

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.



Optical Characteristics at Tj=25°C

Part Ordering Number	Viewing Angle°	Luminous Intensity @ 10mA IV (mcd)		
		Min.	Typ.	Max.
DDZB-CJG-P2R-3J8L-I1	120	56.0	112.5	180.0

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 = 10 mA			Vr @ Ir = 10 µA
	Min. (V)	Typ. (V)	Max. (V)	Min. (V)
DDZB-CJG	2.7	3.2	3.8	5.0

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

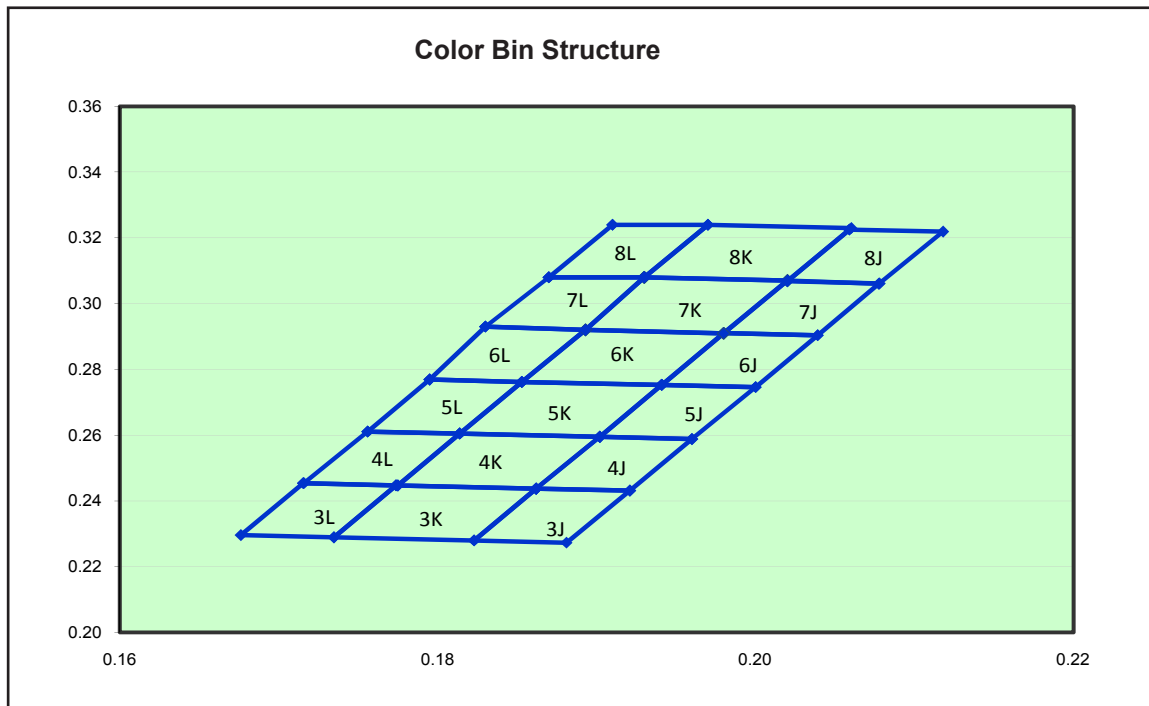
Absolute Maximum Ratings

	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) $I_F = 10\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	TC_V	DDZB-CJG	-3.0	mV / K
Temperature coefficient of I_V (typ) $I_F = 10\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	TC_{I_V}	DDZB-CJG	-0.26	% / K
Temperature coefficient of C_x (typ) $I_F = 10\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	TC_{C_x}	DDZB-CJG	-0.00006	
Temperature coefficient of C_y (typ) $I_F = 10\text{mA}; 0\text{ }^\circ\text{C} \leq T \leq 100\text{ }^\circ\text{C}$	TC_{C_y}	DDZB-CJG	-0.00010	

Color Grouping



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

Bin		1	2	3	4
3J	Cx	0.1862	0.1823	0.1881	0.1921
	Cy	0.2437	0.2280	0.2273	0.2431
3K	Cx	0.1774	0.1735	0.1823	0.1862
	Cy	0.2447	0.2289	0.2280	0.2437
3L	Cx	0.1716	0.1676	0.1735	0.1774
	Cy	0.2454	0.2296	0.2289	0.2447
4J	Cx	0.1902	0.1862	0.1921	0.1960
	Cy	0.2595	0.2437	0.2431	0.2588
4K	Cx	0.1814	0.1775	0.1862	0.1902
	Cy	0.2605	0.2447	0.2437	0.2595
4L	Cx	0.1756	0.1716	0.1775	0.1814
	Cy	0.2611	0.2454	0.2447	0.2605
5J	Cx	0.1941	0.1902	0.1960	0.2000
	Cy	0.2753	0.2595	0.2588	0.2746
5K	Cx	0.1853	0.1814	0.1902	0.1941
	Cy	0.2762	0.2605	0.2595	0.2753
5L	Cx	0.1795	0.1756	0.1814	0.1853
	Cy	0.2769	0.2611	0.2605	0.2762
6J	Cx	0.1980	0.1941	0.2000	0.2039
	Cy	0.2910	0.2753	0.2746	0.2904
6K	Cx	0.1893	0.1853	0.1941	0.1980
	Cy	0.2920	0.2762	0.2753	0.2910
6L	Cx	0.1830	0.1795	0.1853	0.1893
	Cy	0.2930	0.2769	0.2762	0.2920

