

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 lighthing applications, office and home applications and standard industrial applications.



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 both IR reflow soldering.
- > Environmental friendly; RoHS compliance.



Applications:

- > Consumer Appliances: LCD illumination as in PDAs, LCD TV.
- > Communication: mobile phone flash light, backlights in mobile phone display.
- > Industry: general lighting



Optical Characteristics at Tj=25°C

Part Ordering Number	Color	Viewing Angle°	CRI Typ.	Luminous Intensity @ 20mA IV (mcd)			Luminous Flux Typ. (lm)
				Min.	Typ.	Max.	
DDW-WJG-2X4X-1	White	120	75	2020.0	2300.0	2850.0	6.9

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. 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

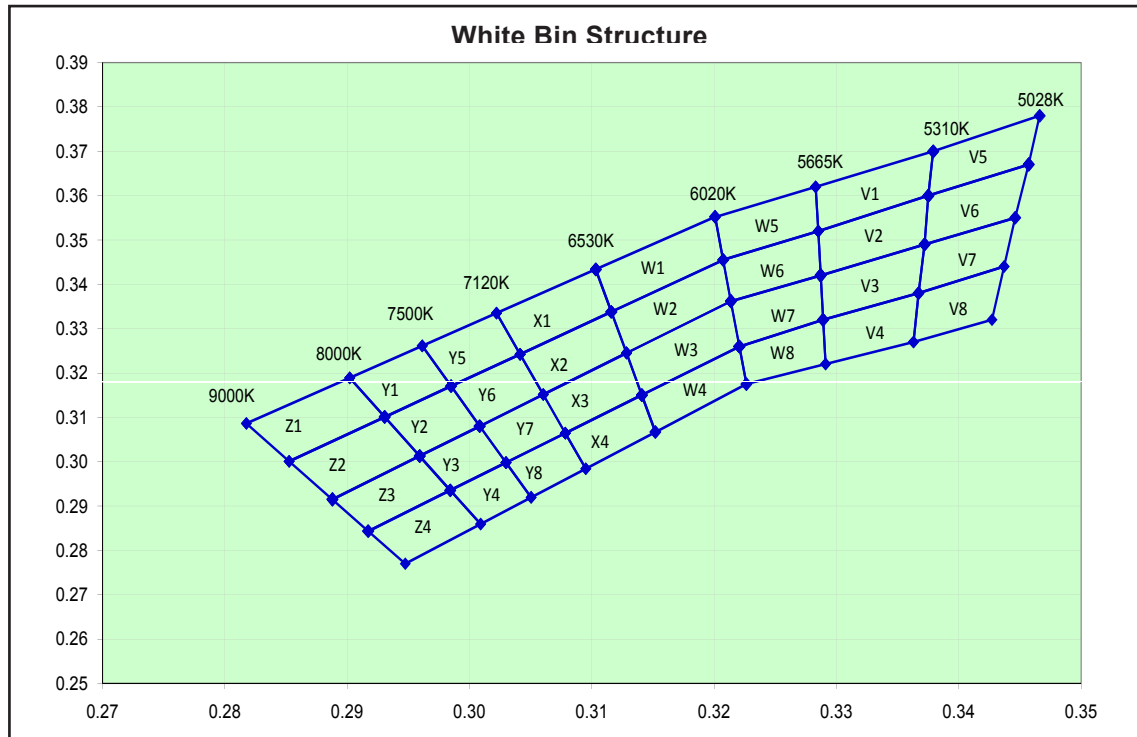
Part Number	Vf @ If = 20 mA			Vr @ Ir = 10 μ A
	Min. (V)	Typ. (V)	Max. (V)	Min. (V)
DDW-WJG-2X4X-1	2.9	3.2	3.5	5.0

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

Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	30	mA
Peak pulse current; (tp $\leq$ 10 μ s, Duty cycle = 0.005)	100	mA
Reverse voltage; Ir max = 10 μ A	5	V
ESD threshold (HBM)	500	V
LED junction temperature	125	°C
Operating temperature	-40 ... +100	°C
Storage temperature	-40 ... +100	°C
Power dissipation (at room temperature)	80	mW
Thermal resistance		
- Junction / ambient, Rth JA	340	K/W
- Junction / solder point, Rth JS	180	K/W
(Mounting on double sided FR4 PCB with copper plated through hole, pad size $\geq$ 16 mm ² per pad)		

