

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.
- > Based on InGaN technology.
- > 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.
- > Consumer appliances: LCD illumination as in PDAs, LCD TV.
- > Communication: mobile phone flash light, backlights in mobile phone display.
- > Display: full color display video notice board.
- > Industry: general lighting



Optical Characteristics at Tj=25°C

Part Ordering Number	Color	Viewing Angle°	Luminous Intensity @ 20mA IV (mcd)		
			Min.	Typ.	Max.
DDW-CJG-RS2-5K8L	White	120	112.5	180.0	285.0

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.

Electrical Characteristics at Ta=25°C

Part Number	Vf @ If = 20 mA			Vr @ Ir = 10 µA
	Min. (V)	Typ. (V)	Max. (V)	Min. (V)
DDW-CJG	2.9	3.2	3.8	5.0

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

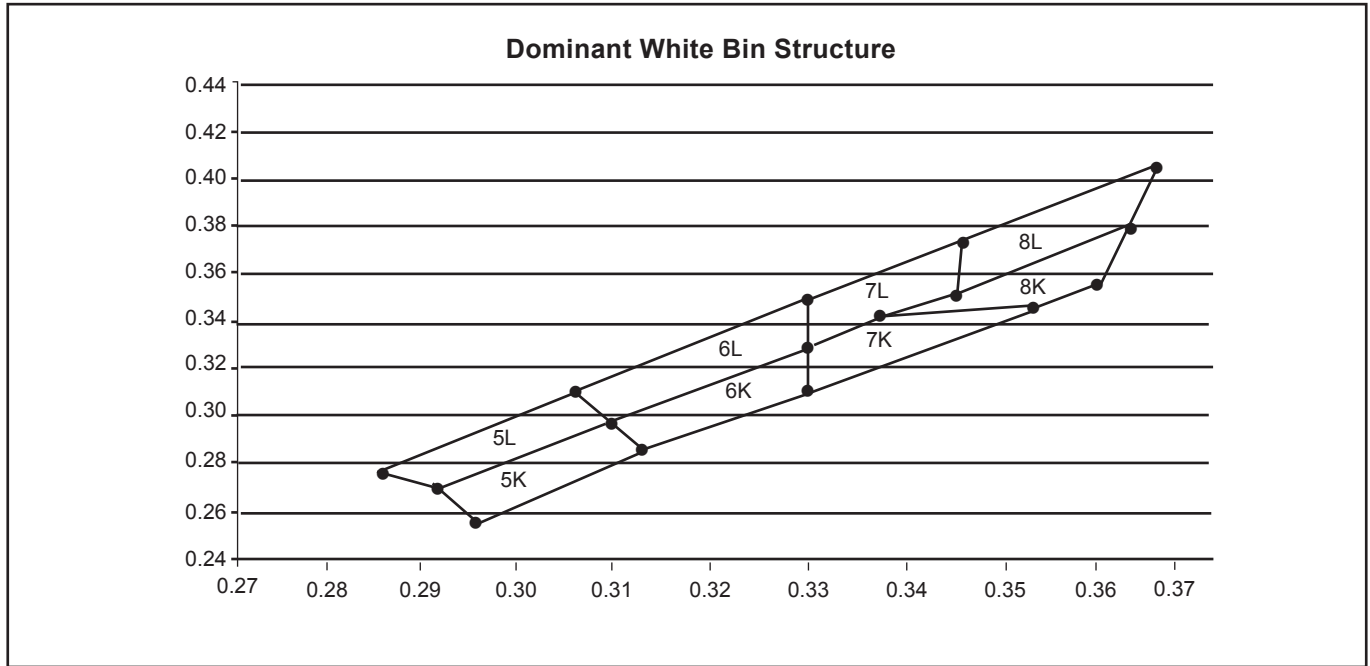
Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	20	mA
Peak pulse current; (tp ≤ 10µs, 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	340	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 V_F (typ) $I_F = 20\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	TC_V	DDW-CJG	-5.2	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_{I_V}	DDW-CJG	-0.19	% / 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_{C_x}	DDW-CJG	-0.0002	
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_{C_y}	DDW-CJG	0.00006	

DDW, White Color Grouping



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

Bin		Cx	Cy	Cx	Cy
5K	Cx	0.296	0.291	0.310	0.313
	Cy	0.259	0.268	0.297	0.284
5L	Cx	0.291	0.285	0.307	0.310
	Cy	0.268	0.279	0.312	0.297
6K	Cx	0.313	0.310	0.330	0.330
	Cy	0.284	0.297	0.330	0.310
6L	Cx	0.310	0.307	0.330	0.330
	Cy	0.297	0.312	0.347	0.330
7K	Cx	0.330	0.330	0.338	0.352
	Cy	0.310	0.330	0.342	0.344
7L	Cx	0.330	0.330	0.347	0.345
	Cy	0.330	0.347	0.371	0.352
8K	Cx	0.352	0.338	0.364	0.360
	Cy	0.344	0.342	0.380	0.357
8L	Cx	0.345	0.347	0.367	0.364
	Cy	0.352	0.371	0.401	0.380