Bin		1	2	3	4
7J	Cx	0.2020	0.1980	0.2039	0.2078
	Cy	0.3070	0.2910	0.2904	0.3060
7K	Cx	0.1930	0.1893	0.1980	0.2020
	Cy	0.3080	0.2920	0.2910	0.3070
7L	Cx	0.1870	0.1830	0.1893	0.1930
	Cy	0.3080	0.2930	0.2920	0.3080
8J	Cx	0.2059	0.2020	0.2078	0.2118
	Cy	0.3225	0.3068	0.3061	0.3219
8K	Cx	0.1970	0.1930	0.2020	0.2060
	Cy	0.3240	0.3080	0.3070	0.3230
8L	Cx	0.1910	0.1870	0.1930	0.1970
	Cy	0.3240	0.3080	0.3080	0.3240

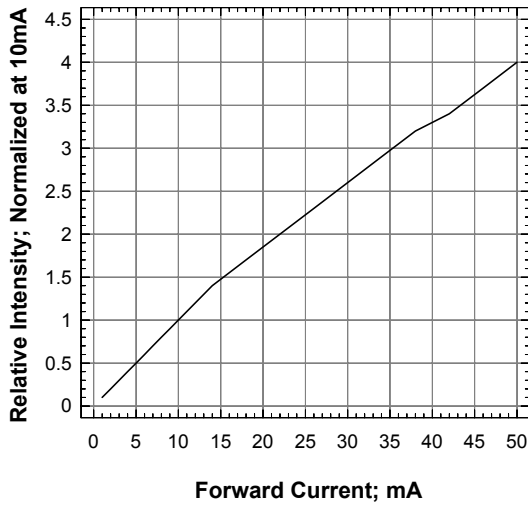
Dominant color coordinate is measured with an accuracy of ± 0.01 .

Luminous Intensity Group at T_j=25°C

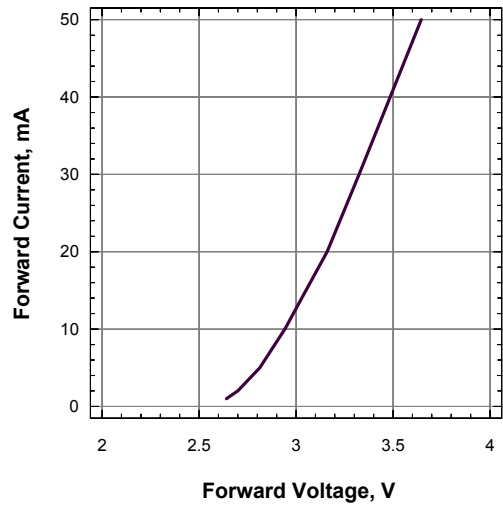
Brightness Group	Luminous Intensity (mcd)
P2	56.0...71.5
Q1	71.5...90.0
Q2	90.0...112.5
R1	112.5...140.0
R2	140.0...180.0