DDW, White Color Grouping



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

Bin		1	2	3	4
Z1	Cx	0.2818	0.2853	0.2931	0.2902
	Cy	0.3085	0.3001	0.3101	0.3189
Z2	Cx	0.2853	0.2888	0.2959	0.2931
	Cy	0.3001	0.2918	0.3013	0.3101
Z3	Cx	0.2888	0.2920	0.2984	0.2959
	Cy	0.2918	0.2844	0.2935	0.3013
Z4	Cx	0.2920	0.2948	0.3009	0.2984
	Cy	0.2844	0.2768	0.2859	0.2935
Y1	Cx	0.2902	0.2931	0.2985	0.2961
	Cy	0.3189	0.3101	0.3170	0.3261
Y2	Cx	0.2931	0.2959	0.3008	0.2985
	Cy	0.3101	0.3013	0.3080	0.3170
Y3	Cx	0.2959	0.2984	0.3030	0.3008
	Cy	0.3013	0.2935	0.2998	0.3080
Y4	Cx	0.2984	0.3009	0.3050	0.3030
	Cy	0.2935	0.2859	0.2919	0.2998
Y5	Cx	0.2961	0.2985	0.3041	0.3022
	Cy	0.3261	0.3170	0.3242	0.3335
Y6	Cx	0.2985	0.3008	0.3060	0.3041
	Cy	0.3170	0.3080	0.3151	0.3242
Y7	Cx	0.3008	0.3030	0.3078	0.3060
	Cy	0.3080	0.2998	0.3064	0.3151
Y8	Cx	0.3030	0.3050	0.3095	0.3078
	Cy	0.2998	0.2919	0.2984	0.3064

Bin		1	2	3	4
X1	Cx	0.3022	0.3041	0.3116	0.3103
	Cy	0.3335	0.3242	0.3338	0.3434
X2	Cx	0.3041	0.3060	0.3128	0.3116
	Cy	0.3242	0.3151	0.3245	0.3338
X3	Cx	0.3060	0.3078	0.3141	0.3128
	Cy	0.3151	0.3064	0.3150	0.3245
X4	Cx	0.3078	0.3095	0.3152	0.3141
	Cy	0.3064	0.2984	0.3067	0.3150
W1	Cx	0.3103	0.3116	0.3207	0.3201
	Cy	0.3434	0.3338	0.3455	0.3552
W2	Cx	0.3116	0.3128	0.3214	0.3207
	Cy	0.3338	0.3245	0.3362	0.3455
W3	Cx	0.3128	0.3141	0.3221	0.3214
	Cy	0.3245	0.3150	0.3260	0.3362
W4	Cx	0.3141	0.3152	0.3226	0.3221
	Cy	0.3150	0.3067	0.3175	0.3260
W5	Cx	0.3201	0.3283	0.3285	0.3207
	Cy	0.3552	0.3620	0.3520	0.3455
W6	Cx	0.3207	0.3285	0.3287	0.3214
	Cy	0.3455	0.3520	0.3420	0.3362
W7	Cx	0.3214	0.3287	0.3289	0.3221
	Cy	0.3362	0.3420	0.3320	0.3260
W8	Cx	0.3221	0.3289	0.3291	0.3226
	Cy	0.3260	0.3320	0.3220	0.3175
V1	Cx	0.3283	0.3379	0.3375	0.3285
	Cy	0.3620	0.3700	0.3600	0.3520
V2	Cx	0.3285	0.3375	0.3372	0.3287
	Cy	0.3520	0.3600	0.3490	0.3420
V3	Cx	0.3287	0.3372	0.3367	0.3289
	Cy	0.3420	0.3490	0.3380	0.3320
V4	Cx	0.3289	0.3367	0.3363	0.3291
	Cy	0.3320	0.3380	0.3270	0.3220
V5	Cx	0.3379	0.3466	0.3457	0.3375
	Cy	0.3700	0.3780	0.3670	0.3600
V6	Cx	0.3375	0.3457	0.3446	0.3372
	Cy	0.3600	0.3670	0.3550	0.3490
V7	Cx	0.3372	0.3446	0.3437	0.3367
	Cy	0.3490	0.3550	0.3440	0.3380
V8	Cx	0.3367	0.3437	0.3427	0.3363
	Cy	0.3380	0.3440	0.3320	0.3270

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

Luminous Intensity Group at Tj=25°C

Brightness Group	Luminous Intensity IV (mcd)
2X	2020.0...2240.0
3X	2240.0...2540.0
4X	2540.0...2850.0

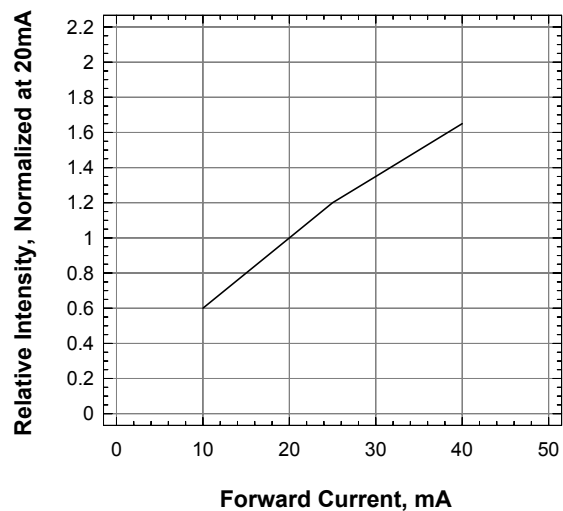
Luminous intensity is measured with an accuracy of $\pm 11\%$.