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

Luminous Intensity Group at Tj=25°C

Brightness Group	Luminous Intensity (mcd)
R1	112.5...140.0
R2	140.0...180.0
S1	180.0...224.0
S2	224.0...285.0

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

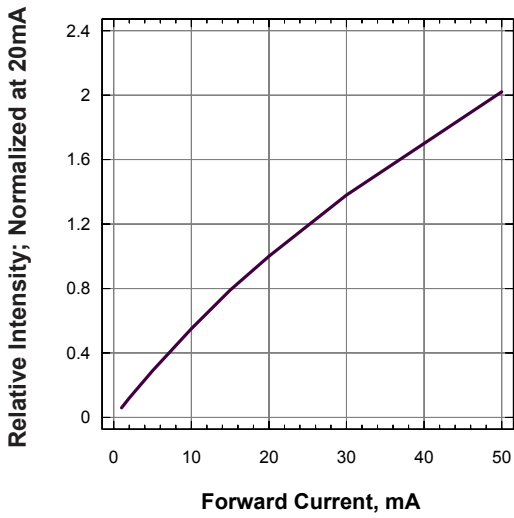
Vf Bining (Optional)

Vf Bin @ 20 mA	Forward Voltage (V)
0A	2.75 ... 3.05
00	3.05 ... 3.35
01	3.35 ... 3.65
02	3.65 ... 3.95

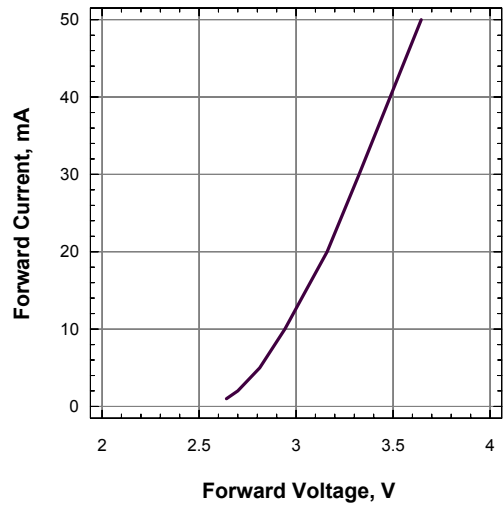
Forward Voltage, Vf is measured with an accuracy of ± 0.1 V.

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

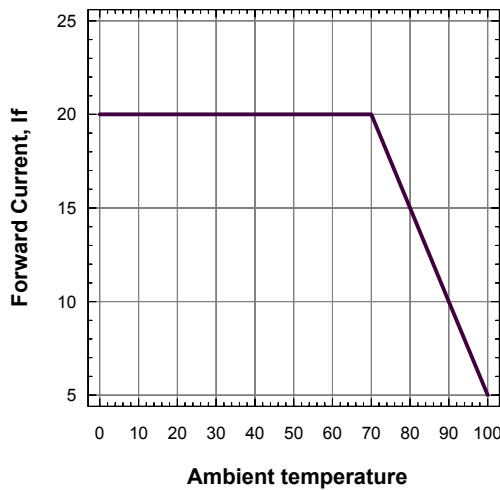
Relative Luminous Intensity Vs Forward Current



