

DomiLEDTM

Synonymous with function and performance, the DomiLEDTM series is perfectly suited for a variety of cross-industrial applications due to its small package outline, durability and superior brightness.

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: indicator and backlight in mobilephone.
- > Display: full color display video notice board.
- > Industrial: white goods (eg: Oven, microwave, etc.).



Optical Characteristics at Tj=25°C

Part Ordering Number	Color	Viewing Angle°	Luminous Intensity @ 20mA IV (mcd)	
			Min.	Typ. Max.
DDT-CJS-RS2-1	True Green, 525nm	120	112.5	180.0 285.0
DDT-CJS-ST2-1	True Green, 525nm	120	180.0	285.0 450.0
● DDT-SJS-ST2-1	True Green, 525nm	120	180.0	285.0 450.0
DDT-UJS-TU2-1	True Green, 525nm	120	285.0	450.0 715.0
DDB-CJS-PQ2-1	Blue, 470nm	120	45.0	71.5 112.5
● DDB-SJS-QR2-1	Blue, 470nm	120	71.5	112.5 180.0
DDB-UJS-RS1-1	Blue, 470nm	120	112.5	180.0 224.0

● Not for new design

NOTE

1. All part number above comes in a quantity of 2000 units per reel.
2. Other luminous intensity groups are also available upon request.
3. Luminous intensity is measured with an accuracy of $\pm 11\%$.
4. Wavelength binning is carried for all units as per the wavelength-binning table. Only one wavelength group is allowed for each reel.
5. An optional Vf binning is also available upon request. Binning scheme is as per following table.

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)
DDB	2.9	3.2	3.8	5.0
DDT	2.9	3.4	4.0	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; ($t_p \leq 10\mu s$, Duty cycle = 0.005)	DDB = 300 DDT = 400	mA
Reverse Voltage	5	V
ESD Threshold (HBM)	2	kV
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, $R_{th JA}$	450	K/W
- Junction / solder point, $R_{th JS}$	230	K/W
(Mounting on FR4 PCB, pad size $\geq 16 \text{ mm}^2$ per pad)		

Wavelength Grouping Tj=25°C

Color	Group	Wavelength distribution (nm)
DDT; True Green	Full	520 - 536
	W	520 - 524
	X	524 - 528
	Y	528 - 532
	Z	532 - 536
DDB; Blue	Full	464 - 476
	W	464 - 468
	X	468 - 472
	Y	472 - 476

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

Luminous Intensity Group at Tj=25°C

Brightness Group	Luminous Intensity IV (mcd)
P1	45.0...56.0
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
S1	180.0...224.0
S2	224.0...285.0
T1	285.0...355.0
T2	355.0...450.0
U1	450.0...560.0
U2	560.0...715.0

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

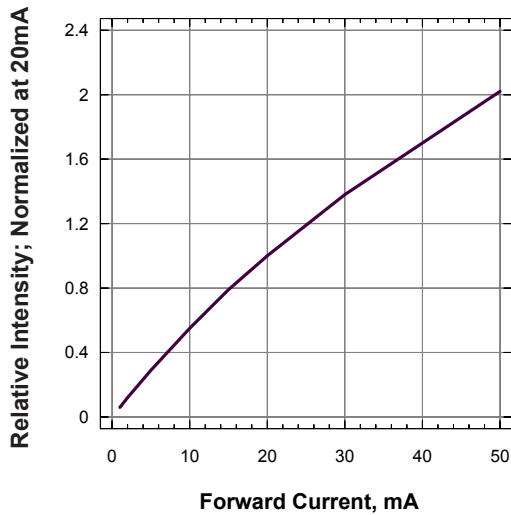
Vf Bining (Optional)

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
03	3.95 ... 4.25

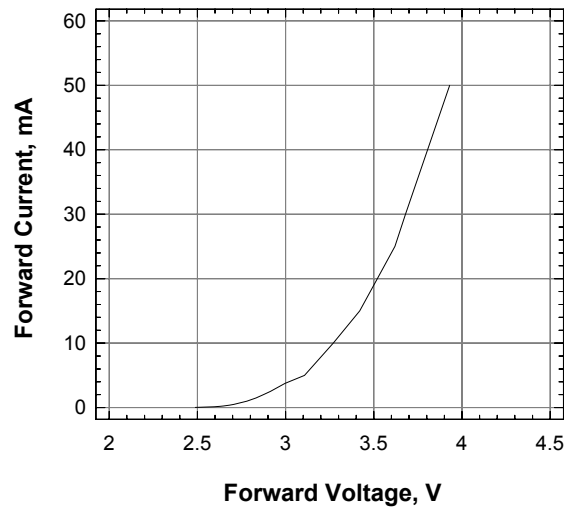
Forward Voltage, Vf is measured with an accuracy of ± 0.1 V.

