DOMINANT™
Opto Technologies
Innovating Illumination

DATA SHEET:

DomiLED™

InGaN : DDx-DZJS

DomiLED™

Synonymous with function and performance, the DomiLED™ 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 / Sapphire 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.
> Communication: indicator and backlight in mobile phone, flash light.
> Signage: full colour display video notice board, signage, special effect lighting.
> Industrial: white goods (eg: Oven, microwave, etc.), light bar, illuminated advertising.

Optical Characteristics at Tj=25˚C

Part Ordering Number	Color	Viewing Angle˚	Luminous Intensity @ 20mA IV (mcd) Min.	Typ.	Max.
DDB-DZJS-PQ2-1	Blue, 470nm	120	45.0	71.5	112.5
DDB-DZJS-ST2-1	Blue, 470nm	120	180.0	250.0	450.0
DDT-DZJS-R2T1-1	True Green, 525nm	120	140.0	224.0	355.0
DDT-DZJS-VW2-1	True Green, 525nm	120	715.0	900.0	1800.0

NOTE
1. All part number above comes in a quantity of 2000 units per reel.
2. Other luminious intensity groups are also available upon request.
3. Luminous intensity is measured with an accuracy of ± 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. The appearance of color of emission area for DDT-DZJS-R2T1-1 and DDB-DZJS-PQ2-1 are clear tinted.

Electrical Characteristics at Tj=25˚C

Part Number	Vf @ If = 20mA Min. (V)	Typ. (V)	Max. (V)
DDx-DZJS	2.8	3.1	3.6

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)	100	mA
Reverse voltage	Not for reverse bias	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)	80	mW
Thermal resistance		
- Junction / ambient, $R_{th\ JA}$	340	K/W
- Junction / solder point, $R_{th\ JS}$	180	K/W
(Mounting on FR4 PCB, pad size >= 16mm^2 per pad)		

Wavelength Grouping at Tj=25˚C

Color	Group	Wavelength distribution (nm)
DDB; Blue	Full	464 - 476
	A1	464 - 467
	A2	467 - 470
	B1	470 - 473
	B2	473 - 476
DDT; True Green	Full	520 - 535
	A	520 - 525
	B	525 - 530
	C	530 - 535

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
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
V1	715.0...900.0
V2	900.0...1125.0
W1	1125.0...1400.0
W2	1400.0...1800.0

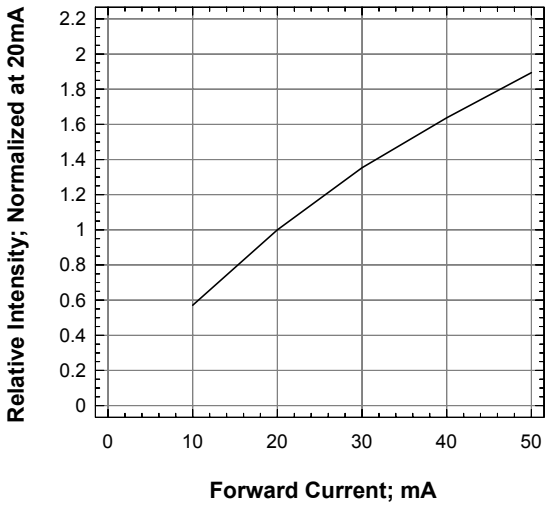
Luminous intensity is measured with an accuracy of ± 11%.

Vf Binning (Optional)

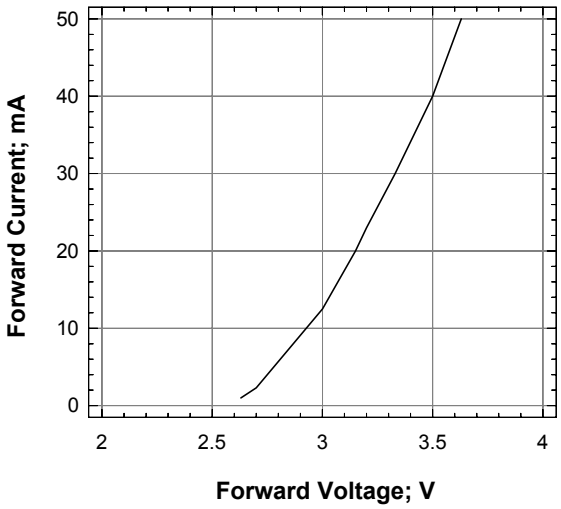
Vf Bin	Forward Voltage (V)
VA	2.8 ... 3.1
VB	3.1 ... 3.4
VC	3.4 ... 3.7

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.