Vf Binning

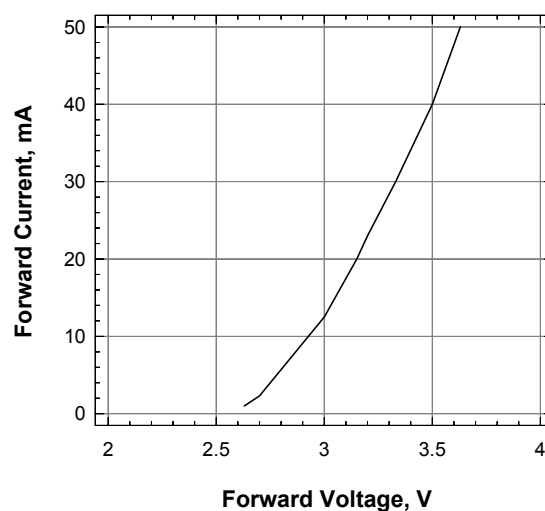
Vf Bin	Forward Voltage (V)
V1	2.90 ... 3.00
V2	3.00 ... 3.10
V3	3.10 ... 3.20
V4	3.20 ... 3.30
V5	3.30 ... 3.40
V6	3.40 ... 3.50

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

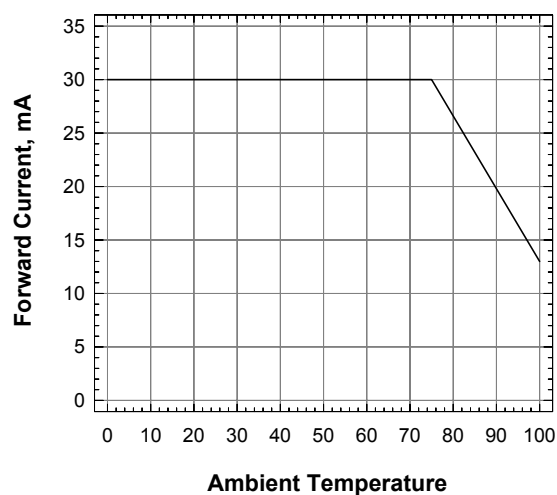
Relative Intensity Vs Forward Current



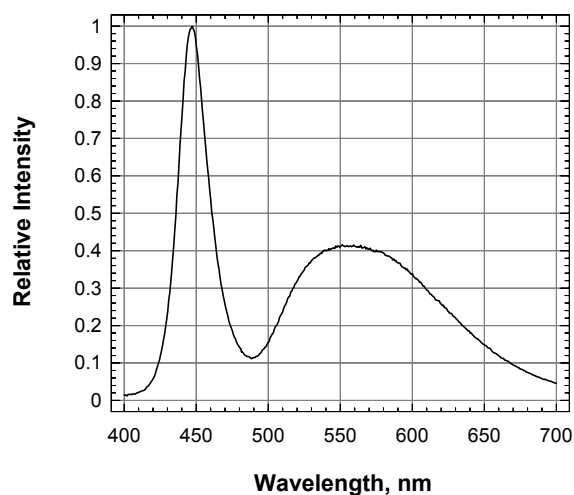
Forward Current Vs Forward Voltage



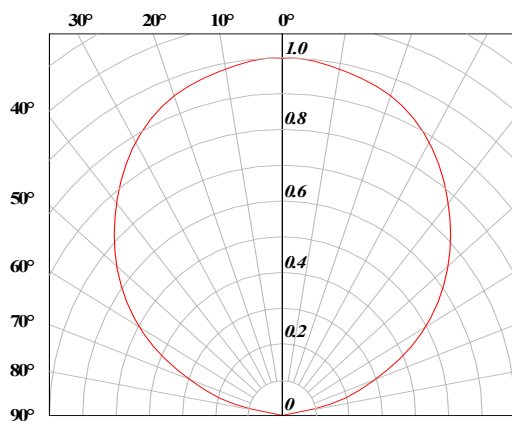
Maximum Forward Current Vs Ambient Temperature