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

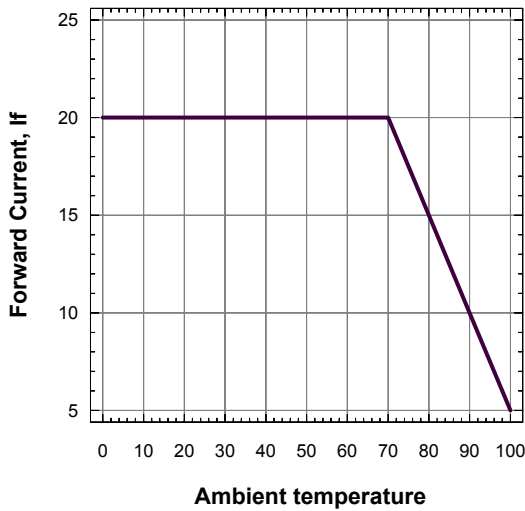
Relative Intensity Vs Forward Current



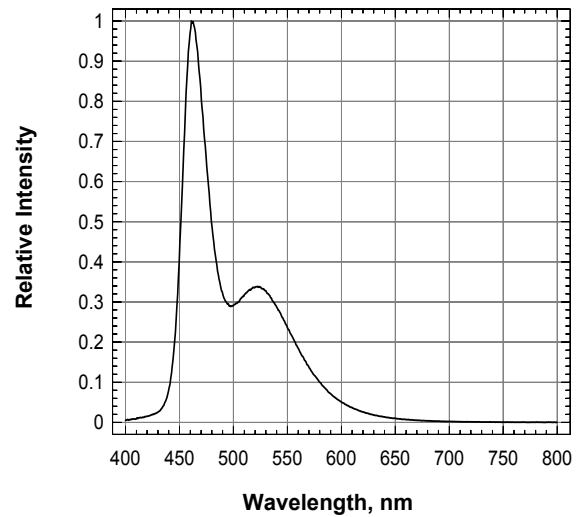
Forward Current Vs Forward Voltage



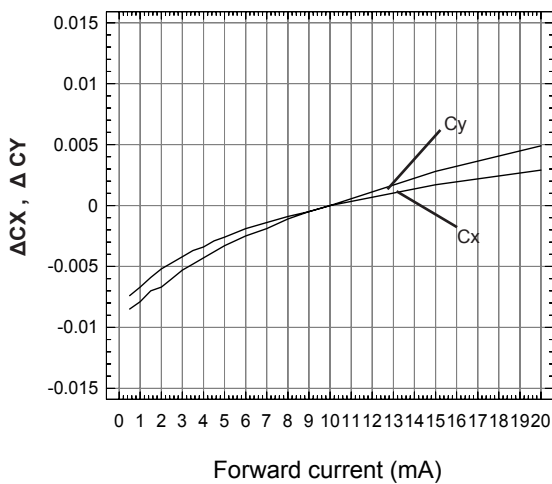
Maximum Current Vs Ambient Temperature