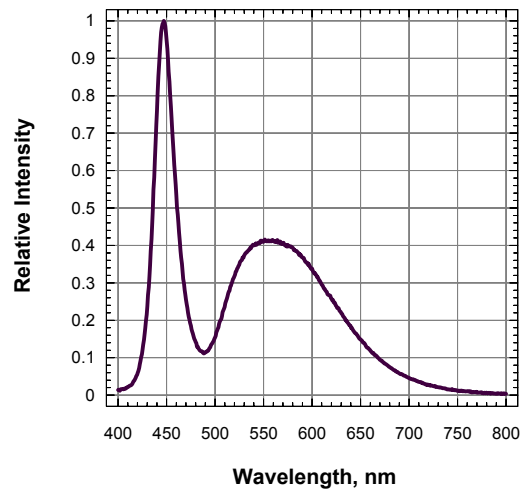
Forward Current Vs Forward Voltage



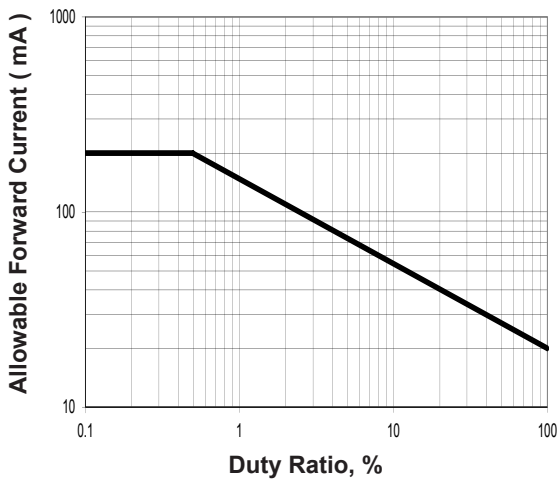
Maximum Current Vs Ambient Temperature



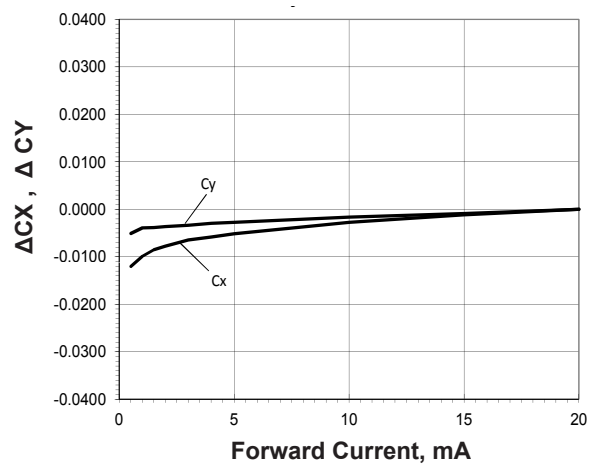
Relative Intensity Vs. Wavelength



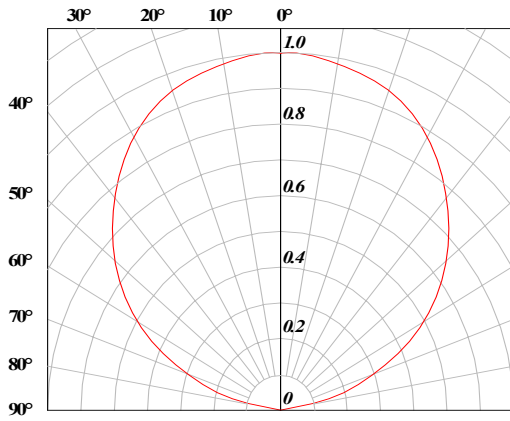
**Allowable Forward Current Vs Duty Ratio
 (Ta=25 Deg C, tp<=10uS)**