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

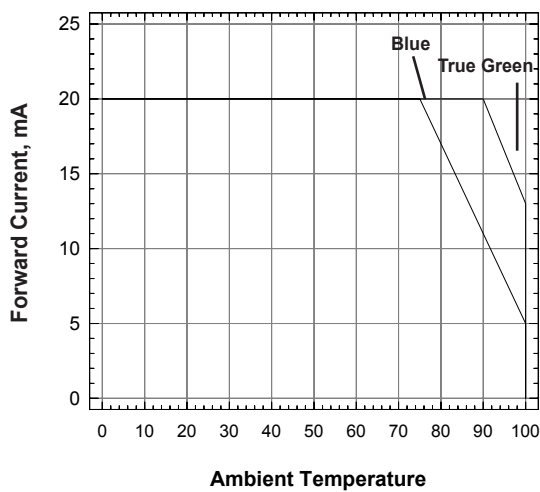
Relative Luminous Intensity Vs Forward Current



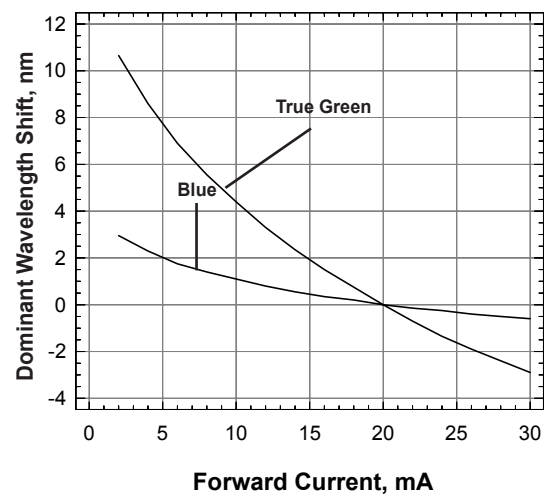
Forward Current Vs Forward Voltage



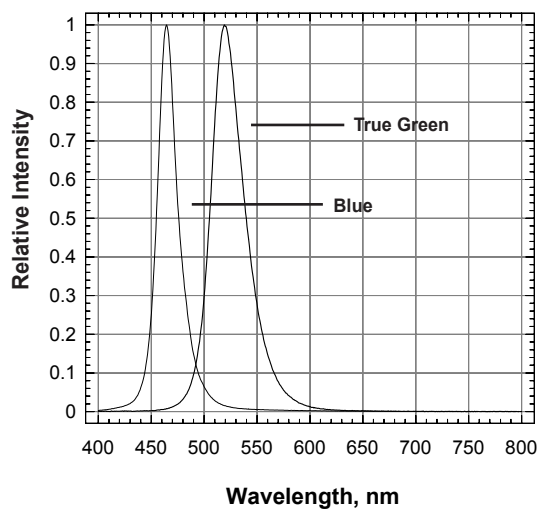
Maximum Current Vs Temperature



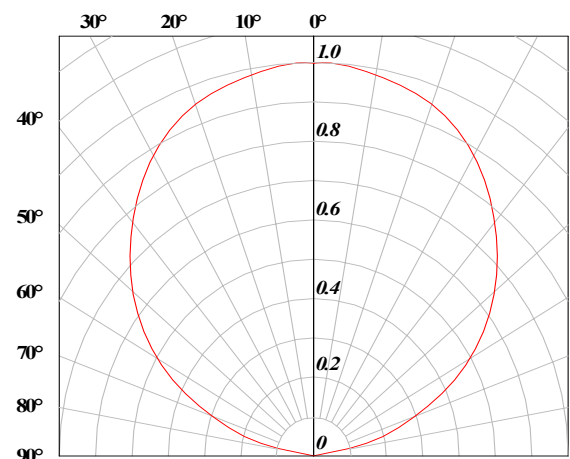
Dominant Wavelength Shift Vs Forward Current



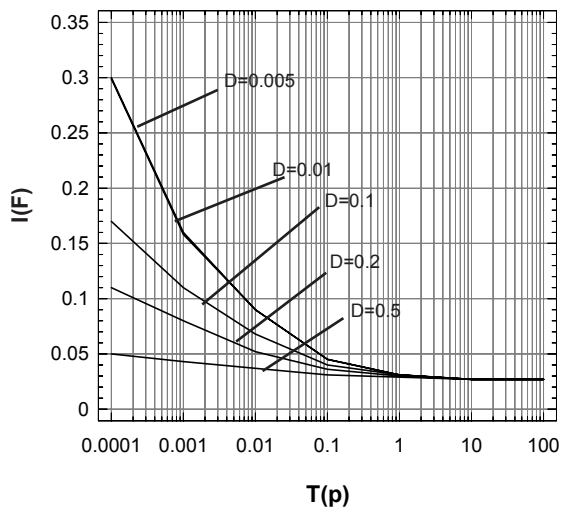
Relative Intensity Vs Wavelength.