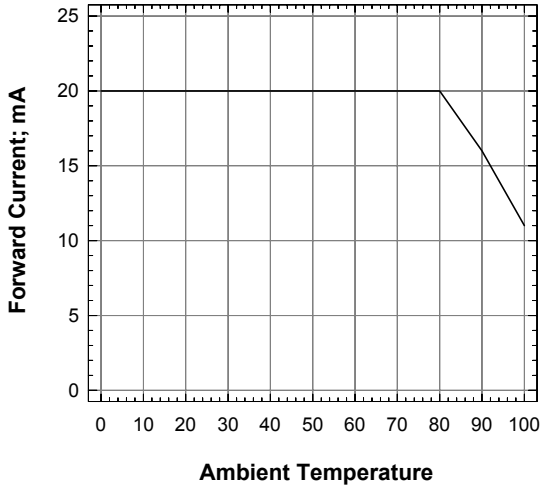
Relative Intensity Vs Forward Current



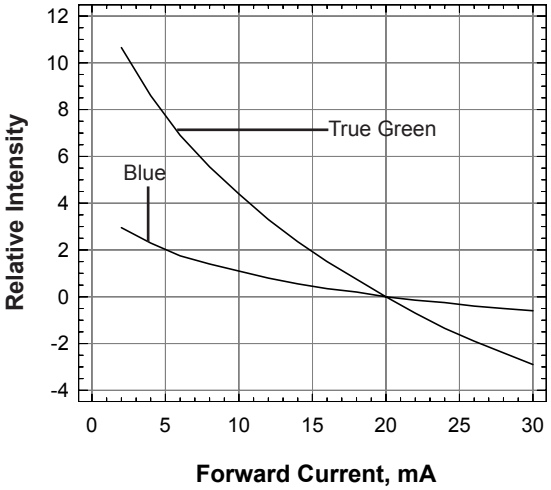
Forward Voltage Vs Forward Current



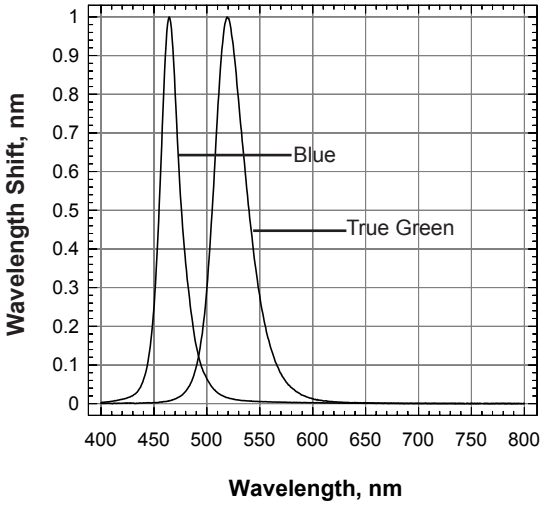
Maximum Current Vs Ambient Temperature



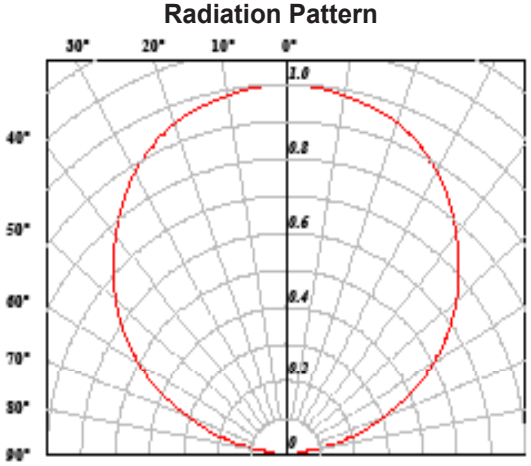
Dominant Wavelength Shift Vs Forward Current