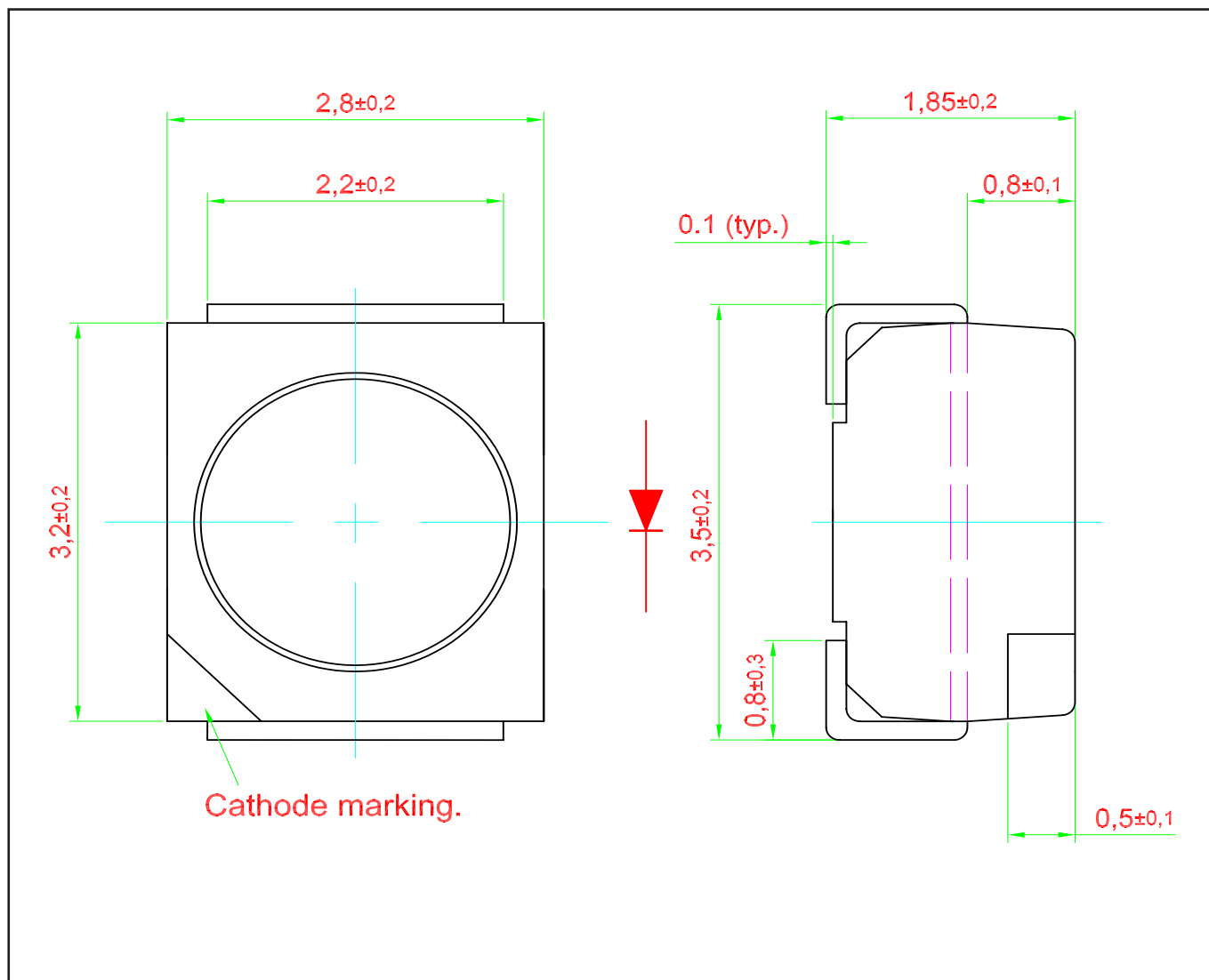
Relative Intensity Vs Wavelength



Radiation Pattern



DomiLED™ • InGaN White : DDW-WJG-2X4X-1 Package Outlines



Material

Material

Lead-frame

