DOMINANT™
Opto Technologies
Innovating Illumination

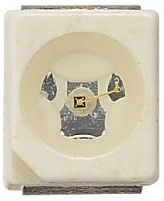
DATA SHEET:

DomiLED™

InGaN : DDx-HJS

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.
> 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.
> Signage: full color display video notice board.
> Industrial: white goods (eg: Oven, microwave, etc.).

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Optical Characteristics at Tj=25˚C

Part Ordering Number	Color	Viewing Angle˚	Luminous Intensity @ 20mA IV (mcd) Min.	Typ.	Max.
DDT-HJS-VW1-1	True Green	120	715.0	1125.0	1400.0
DDT-HJS-V2W-1	True Green	120	900.0	1400.0	1800.0
DDB-HJS-TU1-1	Blue	120	285.0	425.0	560.0
● DDB-HJS-S2T-1	Blue	120	224.0	355.0	450.0

● Not for new design

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. Color binning is carried for all units as per the color-binning table. Only once color groyp is allowed for each reel.

Electrical Characteristics at Tj=25˚C

Part Number	Vf @ If = 20mA Min. (V)	Typ. (V)	Max. (V)	Vr @ Ir = 10uA Min. (V)
DDx-HJS	2.9	3.2	3.6	5

Forward voltage are measured using a current pulse of 1 ms and 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; Ir (max) = 10uA	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)	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 >= 16 mm^2 per pad)		

Wavelength Grouping at Tj=25˚C

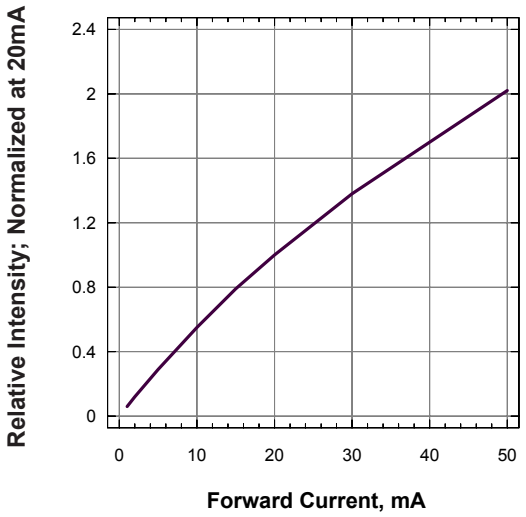
Color	Group	Wavelength distribution(nm)
DDT; True Green	Full	520.0 - 535.0
	A	520.0 - 525.0
	B	525.0 - 530.0
	C	530.0 - 535.0
DDB; Blue	Full	464.0 - 476.0
	A	464.0 - 470.0
	B	470.0 - 476.0

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

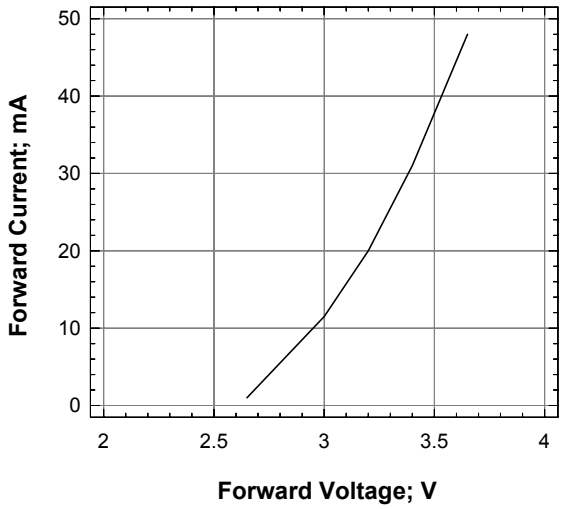
Luminous Intensity Group at Tj=25˚C

Brightness Group	Luminous Intensity IV (mcd)
S2	224.0 ... 285.0
T1	285.0 ... 355.0
T2	355.0 ... 450.0
U1	450.0 ... 560.0
V1	715.0 ... 900.0
V2	900.0 ... 1125.0
W1	1125.0 ... 1400.0
W2	1400.0 ... 1800.0