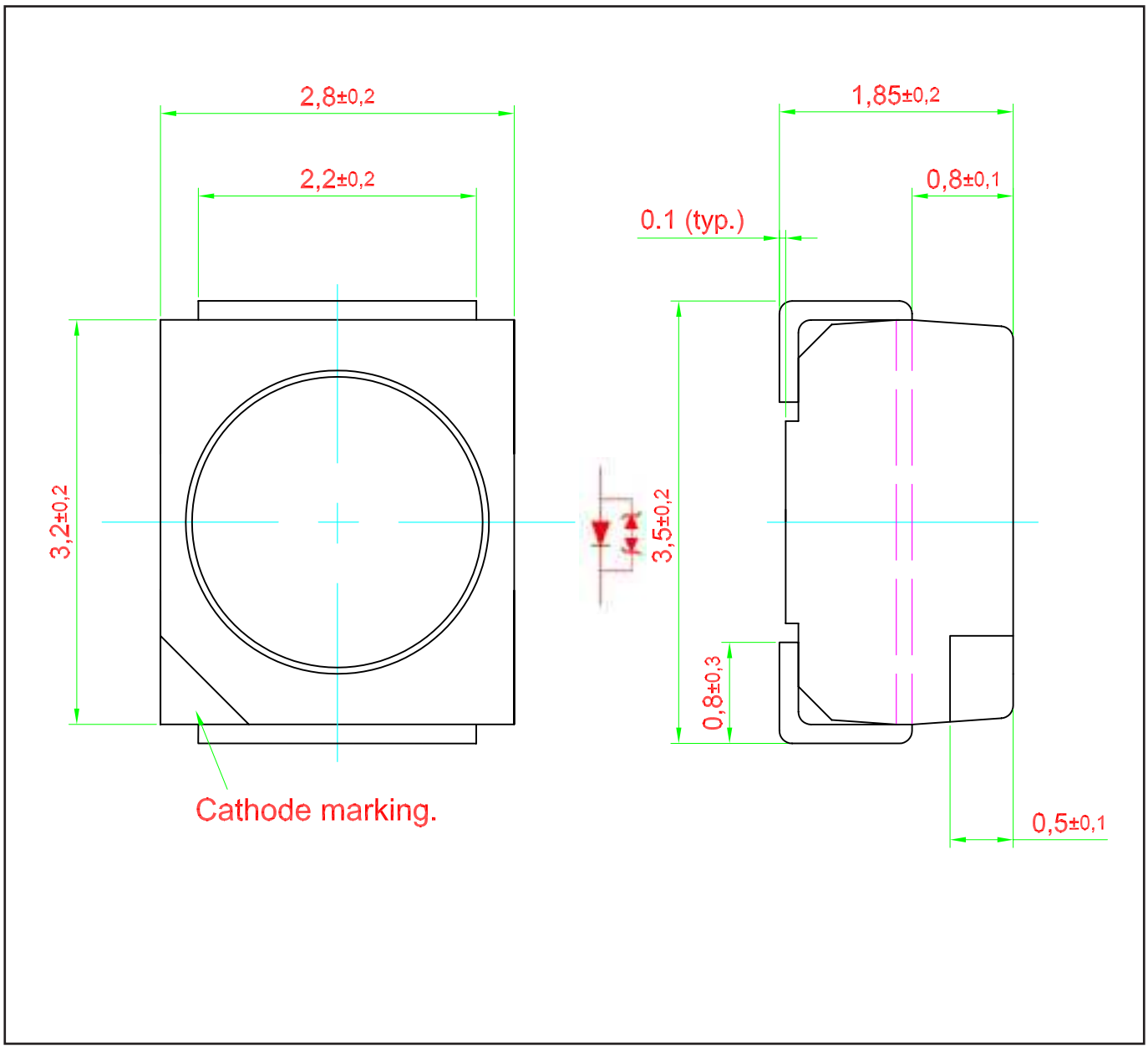
Relative Intensity Vs Wavelength



Radiation Pattern



DomiLED™ • InGaN : DDx-DZJS Package Outlines