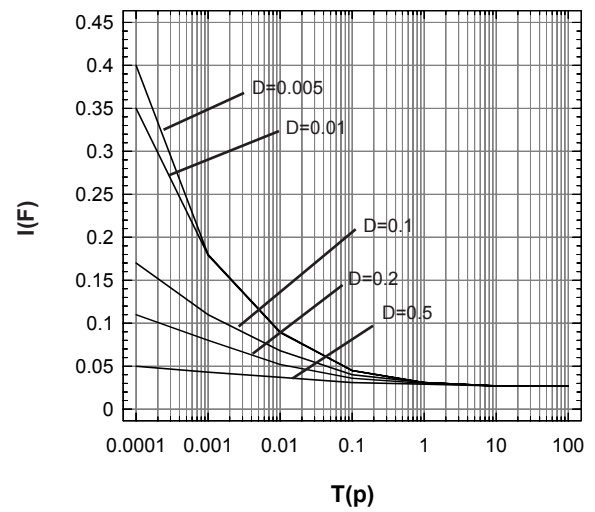
Radiation Pattern



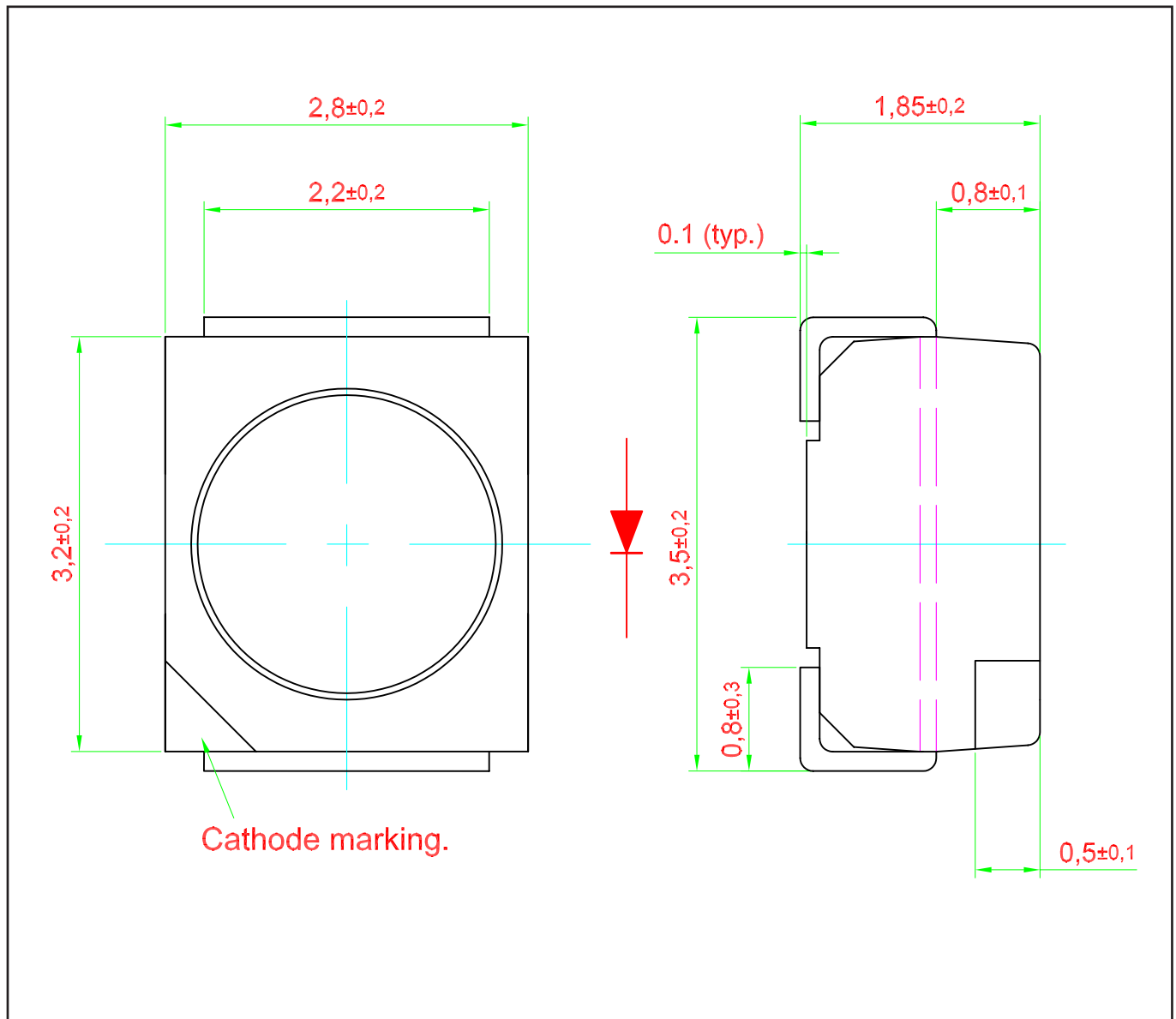
Permissible Pulse Handling Capability
Duty cycle D = parameter, Ta=25 °C, Blue