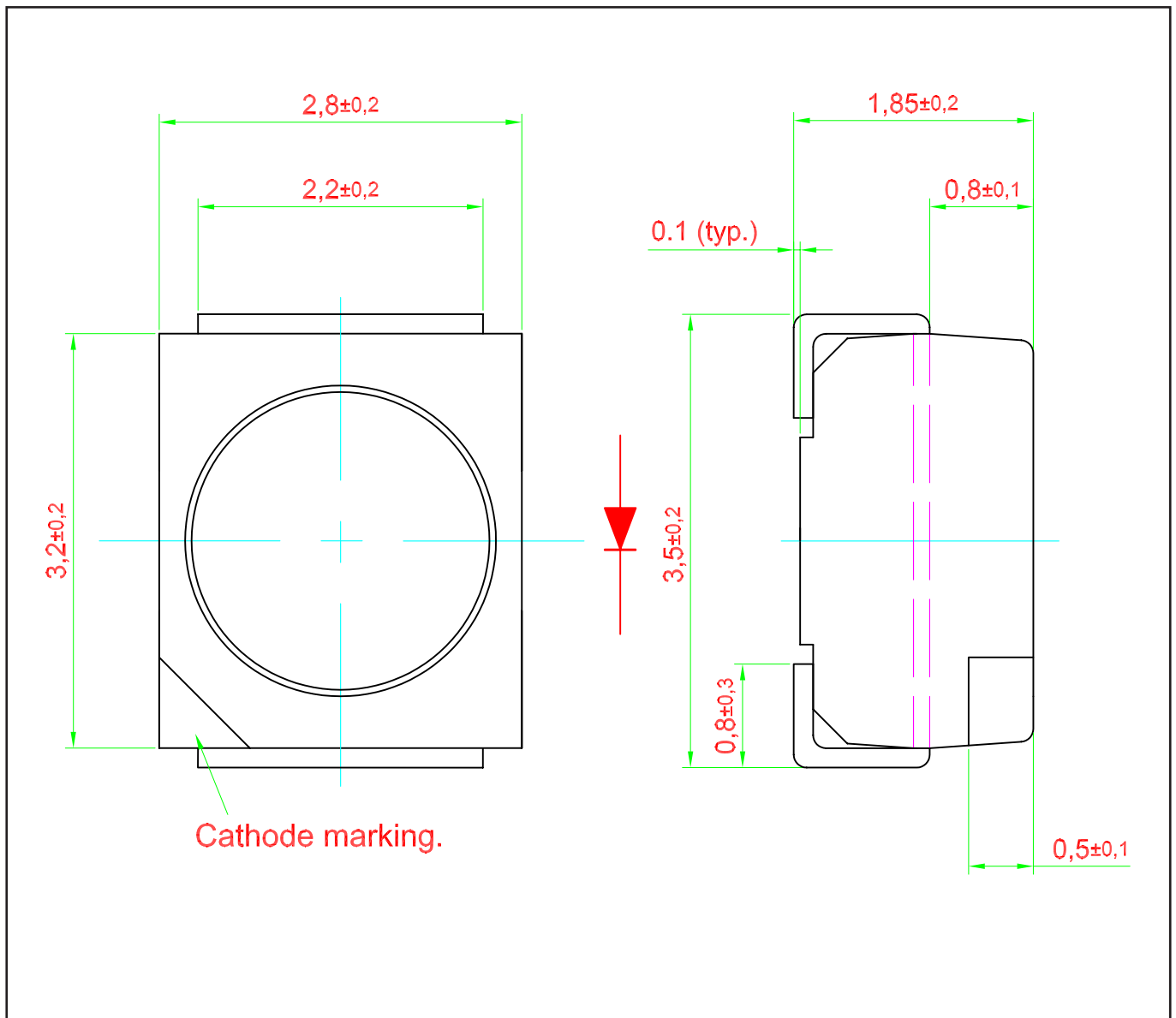
Chromaticity Coordinate Shift



Radiation Pattern



DomiLED™ • InGaN White : DDW-CJG (5K8L) Package Outlines

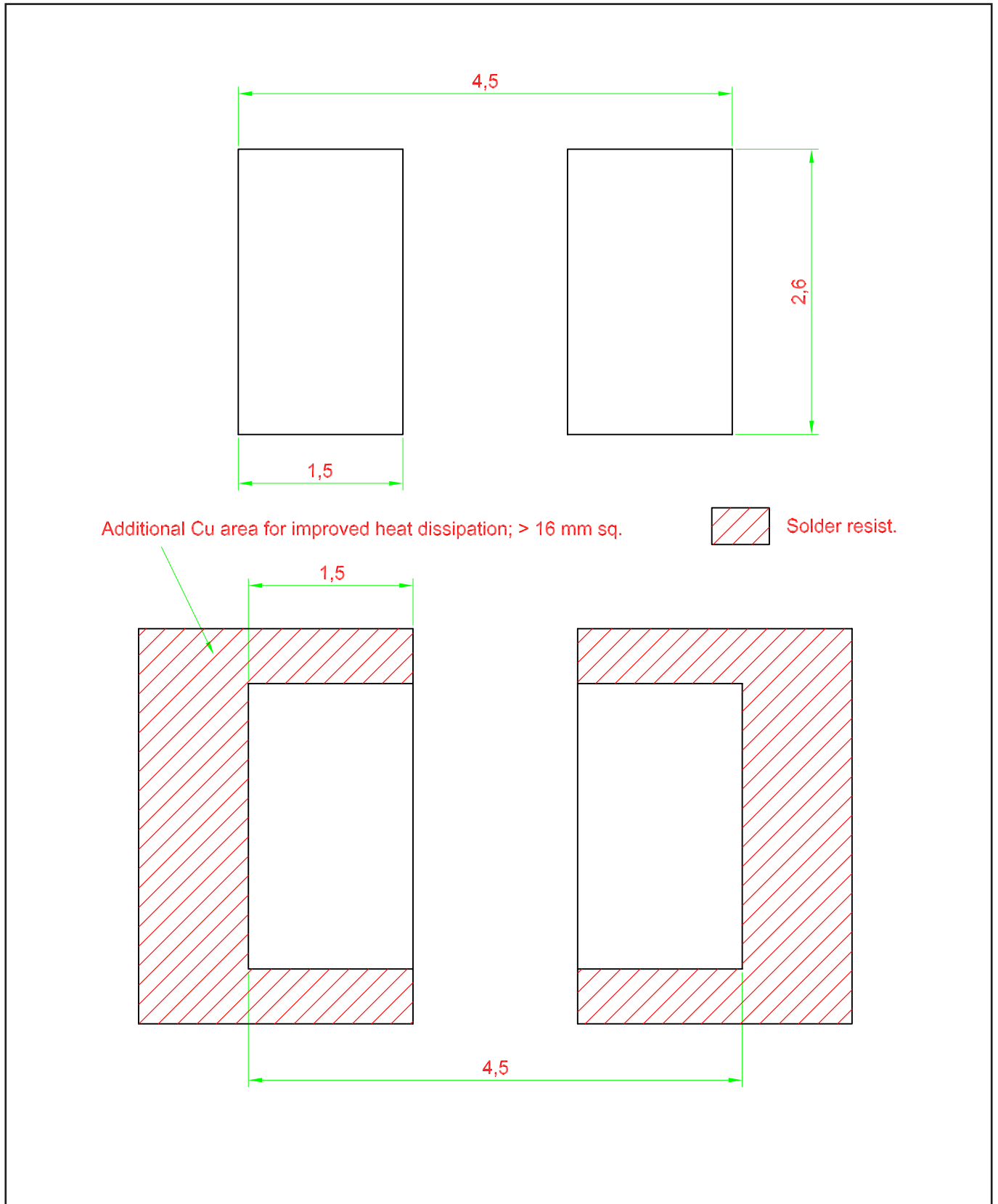


Materials