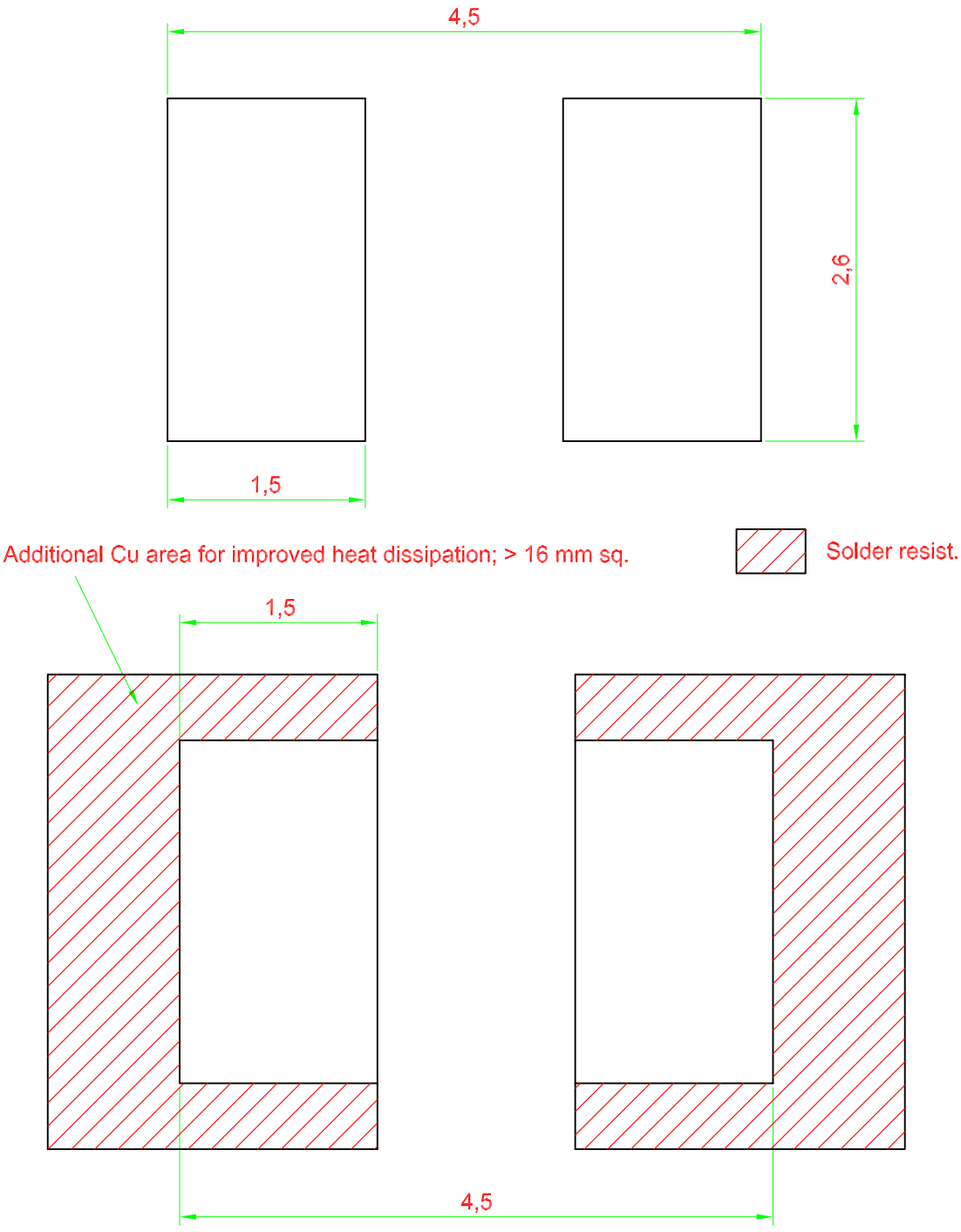


Materials

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

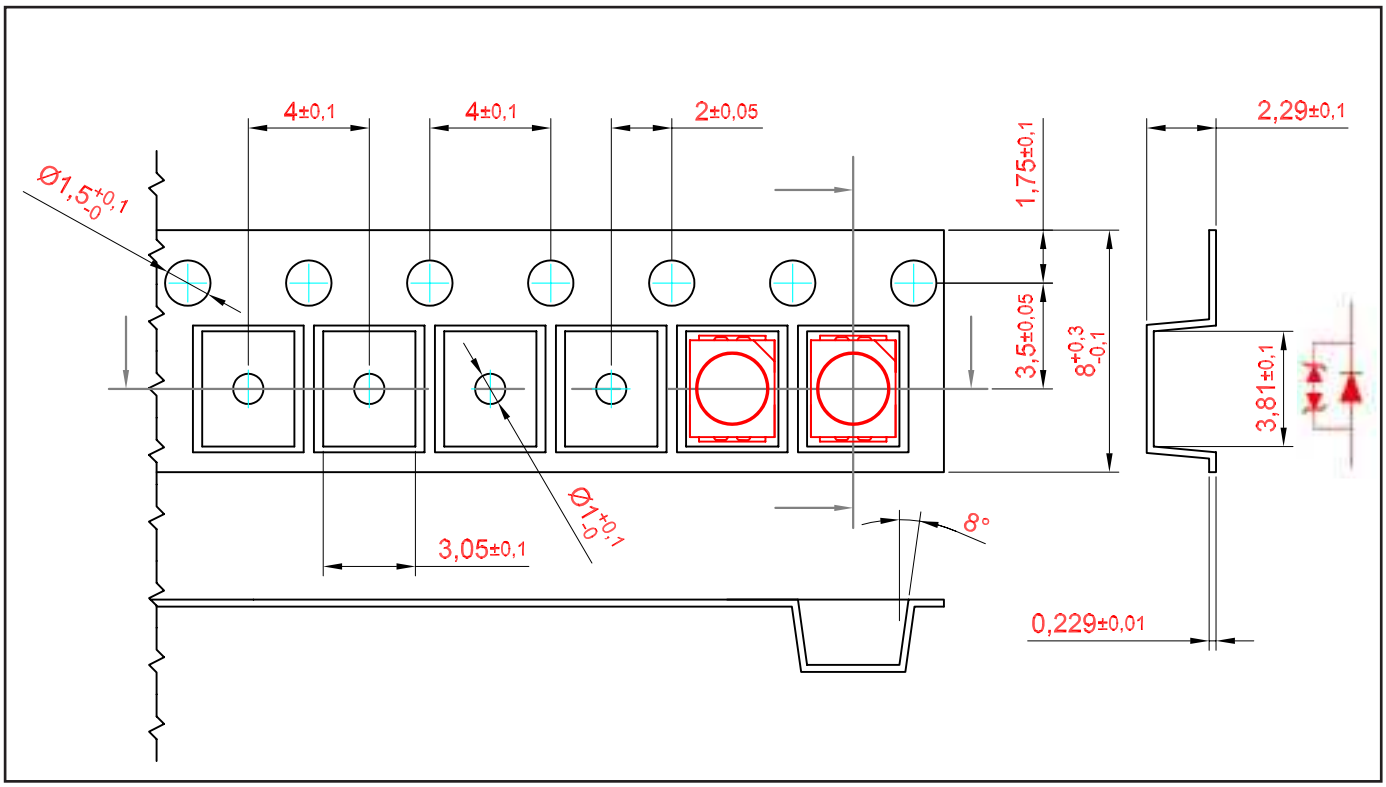
Note: Package is Pb-free.