Permissible Pulse Handling Capability
Duty cycle D = parameter, Ta=25 °C, True Green, Cyan



DomiLED™ • InGaN : DDx-xJx Package Outlines

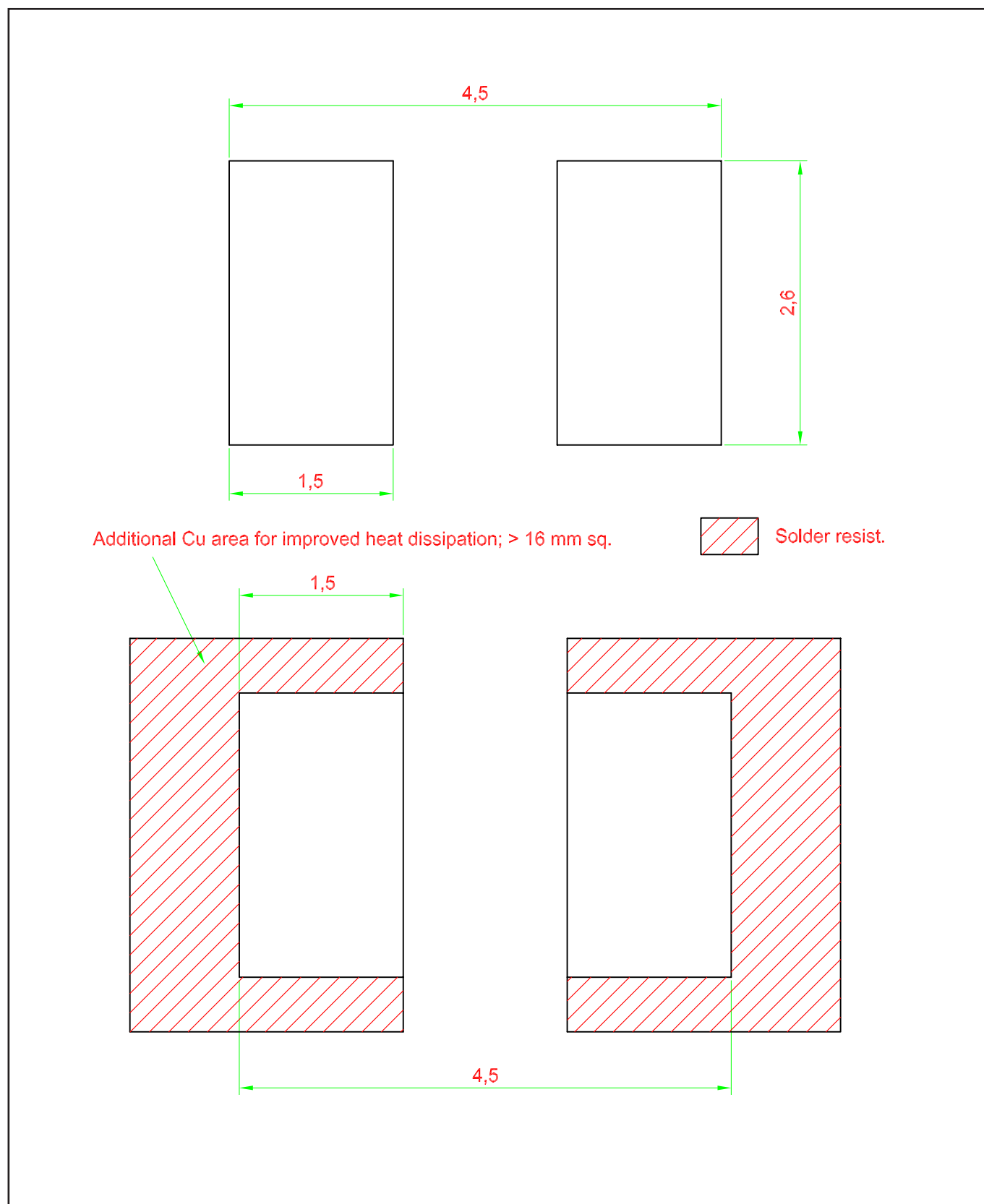


Materials

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