Materials	
Lead Frame	Copper alloy
Housing	High temperature resistant plastic, PPA
Encapsulant	Epoxy
Lead-finishing	Pure tin plating, Sn

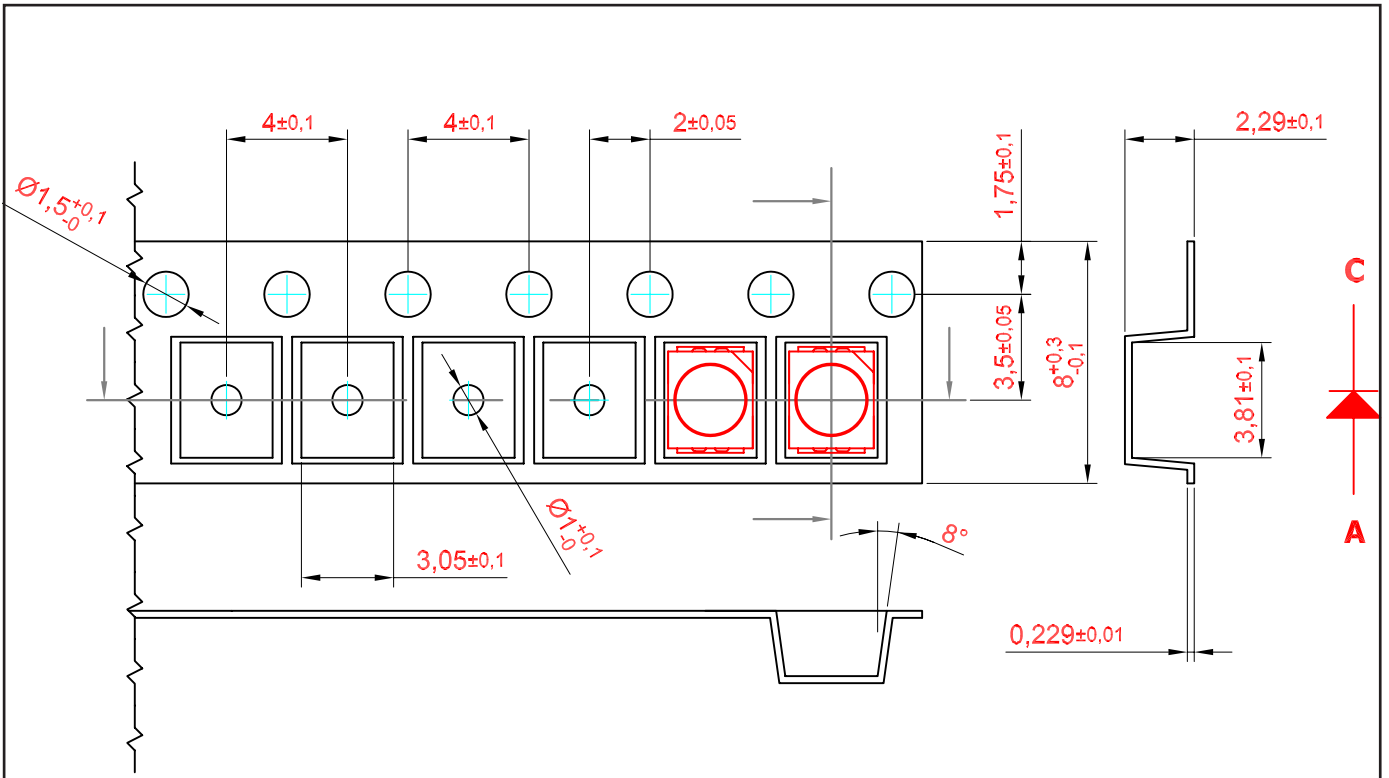
Note: Package is Pb-free.