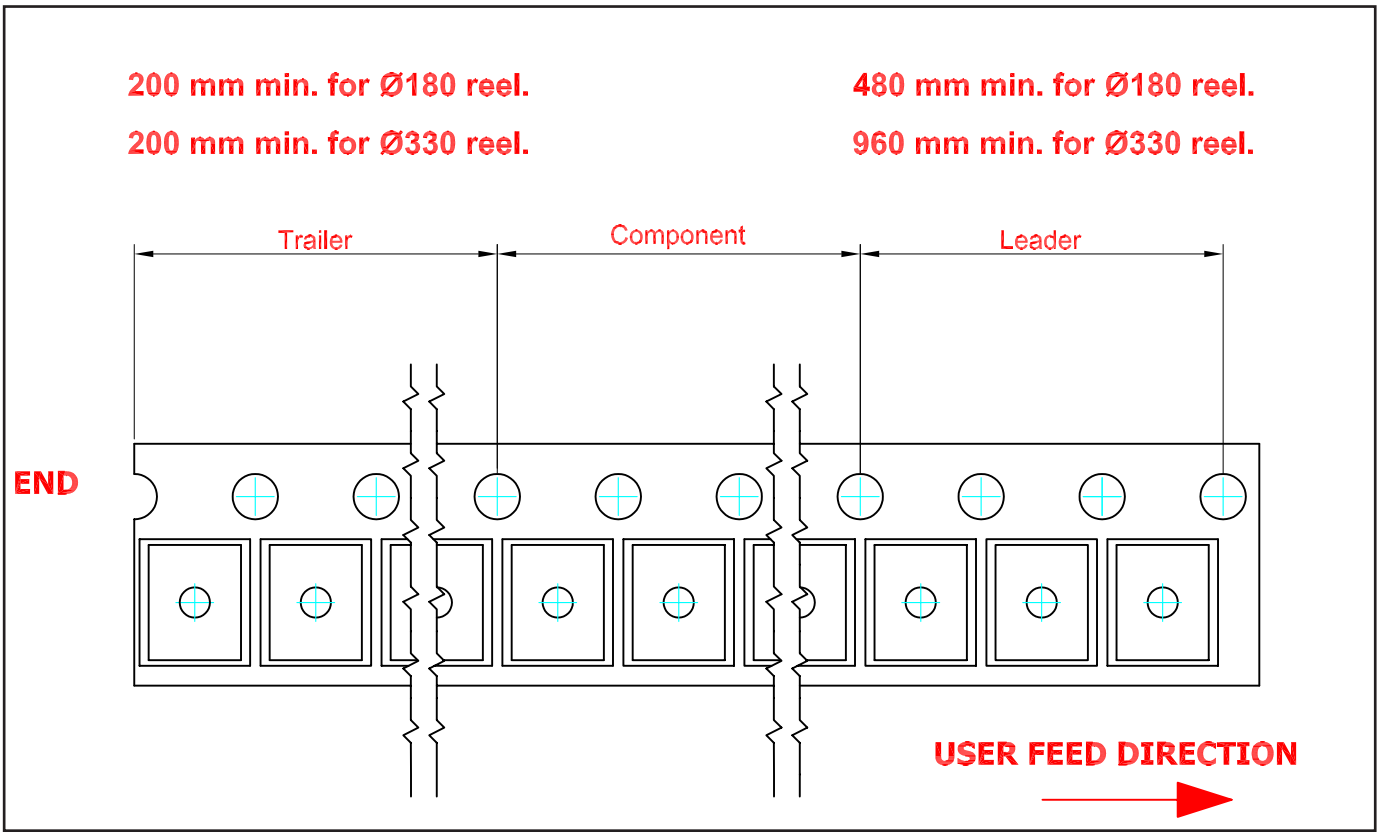
Recommended Solder Pad



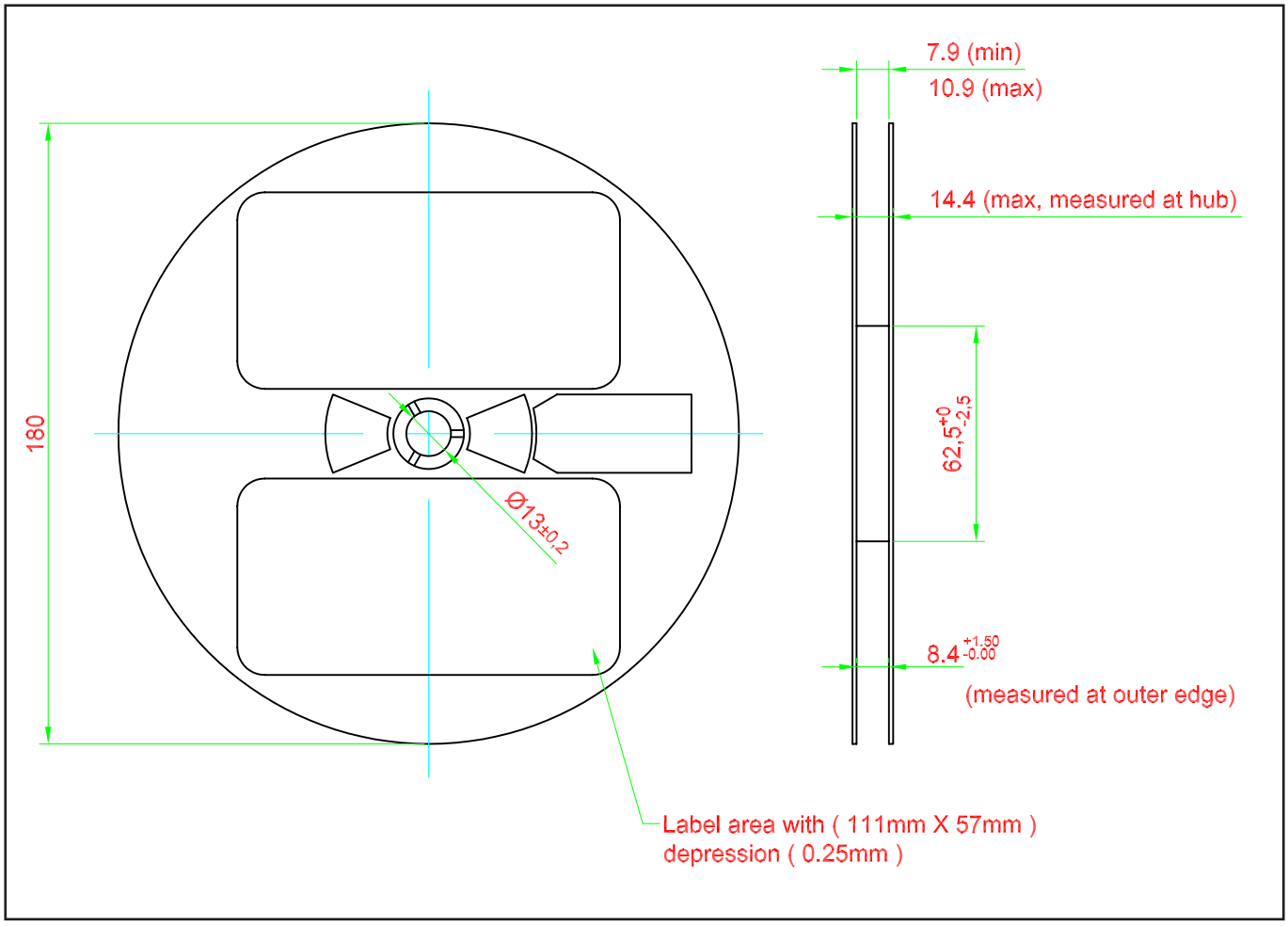
Taping and orientation

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

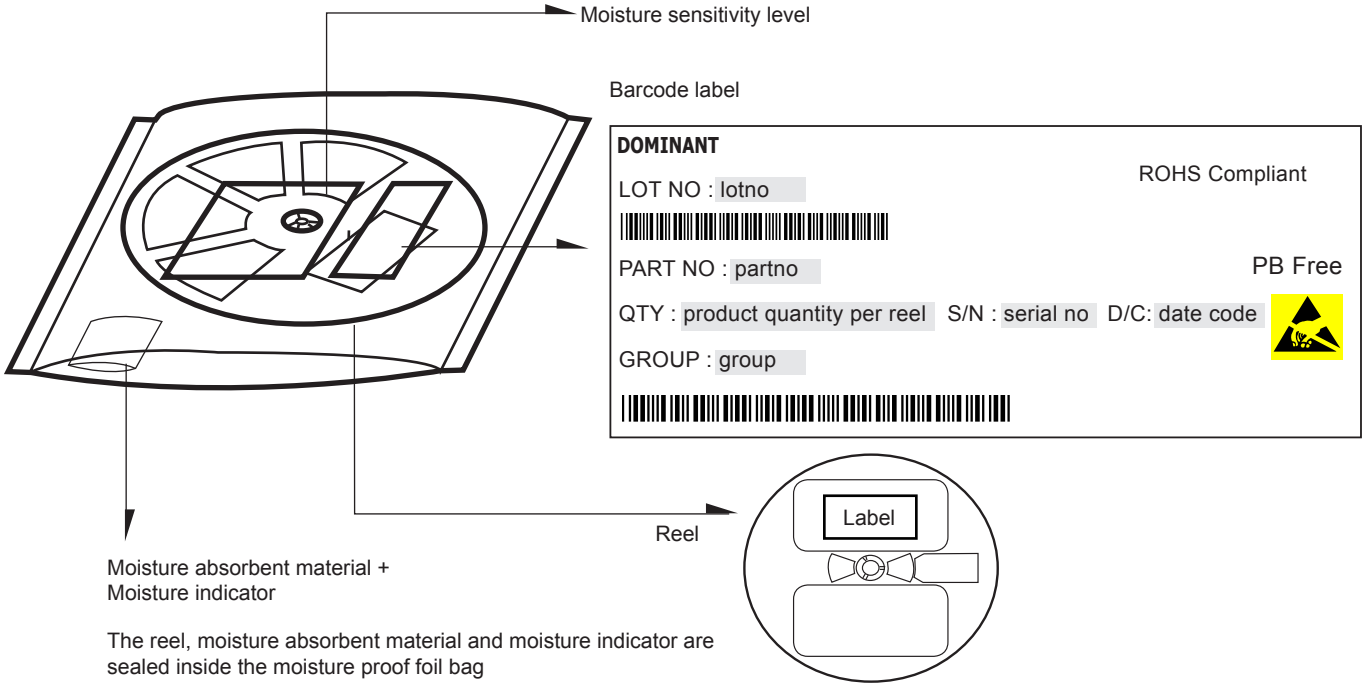




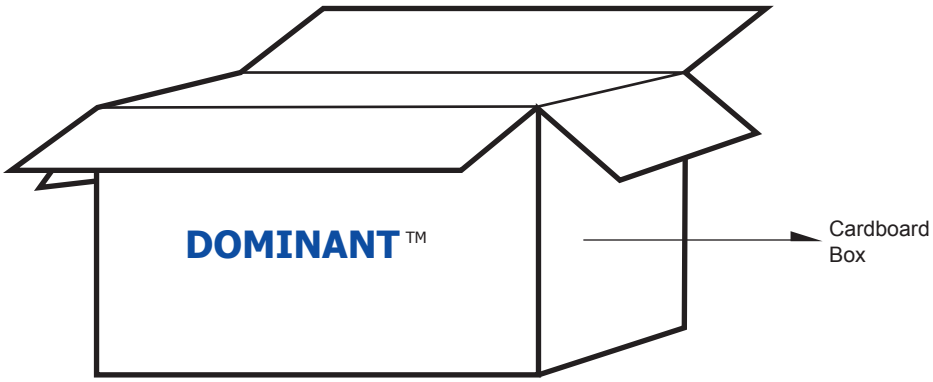
Packaging Specification