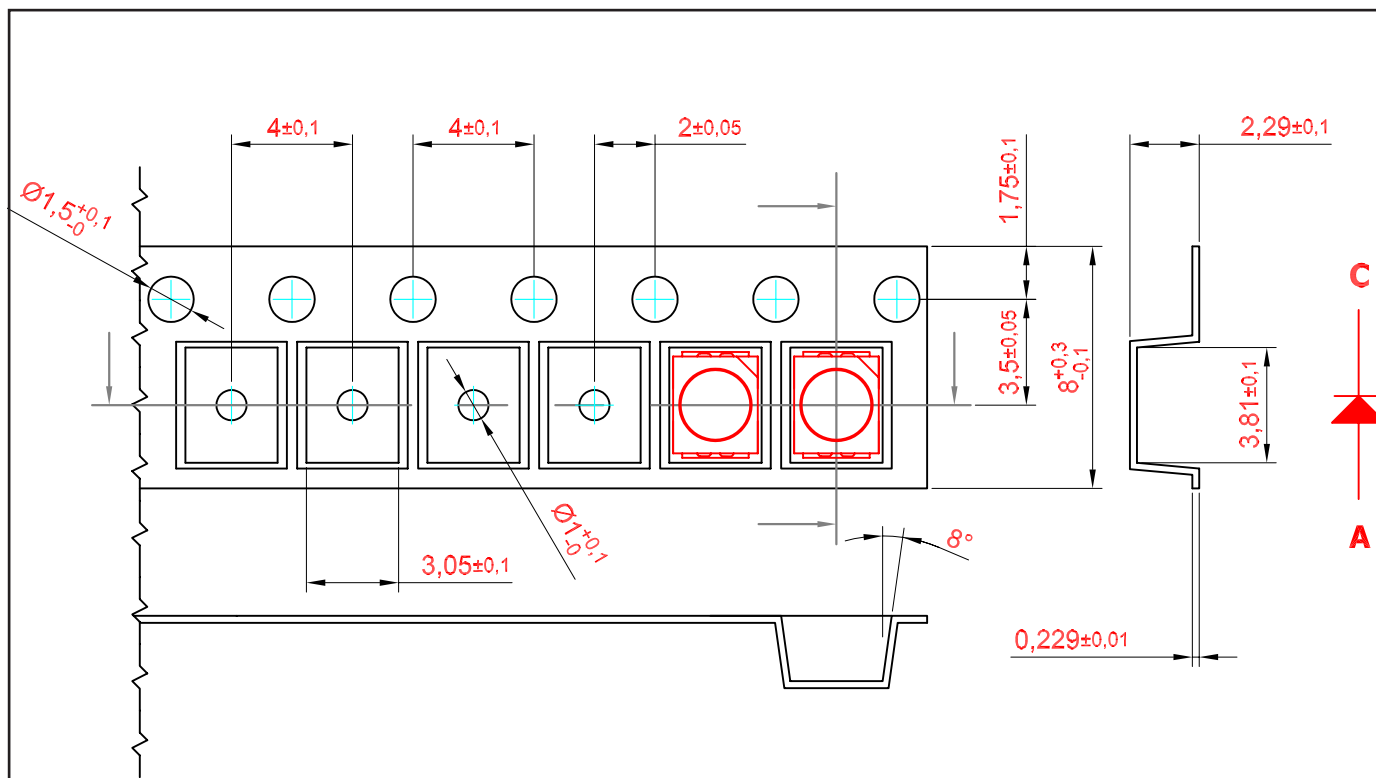
Note: Package is Pb-free.

Recommended Solder Pad



Taping and orientation

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

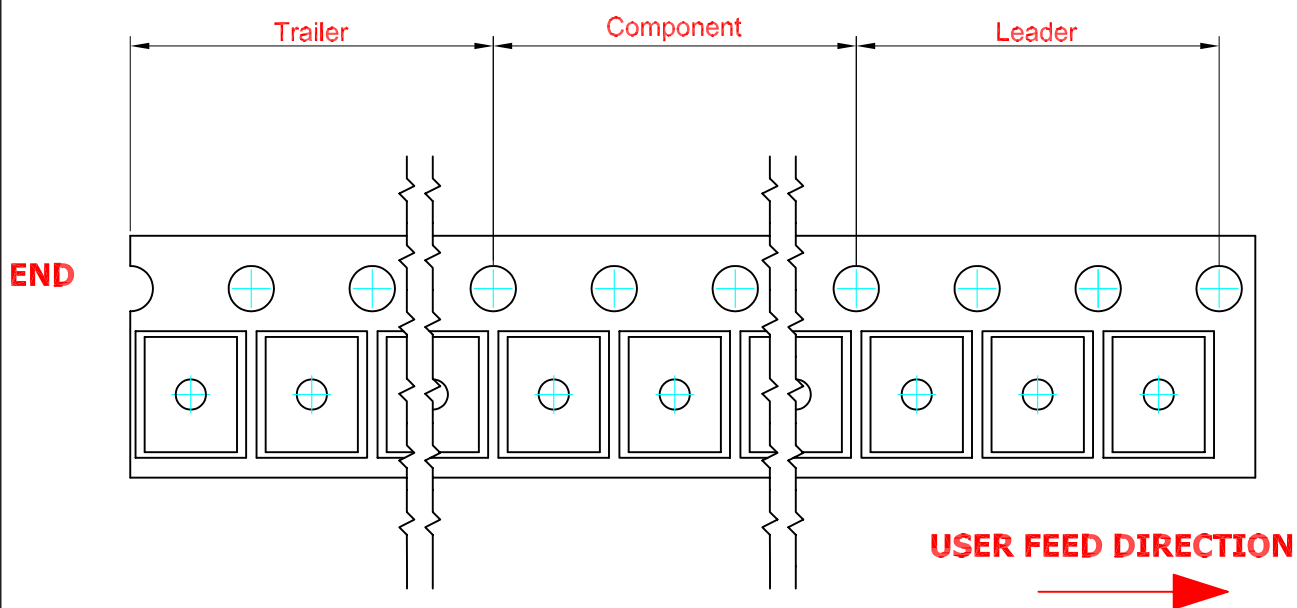


200 mm min. for $\varnothing 180$ reel.