Cu Alloy With Ag Plating

Package

High Temperature Resistant Plastic, PPA

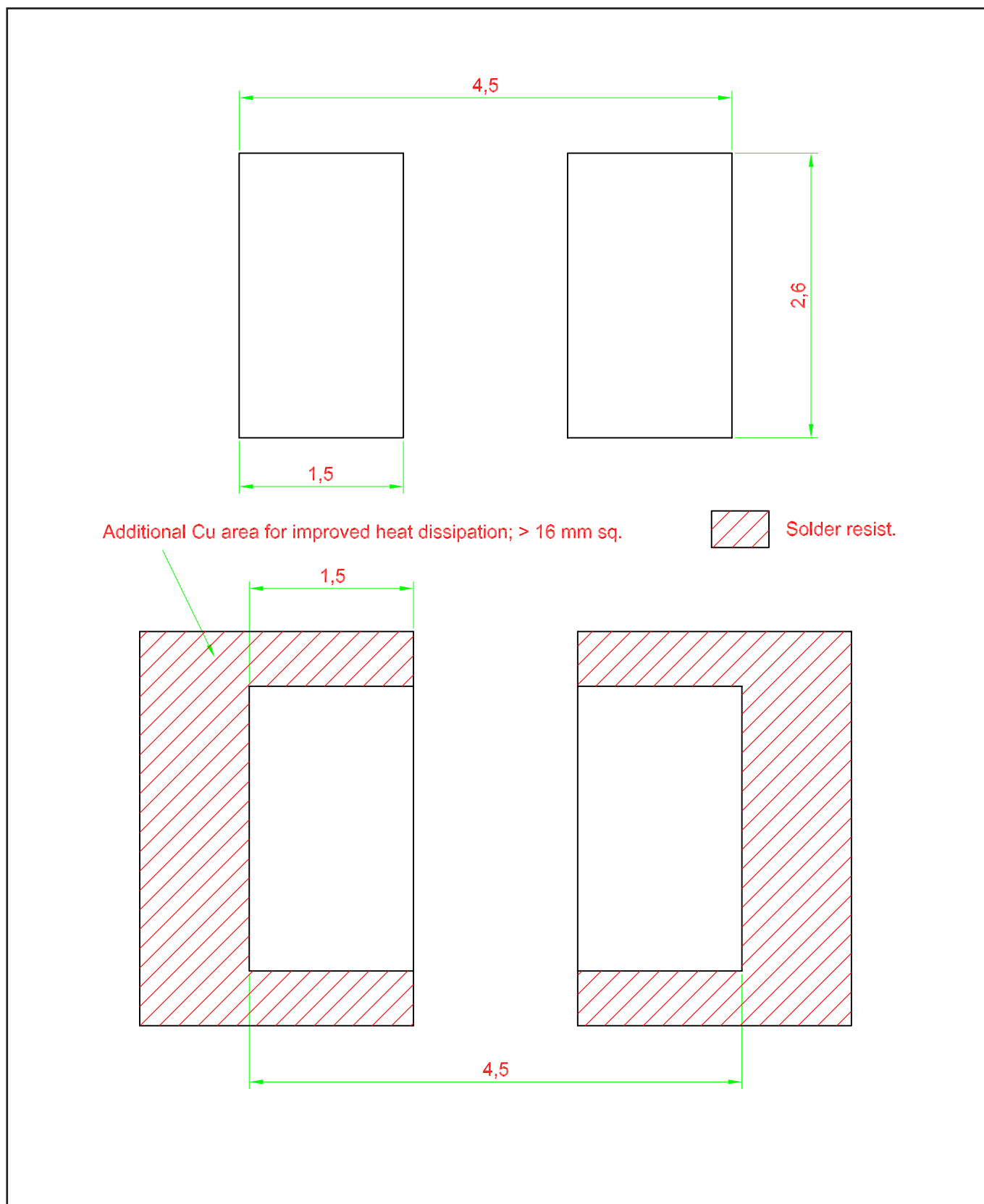
Encapsulant

Silicone Resin

Soldering Leads

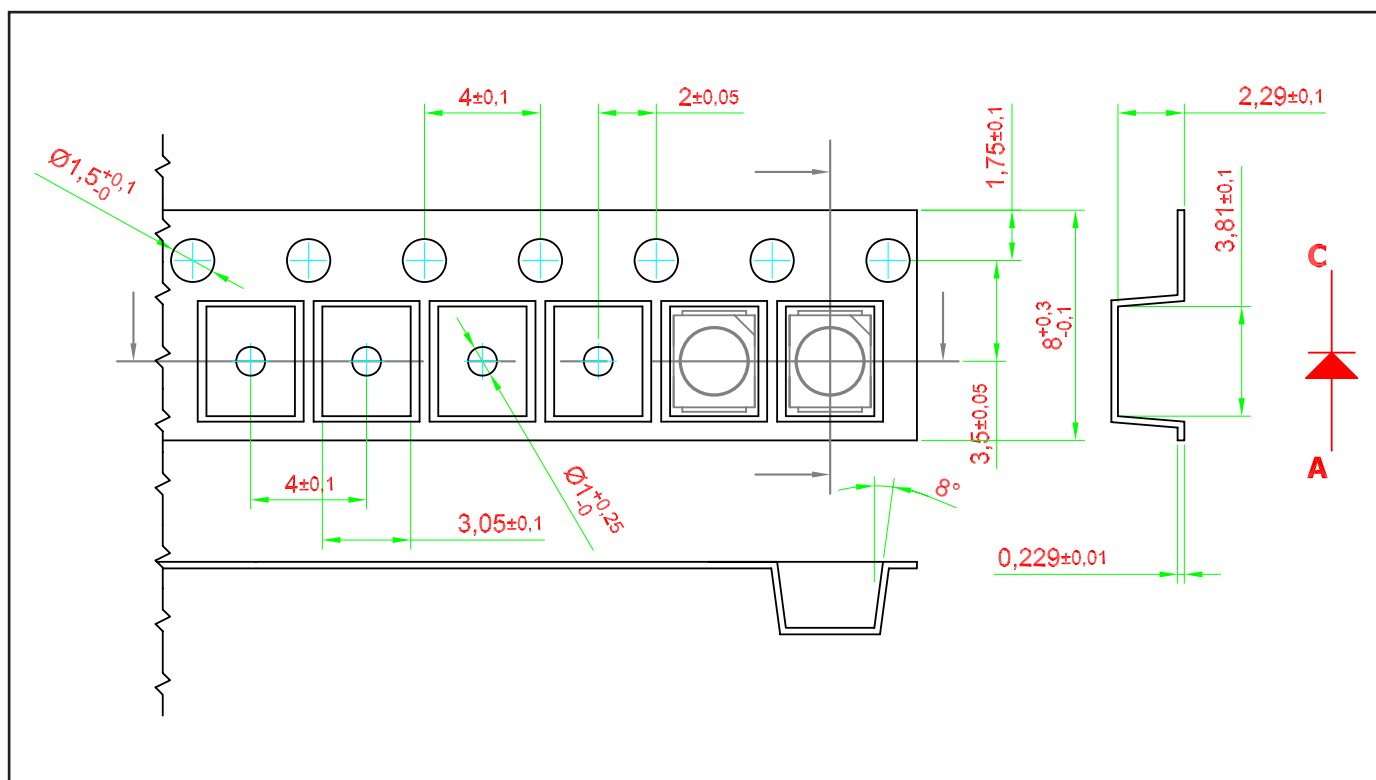