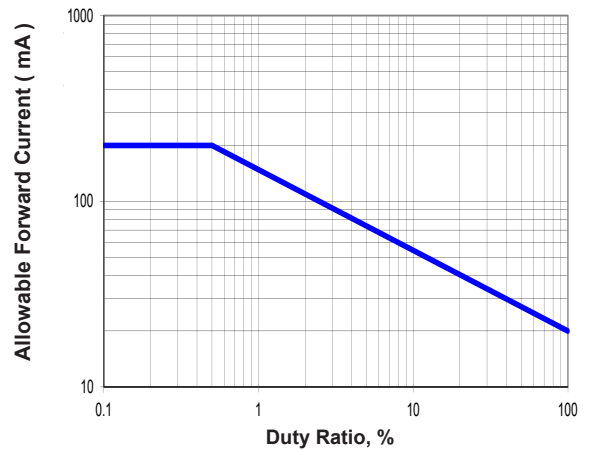
Relative Intensity Vs. Wavelength



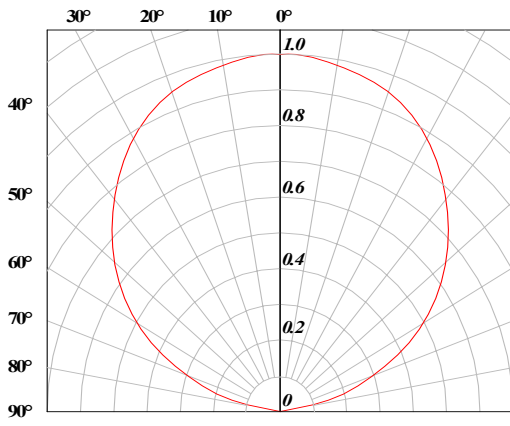
Chromaticity Coordinate Shift



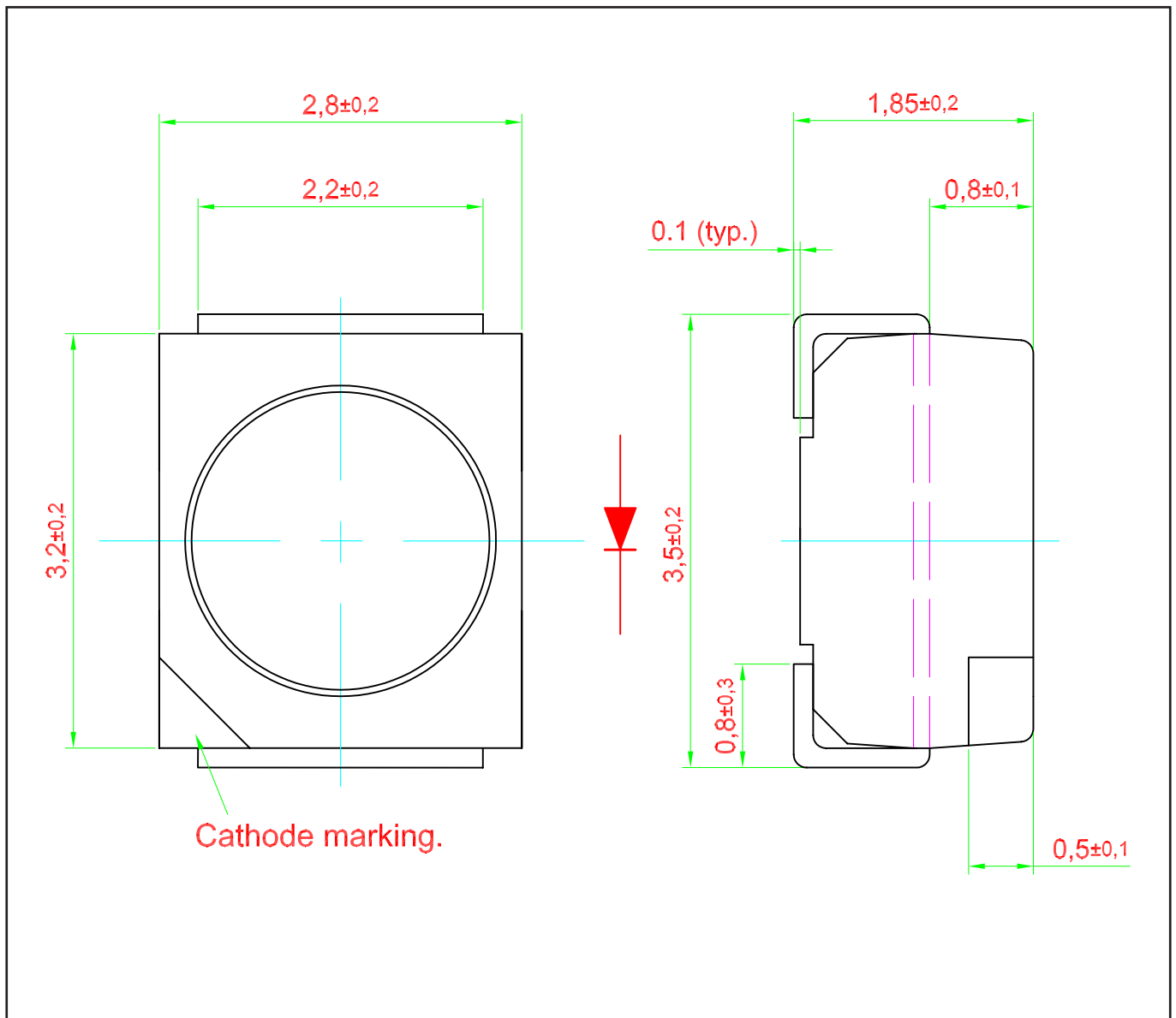
Allowable Forward Current Vs Duty Ratio (Ta=25 Deg C, tp≤10uS)