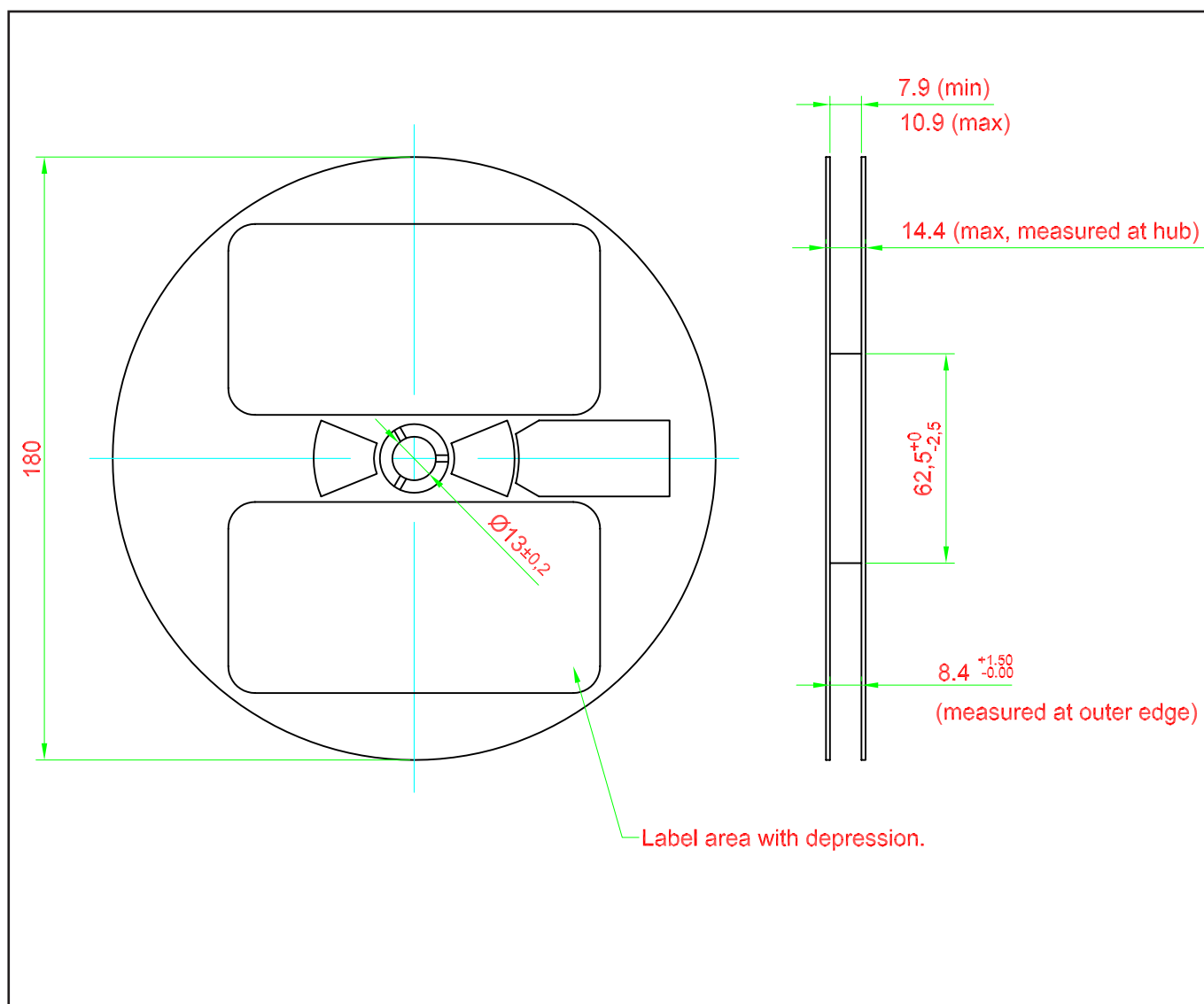
480 mm min. for $\varnothing 180$ reel.