Ag Plating

Recommended Solder Pad



Taping and orientation

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

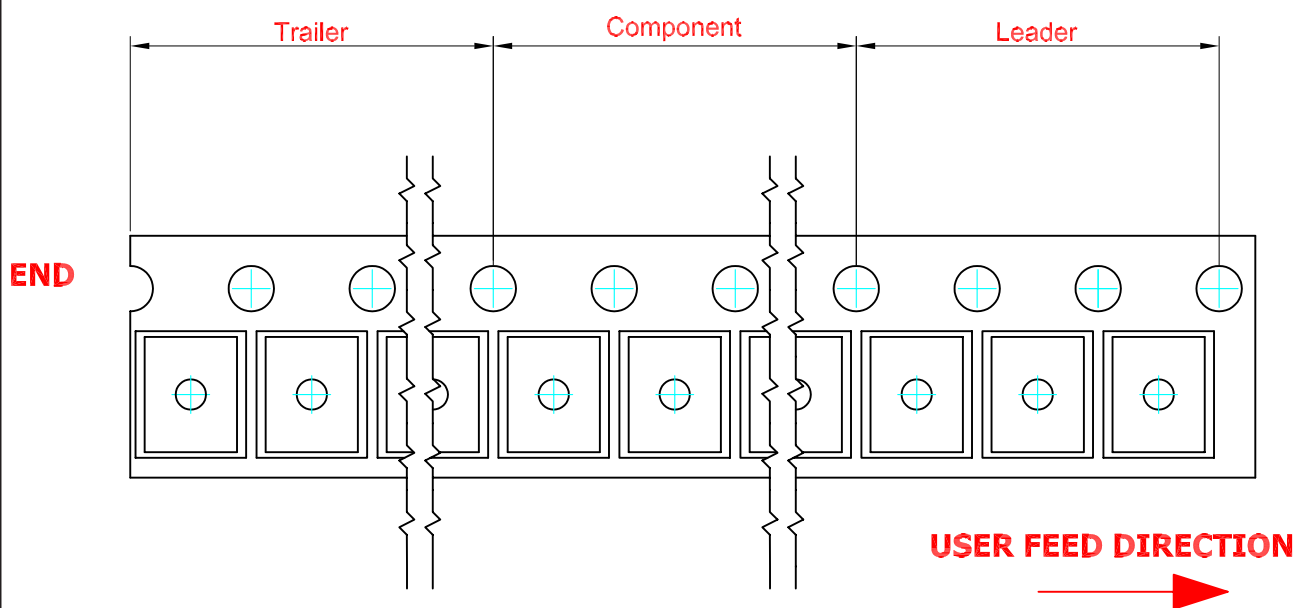


200 mm min. for $\varnothing 180$ reel.