Radiation Pattern



DomiLED™ • InGaN: DDZB-CJG-3J8L-I1 Package Outlines

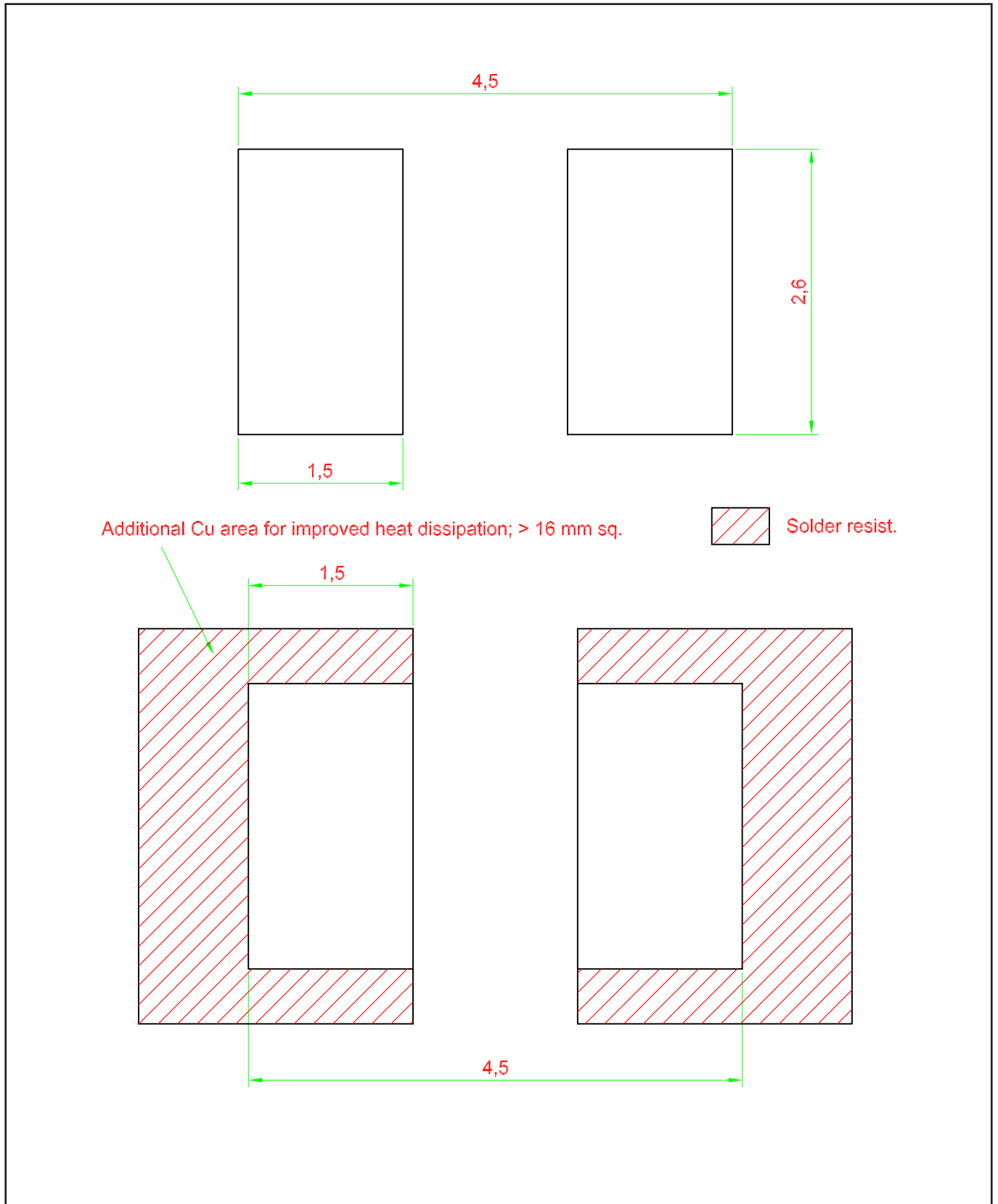


Materials

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

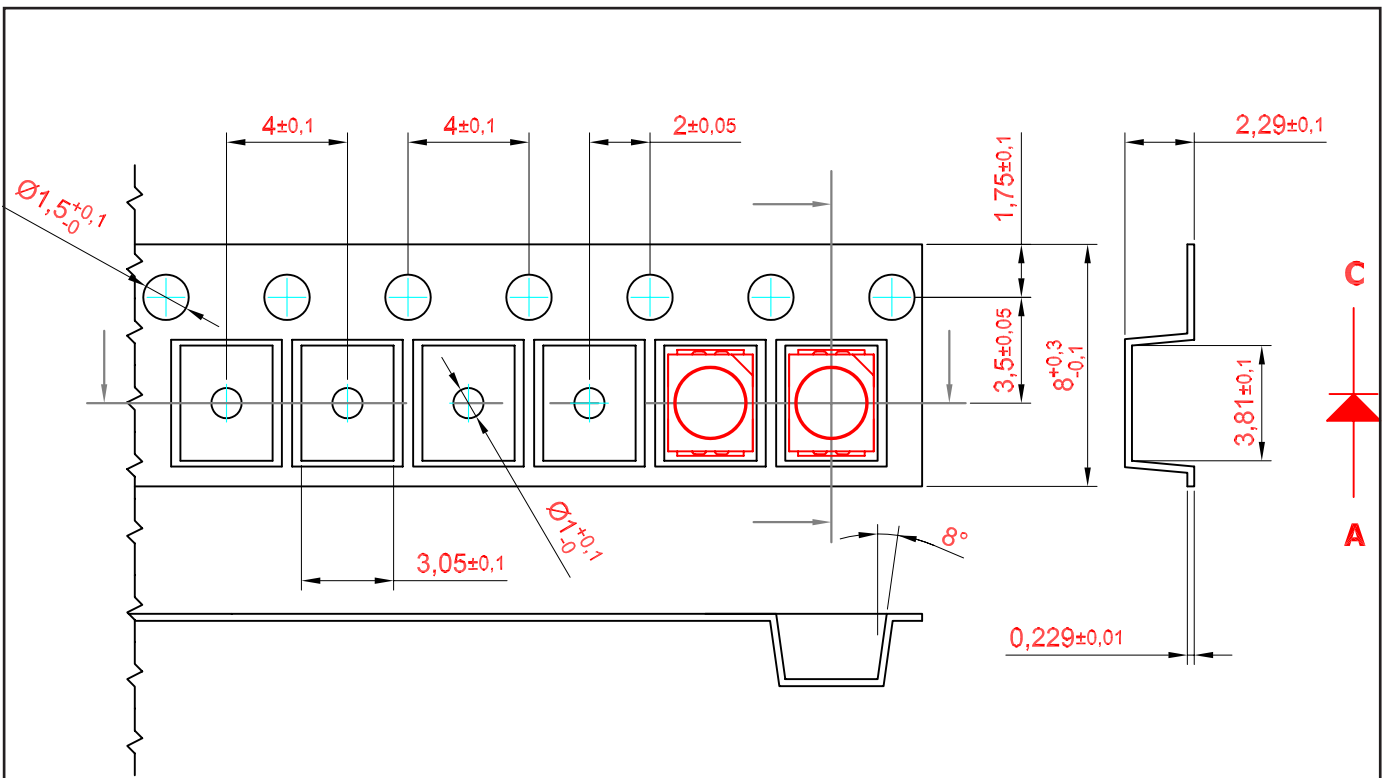
Note: Package is Pb-free.