Recommended Solder Pad



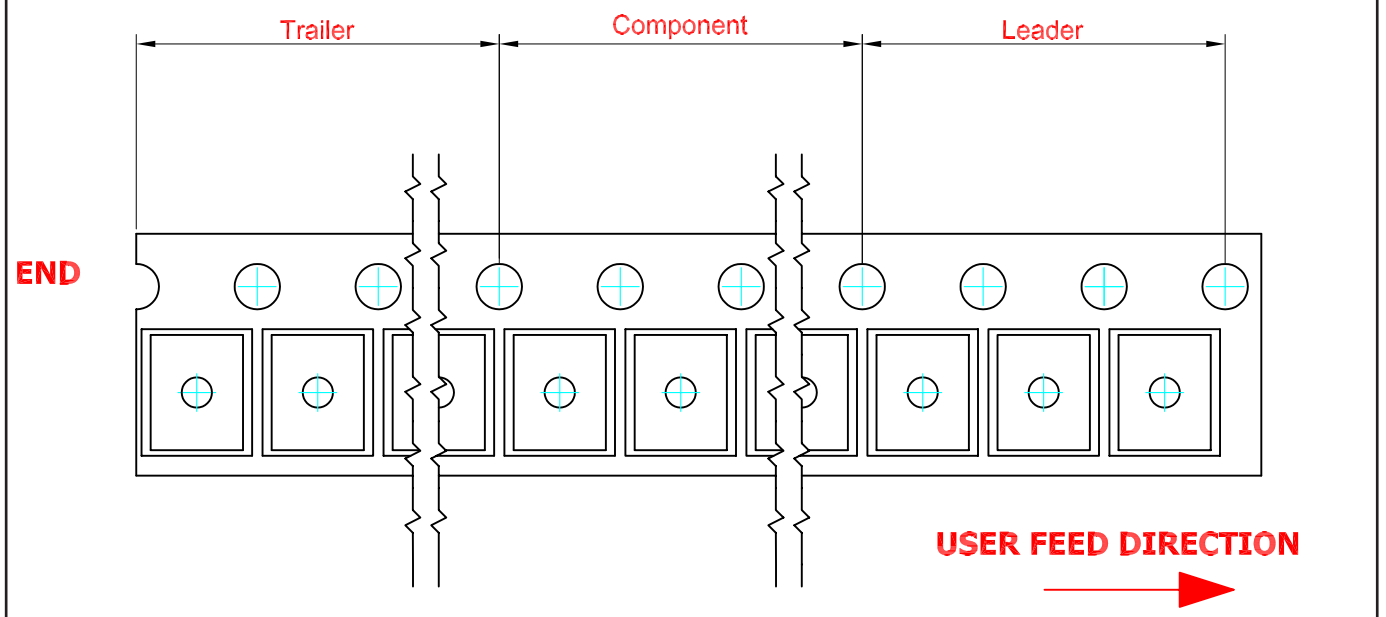
Taping and orientation

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

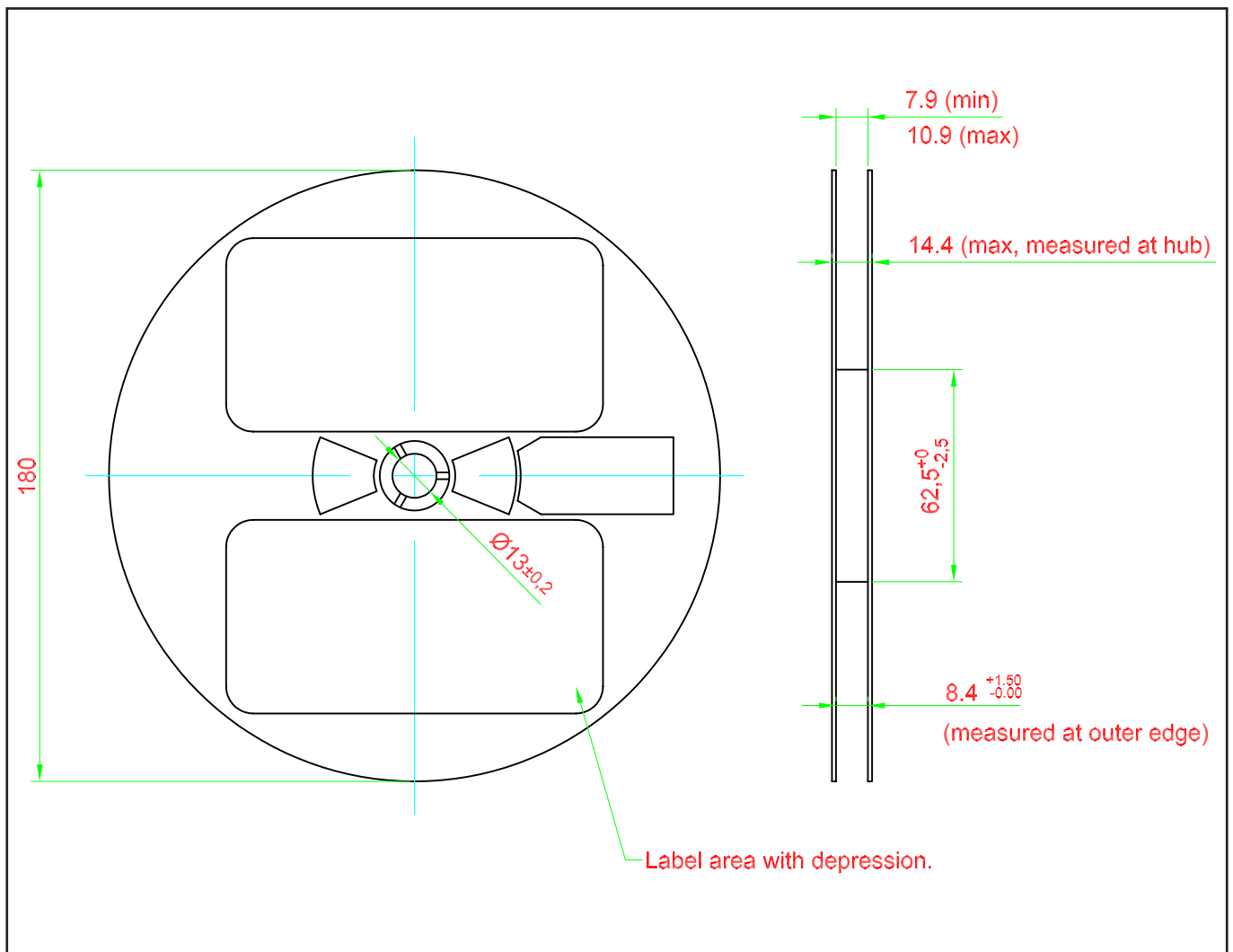