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

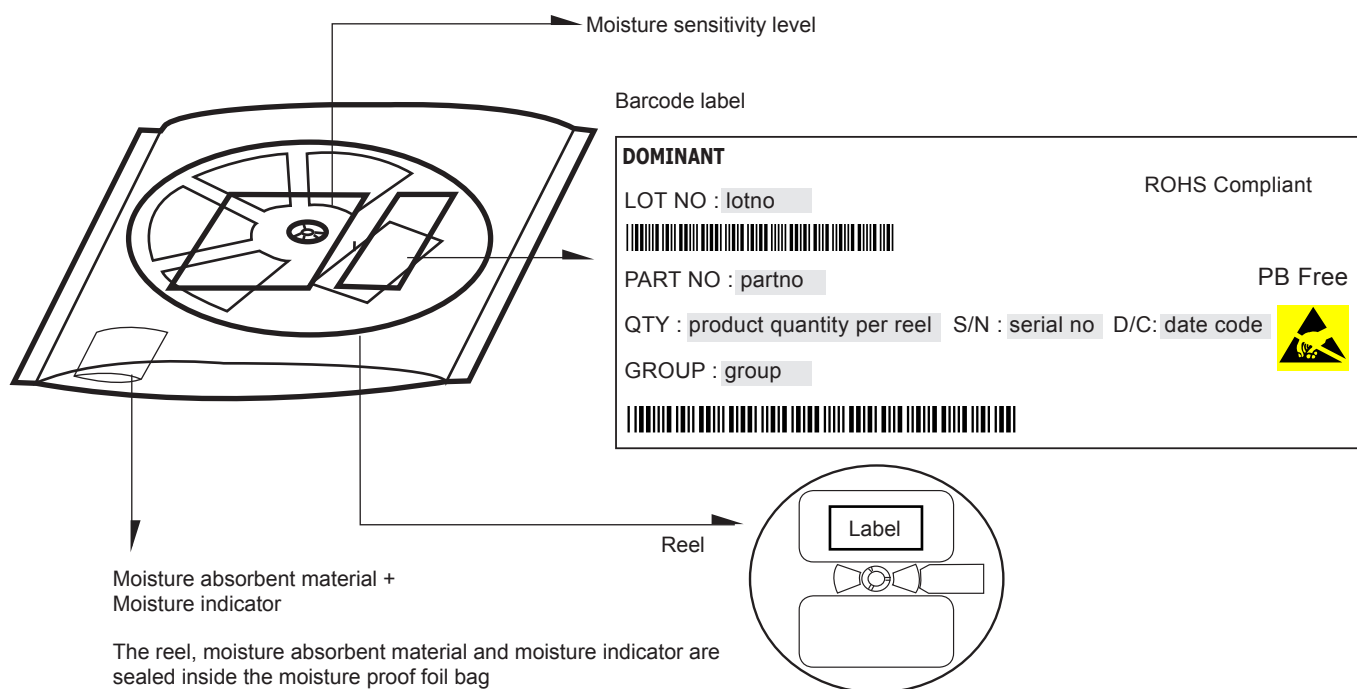
960 mm min. for $\varnothing 330$ reel.