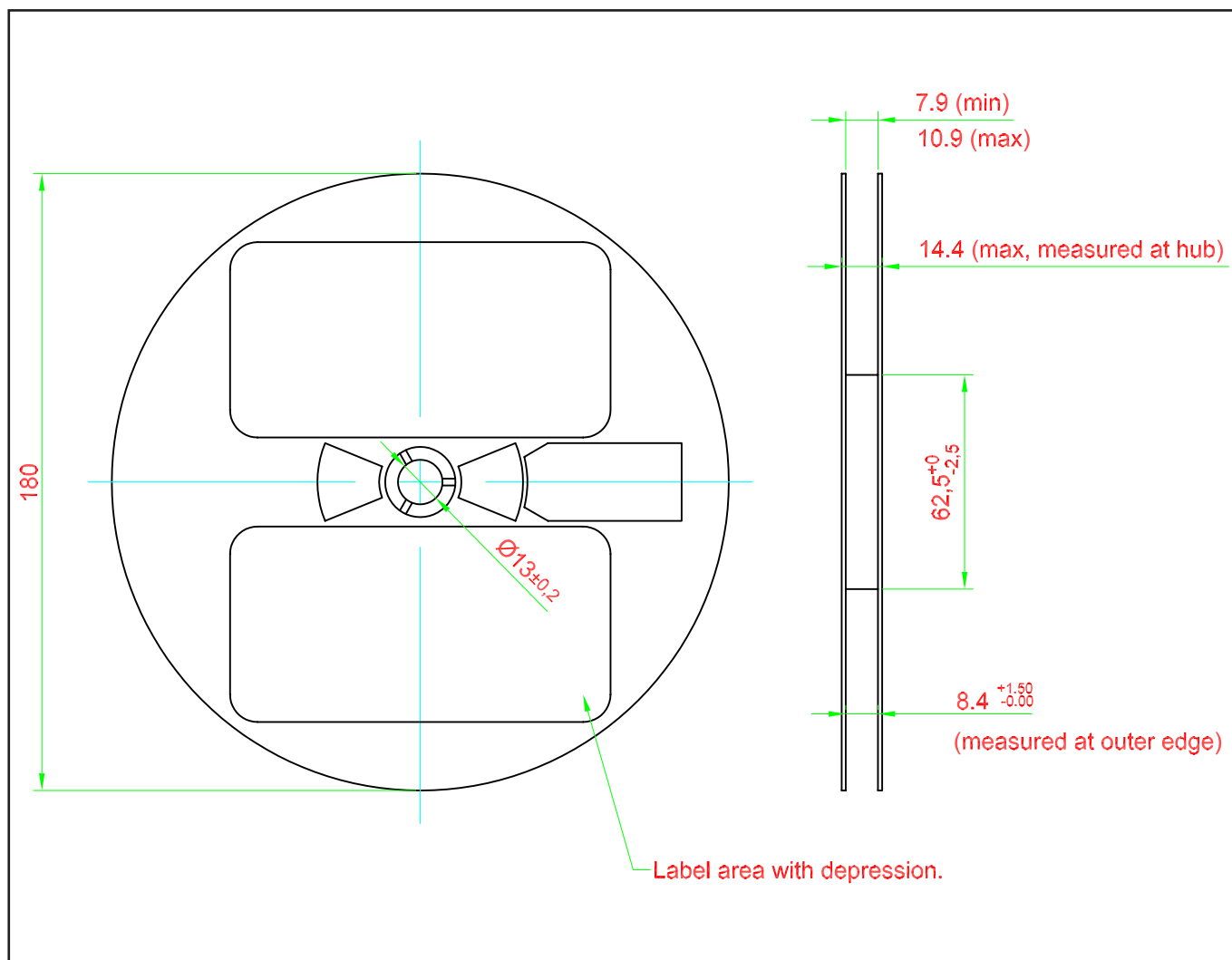
480 mm min. for $\varnothing 180$ reel.

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

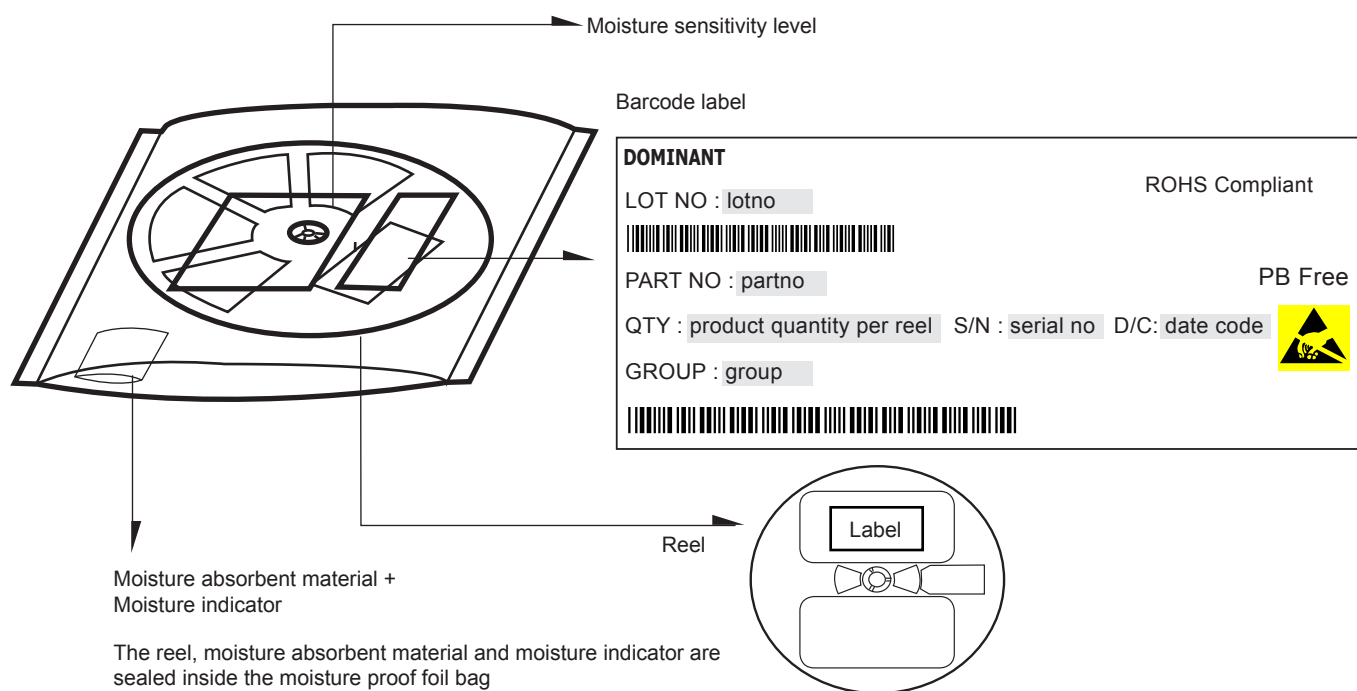
960 mm min. for $\varnothing 330$ reel.