200 mm min. for $\varnothing 180$ reel.
 200 mm min. for $\varnothing 330$ reel.

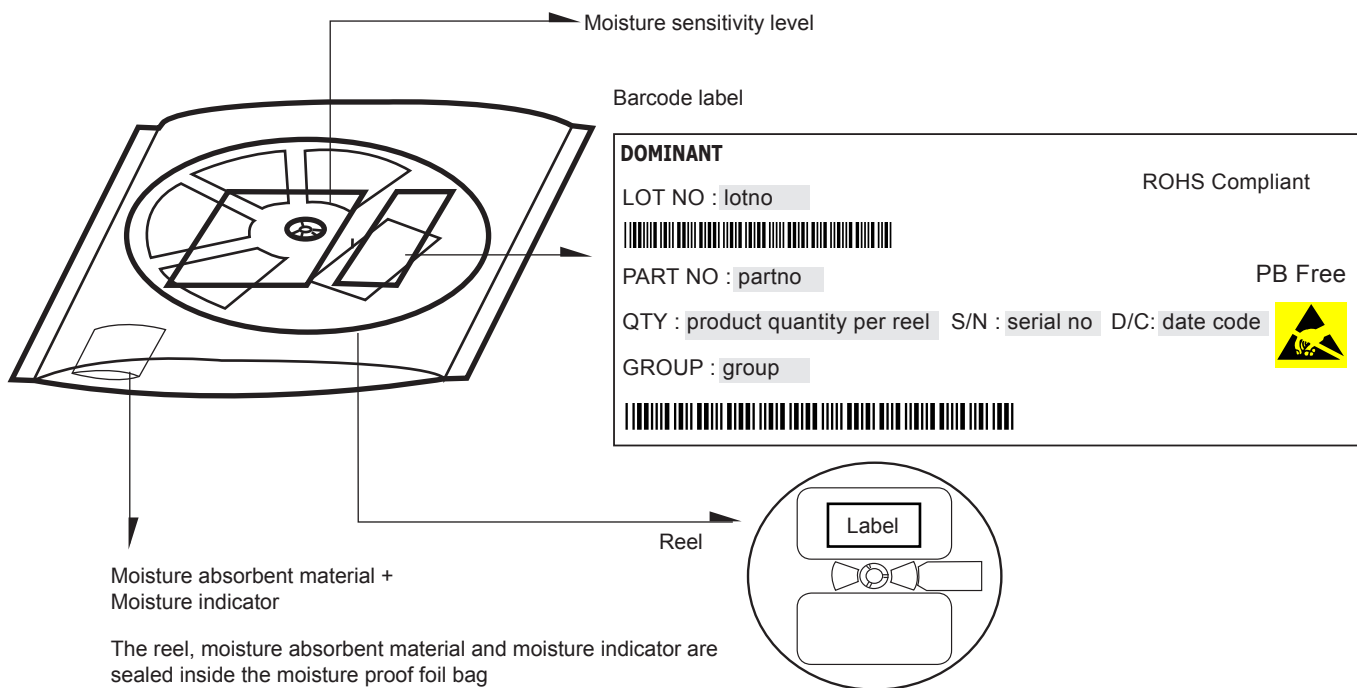
480 mm min. for $\varnothing 180$ reel.
 960 mm min. for $\varnothing 330$ reel.