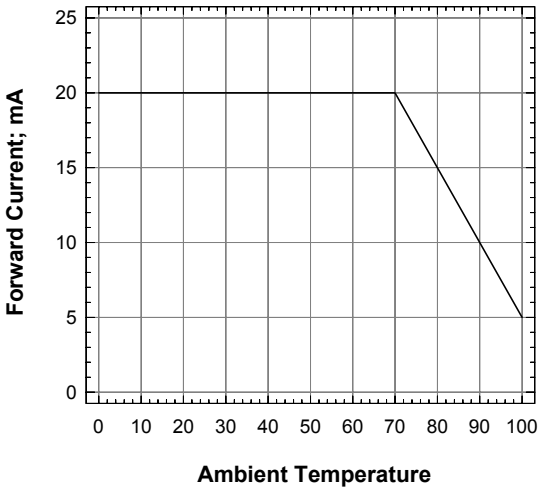
Relative Luminous Intensity Vs Forward Current



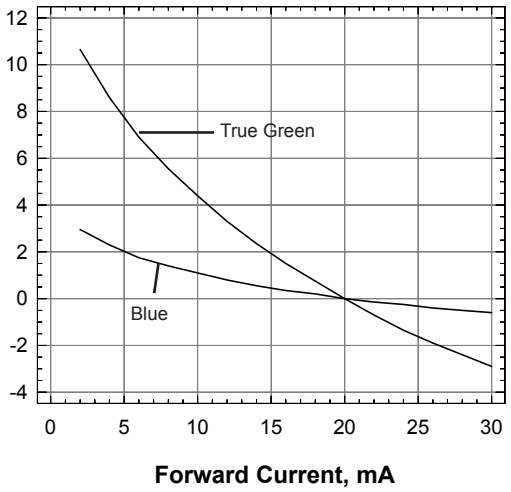
Forward Current Vs Forward Voltage



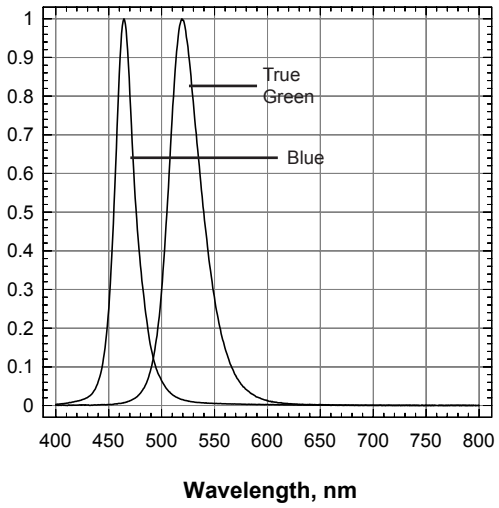
Maximum Current Vs Ambient Temperature



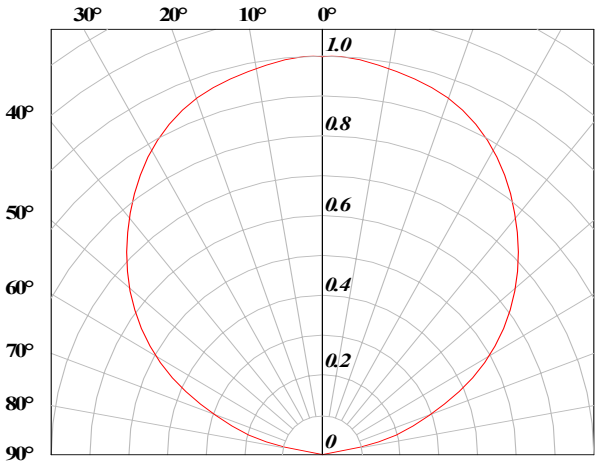
Dominant Wavelength Shift Vs Forward Current