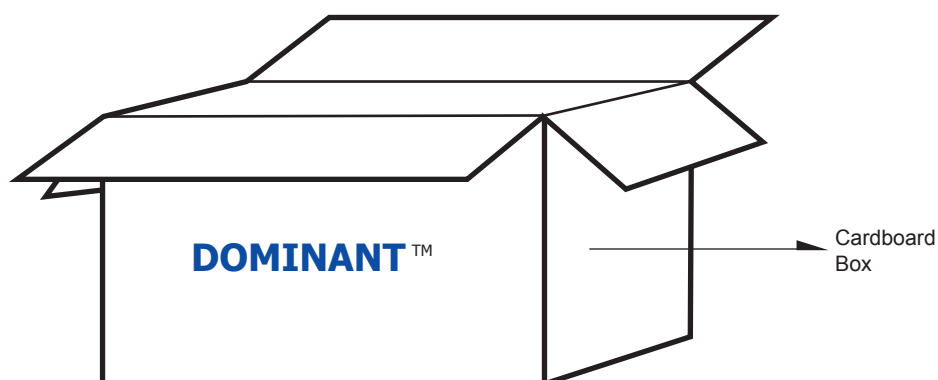
Packaging Specification



Packaging Specification



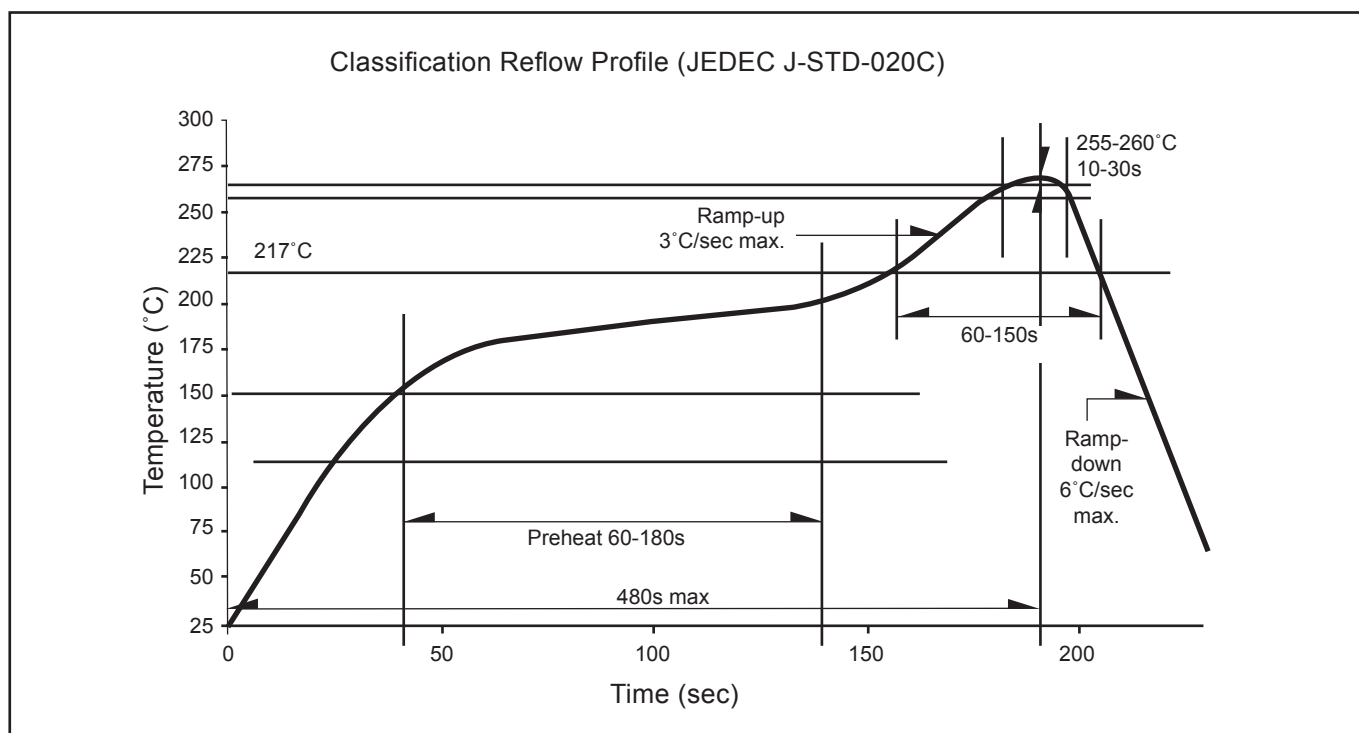
	Average 1pc DomiLED/Multi DomiLED	1 completed bag (2000pcs)
Weight (gram)	0.034	190 ± 10



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 Feb 2012
3	Update color bin structure	20 Feb 2012
7	Typo error in material list Add in Typ Luminous Flux Update Typ CRI	13 Mar 2012
3	Update color bin structure	28 Aug 2012
2	Add Thermal Resistance	27 Jun 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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