Recommended Solder Pad



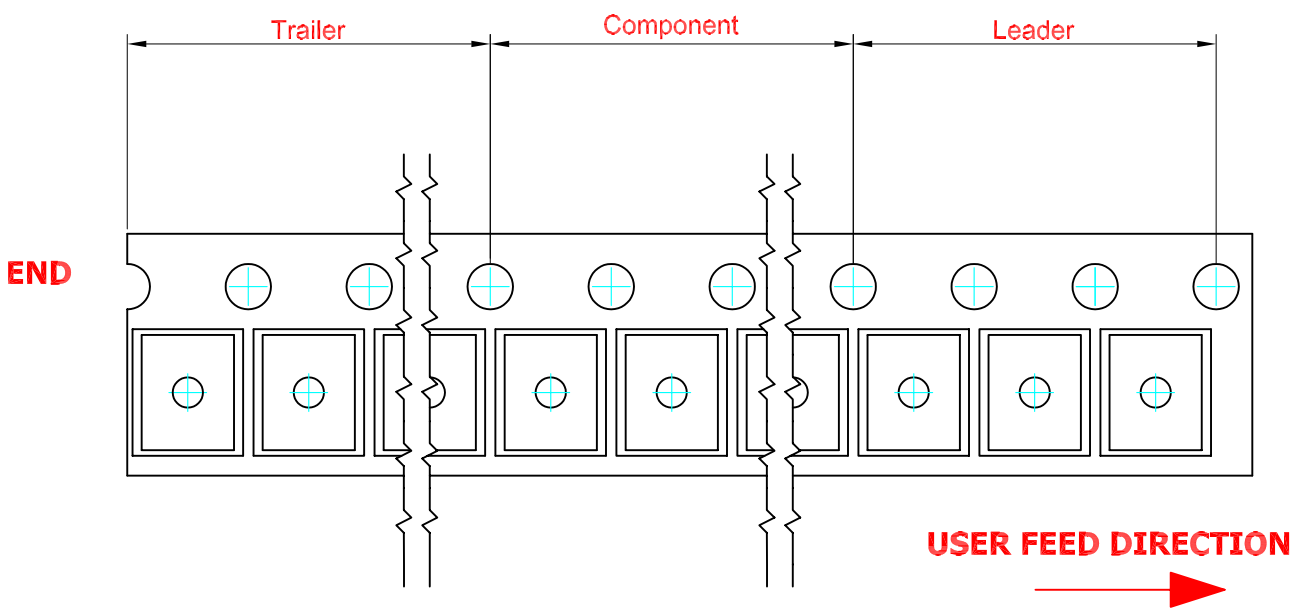
Taping and orientation

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

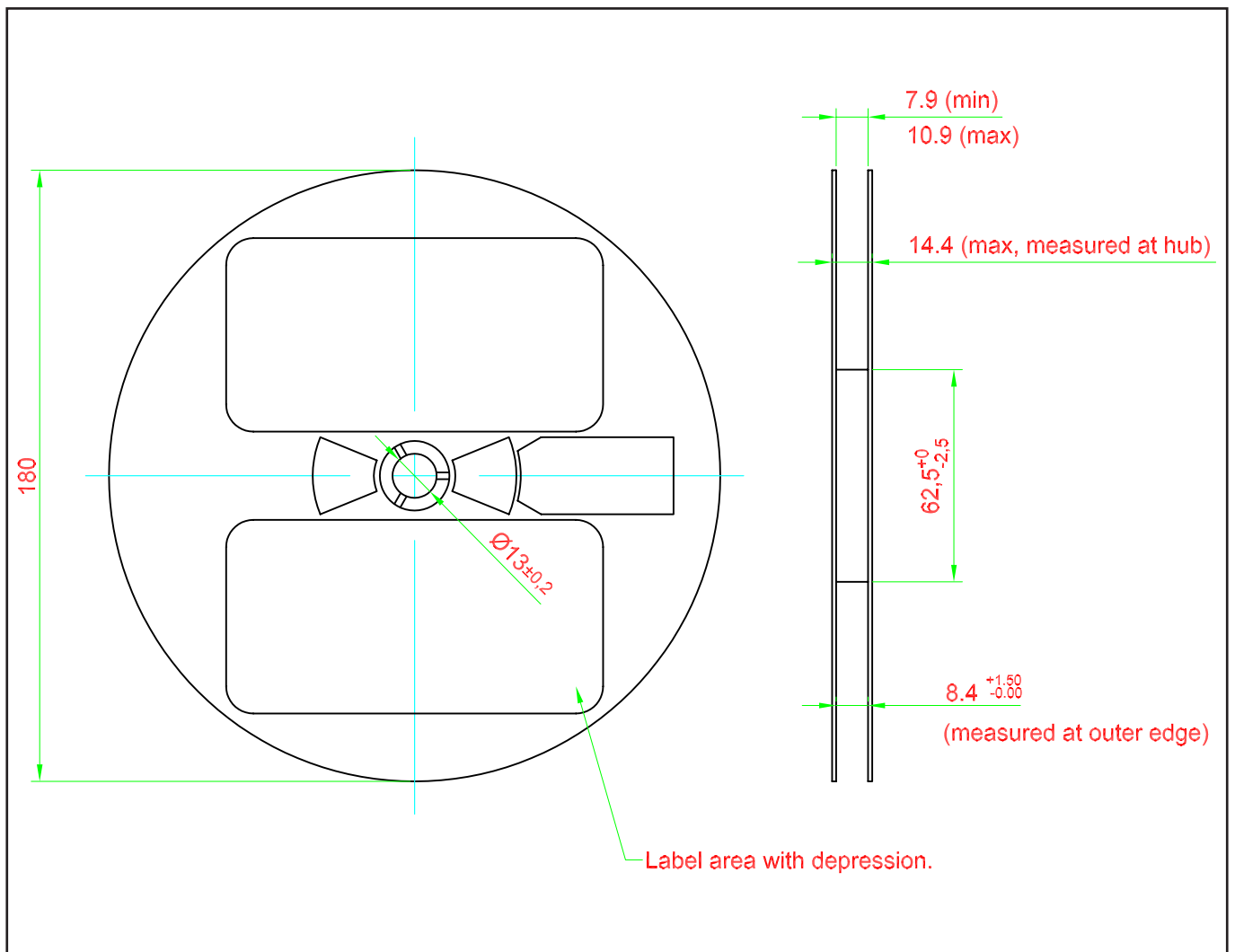