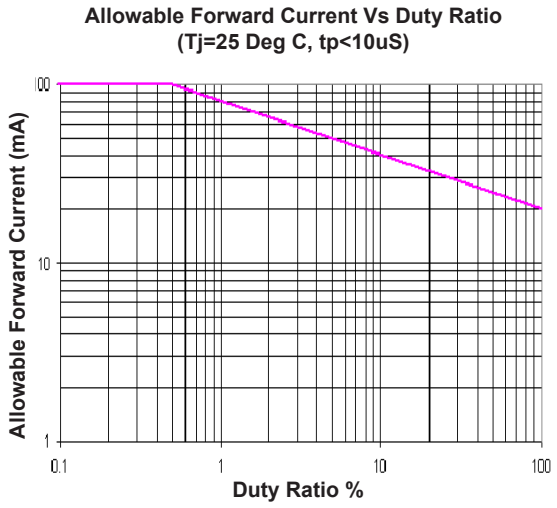


Relative Intensity Vs Wavelength

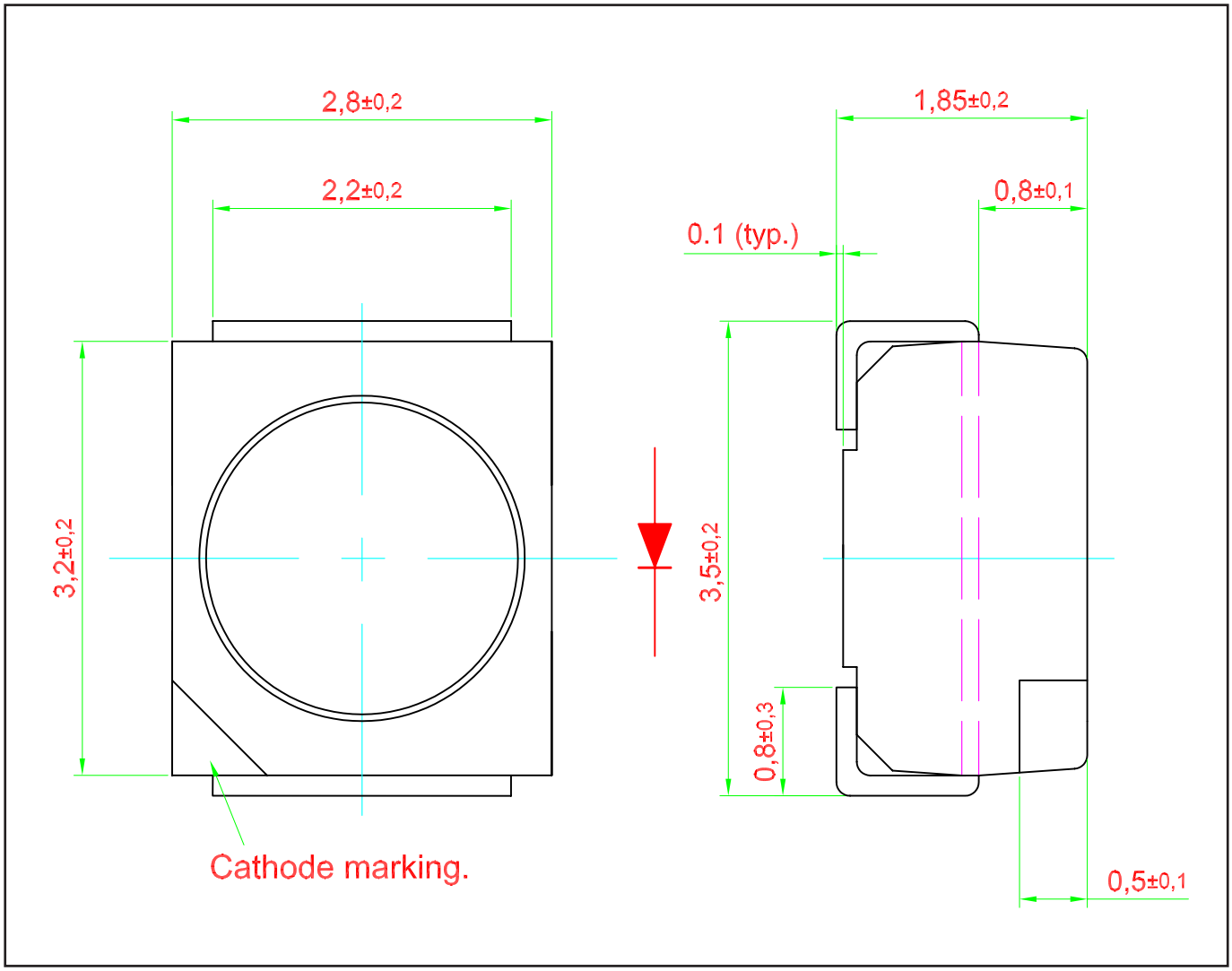


Radiation Pattern




Allowable Forward Current Vs Duty Ratio