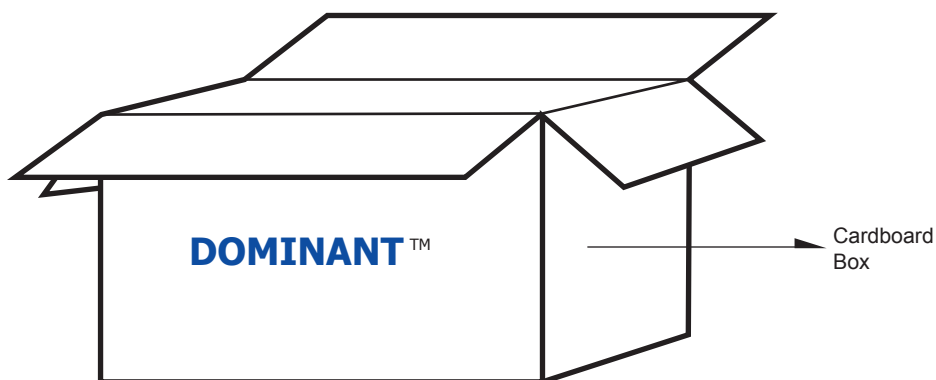
Packaging Specification



Packaging Specification



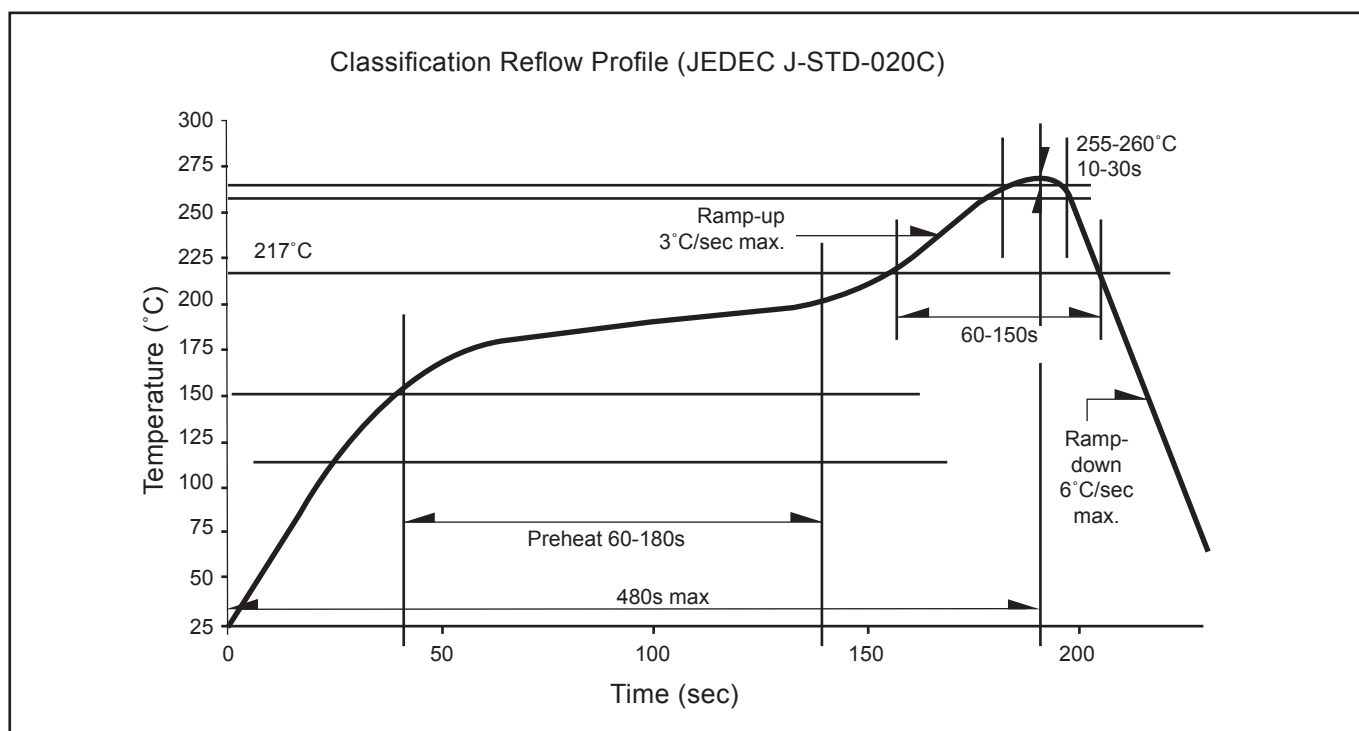
	Average 1pc DomiLED/Multi DomiLED	1 completed bag (2000pcs)
Weight (gram)	0.034	190 ± 10



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
4	Take out “Z” grouping for Blue color	07 May 2007
3	Not for new design: DDC-SJS-ST2-1	03 Mar 2008
-	Update company name	31 May 2010
2	Not for new design: DDC-CJS-RS2-1	09 Jul 2010
2	Add new partno: DDT-CJS-ST2-1	24 Sep 2010
2	Not for new design: DDT-SJS-ST2-1, DDB-SJS-QR2-1	29 Jun 2011
6	Update Graph: Relative Luminous Intensity Vs Forward Current	29 Dec 2011
3	Add Thermal Resistance	11 May 2012
2	Remove partno --> DDC-CJS-RS2-1 --> DDC-UJS-TU1-1 --> DDC-SJS-ST2-1	27 Feb 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>.

Please contact us for more information:

Head Quarter

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

DOMINANT Opto Technologies (Shanghai) Co., Ltd

Rm 305, Hongwell International Plaza No. 1600 Zhong Shan(W) Rd, Xuhui District, 200235 Shanghai, China
Tel: +86 21 5403 5655, Fax: +86 21 5403 6055
E-mail: sales_china@dominant-semi.com

DOMINANT Korea Sales Office

DOMINANT Semiconductors Korea Inc.
#211, Suntech City, 513-15, Sangdaewon 1-Dong, Jungwon-Gu, Seongnam-Si, Gyeonggi-Do, 462-725 Korea.
Tel: +82-31-701-5203 Fax: +82-31-701-5204
E-mail: sales_korea@dominant-semi.com

DOMINANT Europe Sales Office

DOMINANT Semiconductors Europe GmbH
Raiffeisenstr. 38, 74906 Bad Rappenau Germany
Tel: +49 (0) 7264-89010-0 Fax: +49 (0) 7264-89010-29
E-mail: info@dominant-semi.eu

DOMINANT U.S.A Sales Office

25 Rockaway Road, 08833 Lebanon, New Jersey, USA
Tel: +1(908) 439-9930 Cell: +1(908) 343-5810 Fax: +1(908) 439-9929
E-mail: don.wendel@dominant-semi.com

DOMINANT India Sales Office

C-11, Vesanth Business Centre, #86, TTK Road, Alwarpet Chennai - 600 018, India.
Tel: +91-44-42030616 / 516 Fax: +91-44-4920616 Cell: +91-9444 920 537
E-mail: pravat.behera@dominant-semi.com