200 mm min. for $\varnothing 180$ reel.
 200 mm min. for $\varnothing 330$ reel.

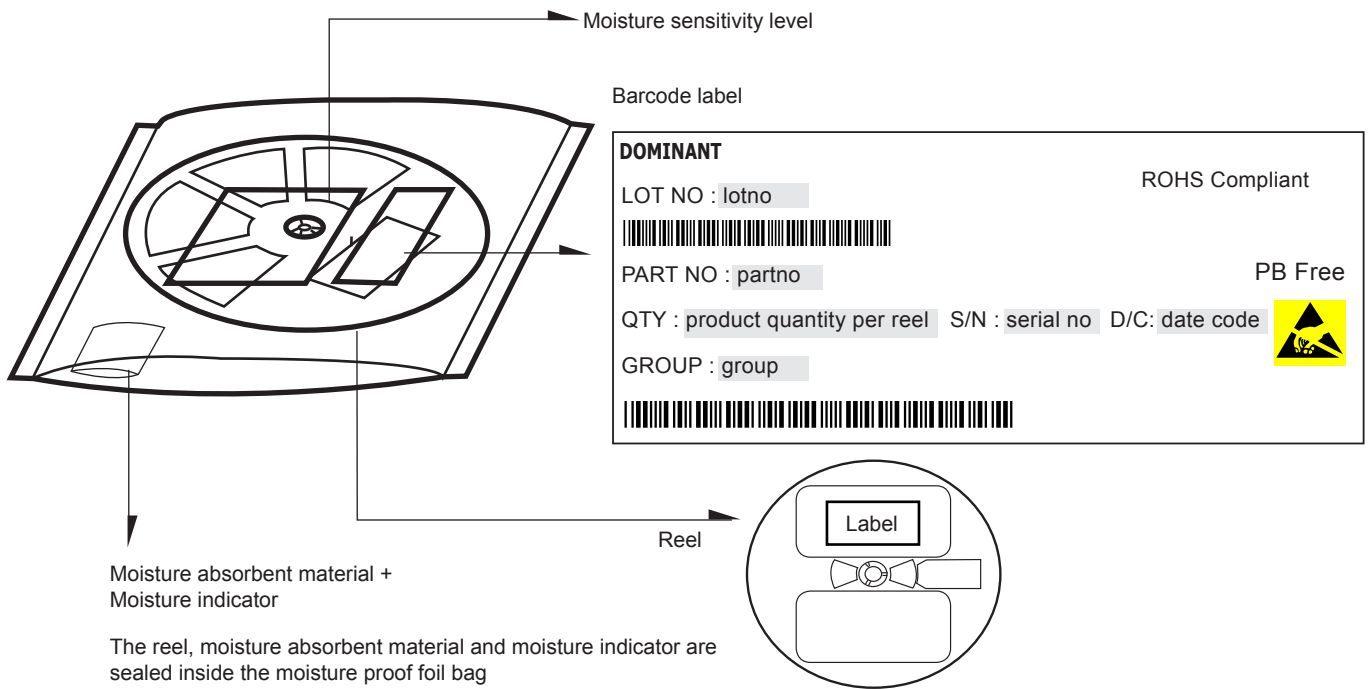
480 mm min. for $\varnothing 180$ reel.
 960 mm min. for $\varnothing 330$ reel.