Packaging Specification



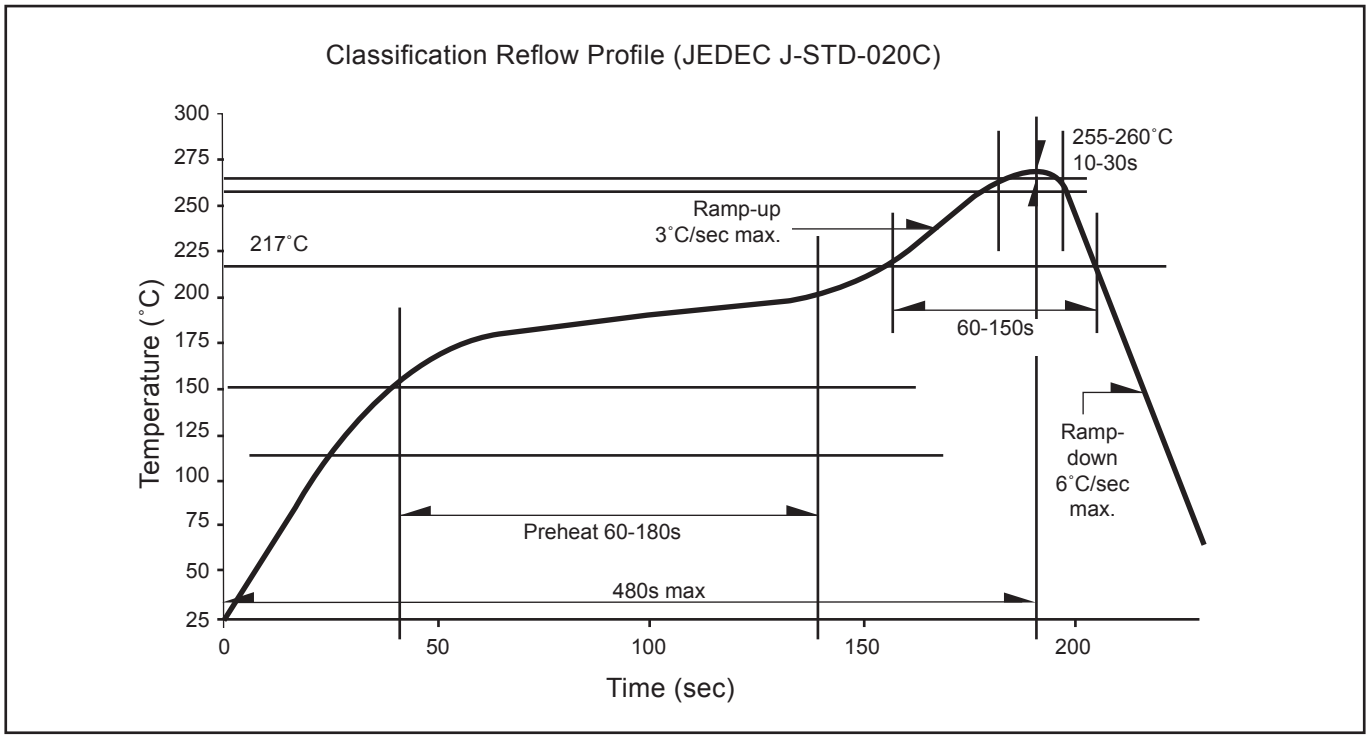
	Average 1pc DomiLED/Multi DomiLED	1 completed bag (2000pcs)
Weight (gram)	**0.034**	**190 ± 10**



For DomiLED™

Cardboard Box Size	Dimensions (mm)	Empty Box Weight (kg)	Reel / Box	Quantity / Box (pcs)
Small	300 x 250 x 250	0.3	15 reels MAX	30,000 MAX
Large	416 x 516 x 476	1.4	96 reels MAX	192,000 MAX

Recommended Pb-free Soldering Profile



Revision History

Page	Subjects	Date of Modification
-	Initial release	13 Jul 2009
2	Add new partno: DDB-DZJS-PQ2-1 DDT-DZJS-R2T1-1	22 Mar 2010
3	Add Vf binning option	03 Aug 2010
3	Update Blue color wavelength	06 Mar 2012
2	Add Thermal Resistance	09 Jul 2012
2, 3	Update Electrical Characteristics and VF Limit	18 Jun 2013
1	Update Application	06 Sep 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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