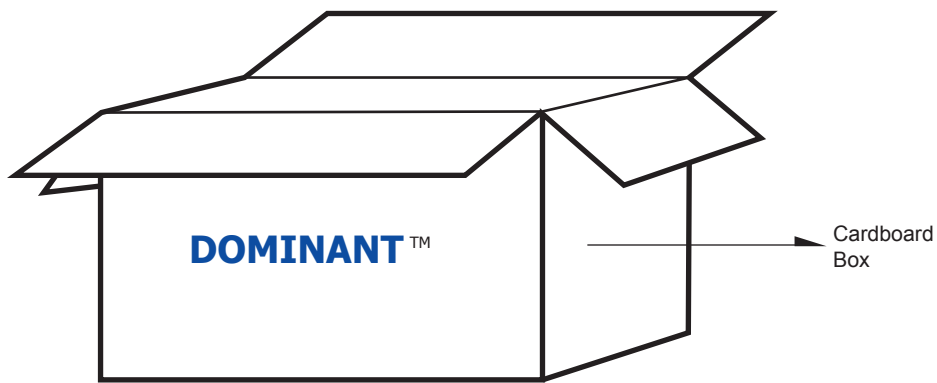
Packaging Specification



Packaging Specification



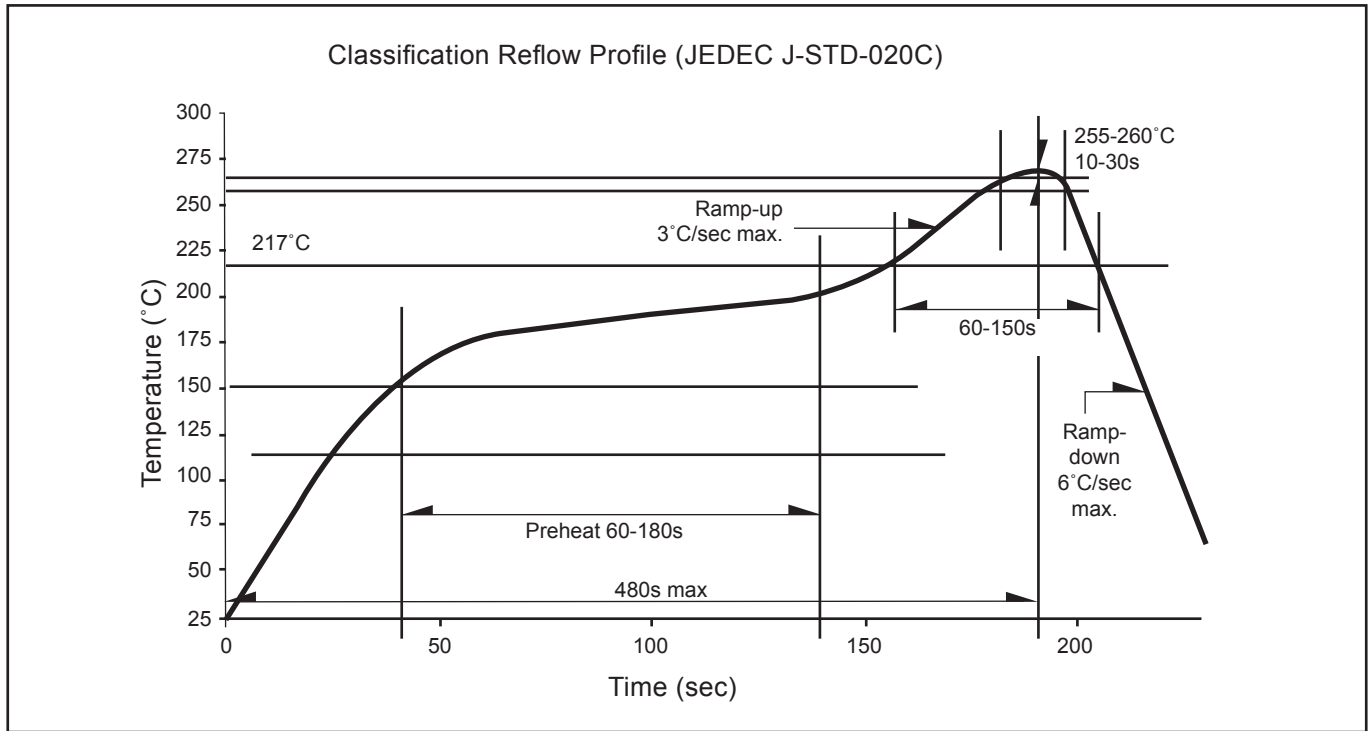
	Average 1pc DomiLED/Multi DomiLED	1 completed bag (2000pcs)
Weight (gram)	0.034	190 ± 10



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	07 Sep 2011
2	Add Thermal Resistance	02 Apr 2013
3, 6	Add Characteristics Add graph: Allowable Forward Current Vs Duty Ratio Add graph: Chromaticity Coordinate Shift	04 Jun 2014

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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