(Tj=25 Deg C, tp<10uS)
Allowable Forward Current (mA)
100
10
1
0.1
1
10
100
Duty Ratio %

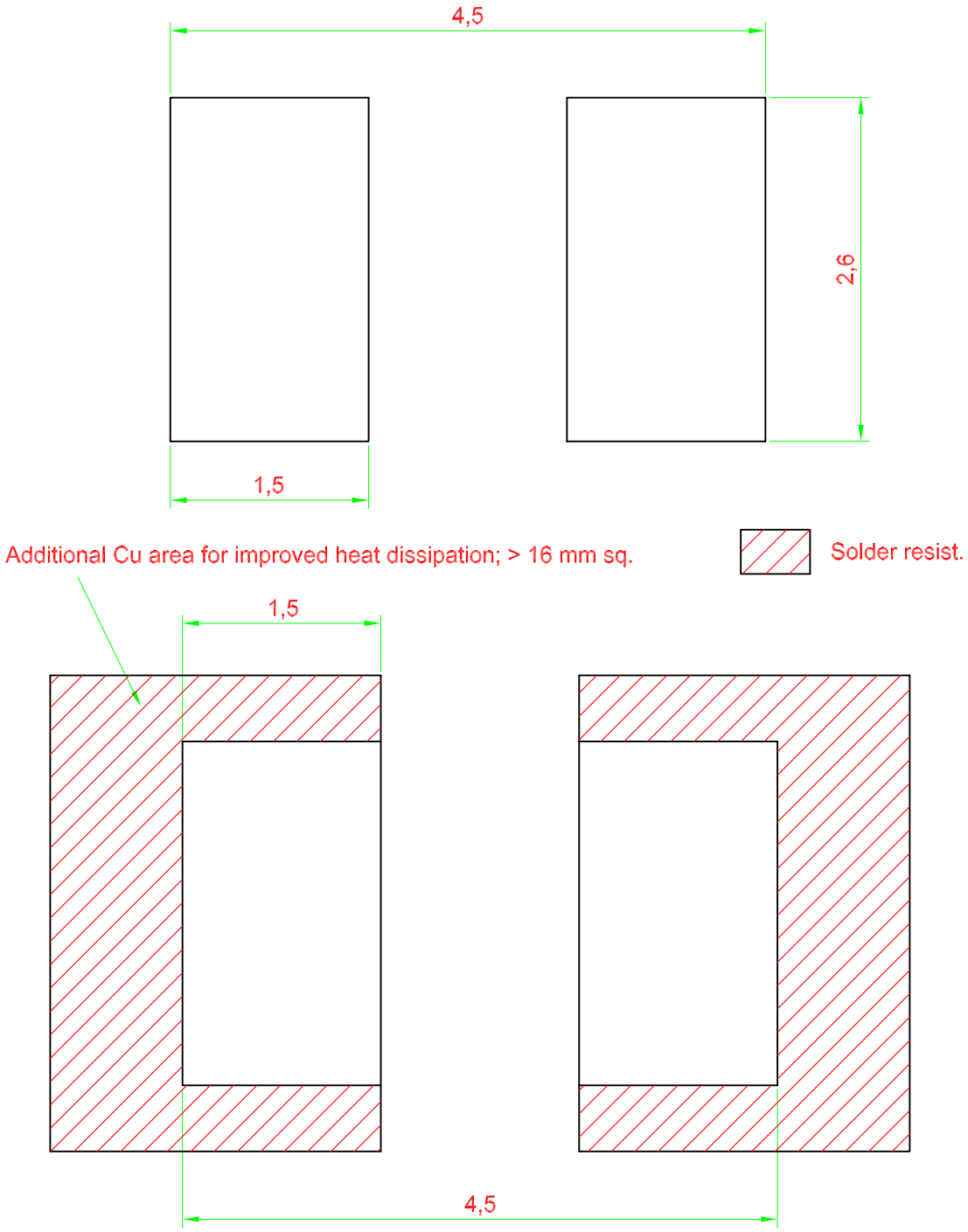
DomiLED™ • InGaN : DDx-HJS Package Outlines



