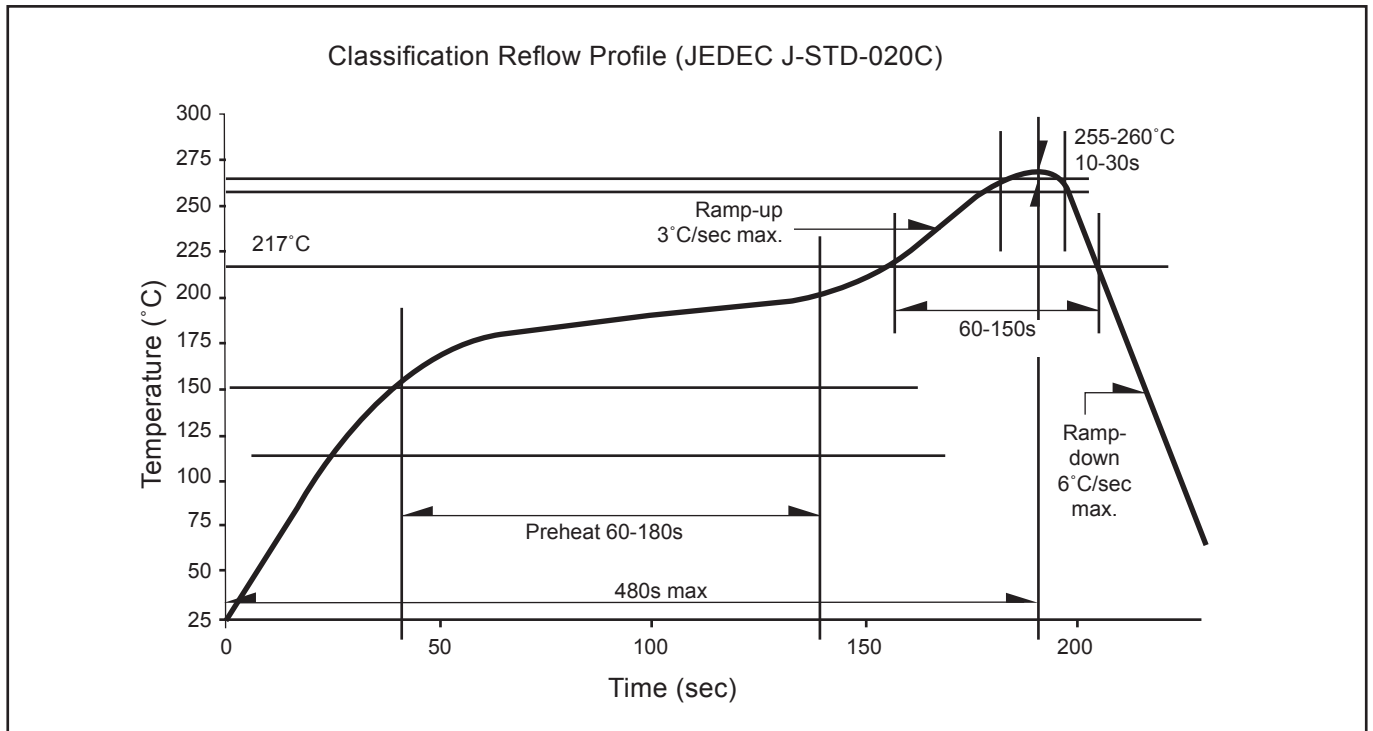
	Average 1pc DomiLED/Multi DomiLED	1 completed bag (2000pcs)
Weight (gram)	0.034	190 ± 10



For 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	03 Apr 2012
2	Update Power Dissipation	27 Nov 2012
2	Typo error in min Vf	28 May 2013
3	Add Characteristic	22 Jul 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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