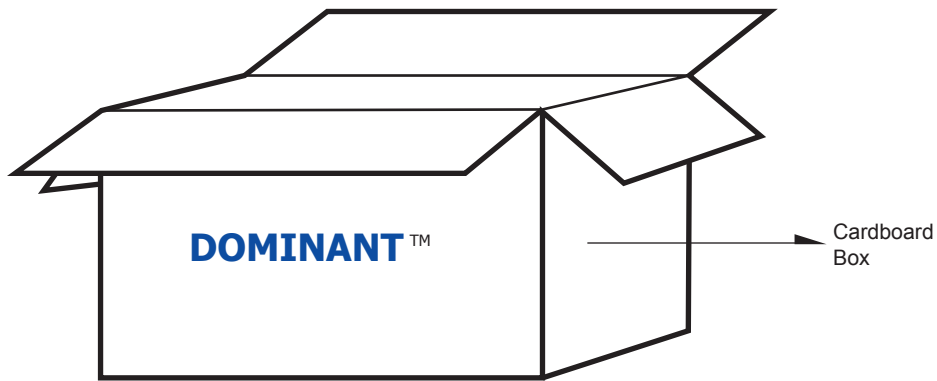
Packaging Specification



Packaging Specification



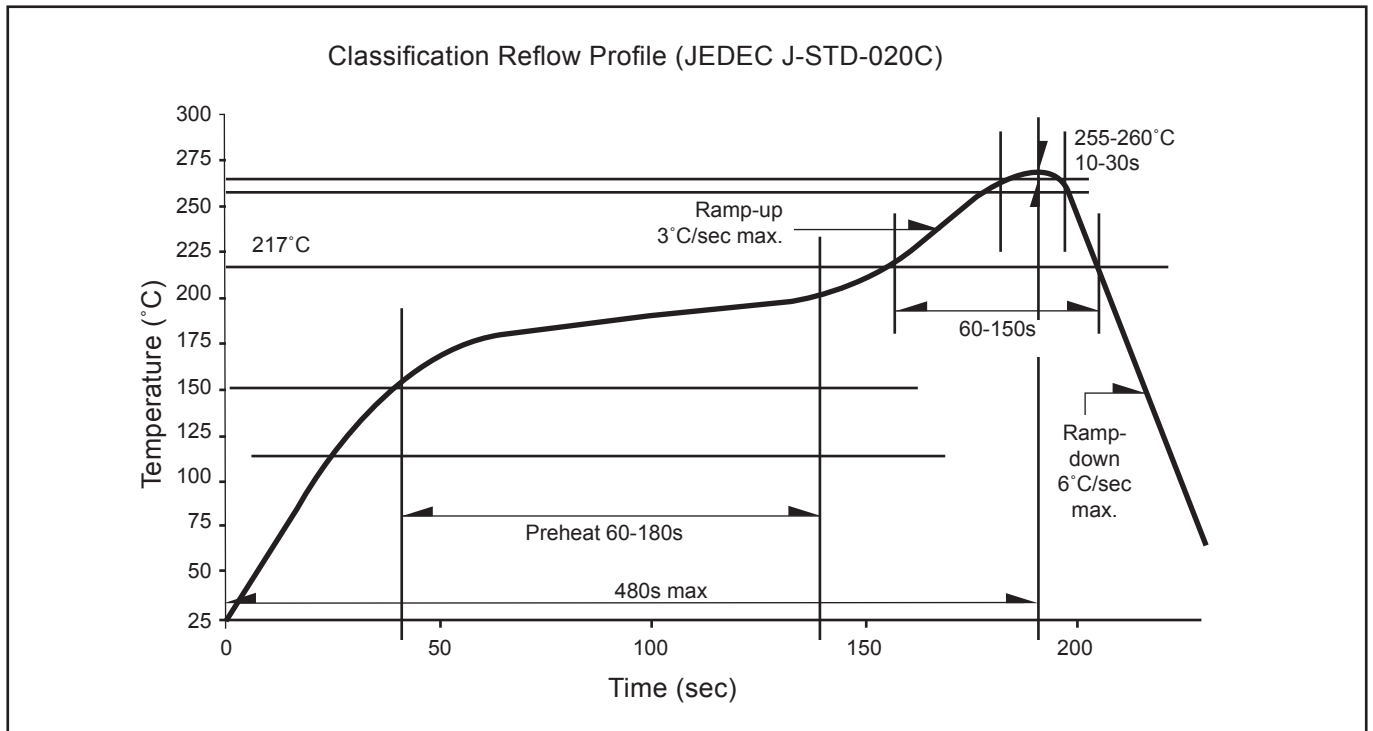
	Average 1pc DomiLED/Multi DomiLED	1 completed bag (2000pcs)
Weight (gram)	0.034	190 ± 10



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	02 Sep 2013
6	Add Graph: Chromaticity Coordinate Shift	18 Mar 2014
2, 3, 7	Add Thermal Resistance Add Characteristics Add graph: Allowable Forward Current Vs Duty Ratio	04 Aug 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>.

Please contact us for more information:

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