Material

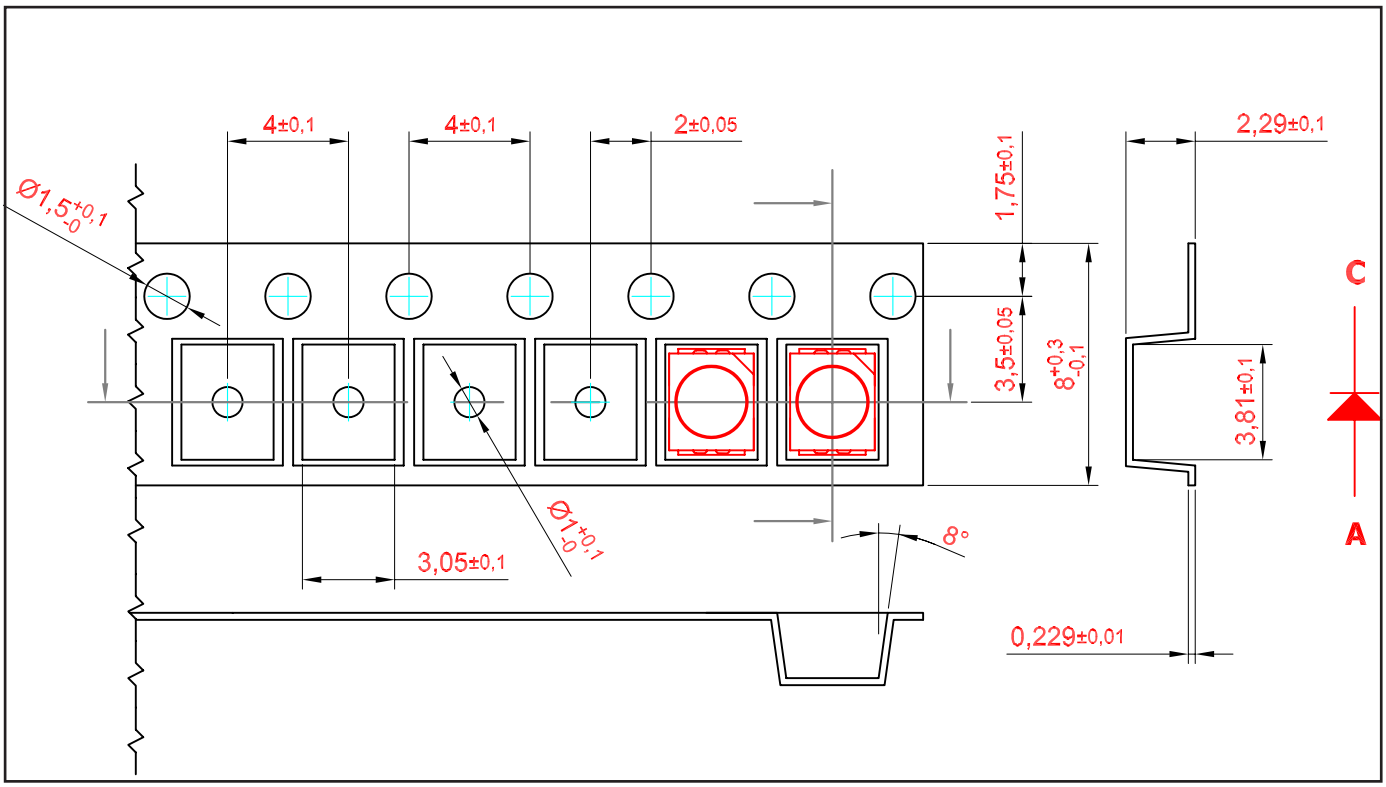
	Material
Lead-frame	Cu Alloy With Ag Plating
Package	High Temperature Resistant Plastic, PPA
Encapsulant	Epoxy
Soldering Leads	Sn Plating

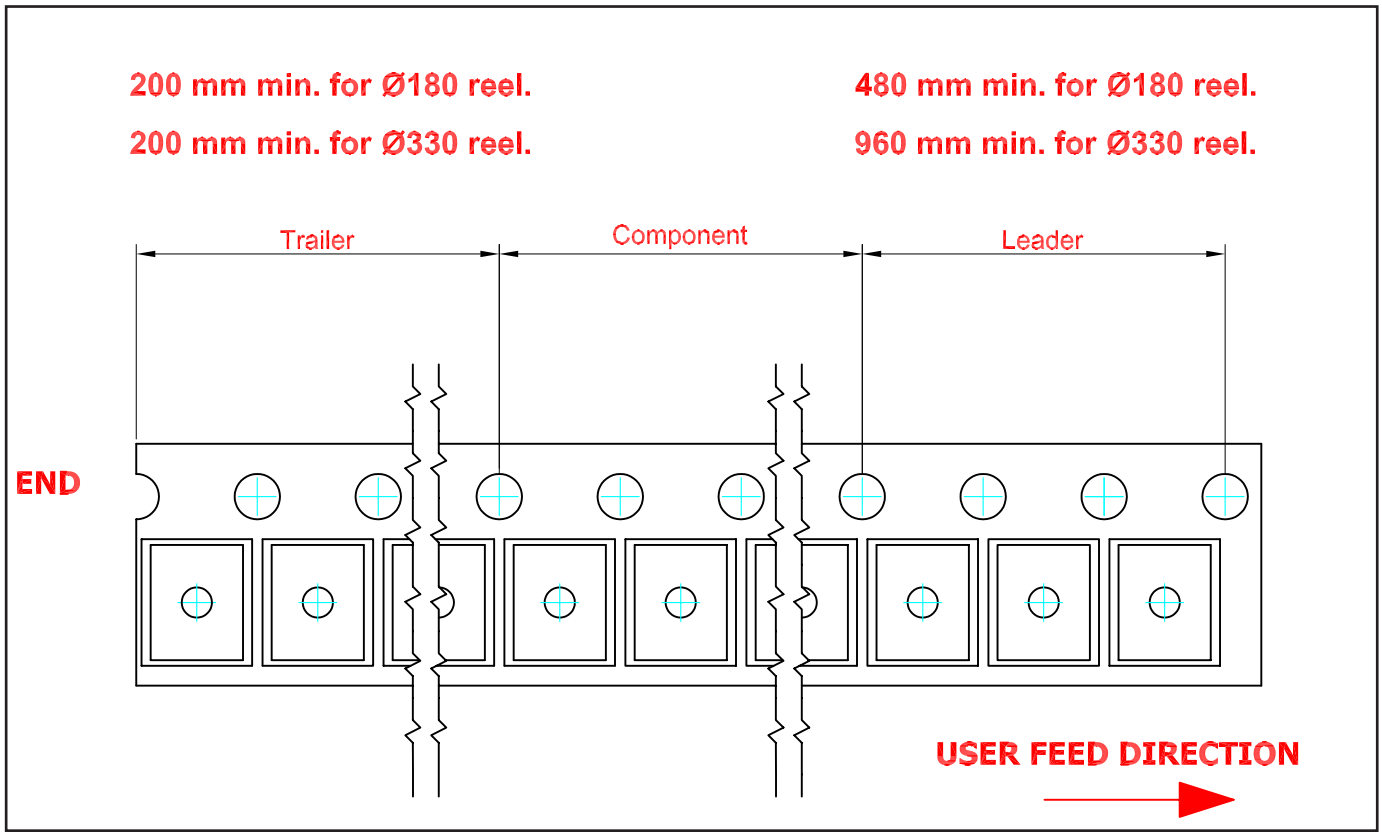
Recommended Solder Pad



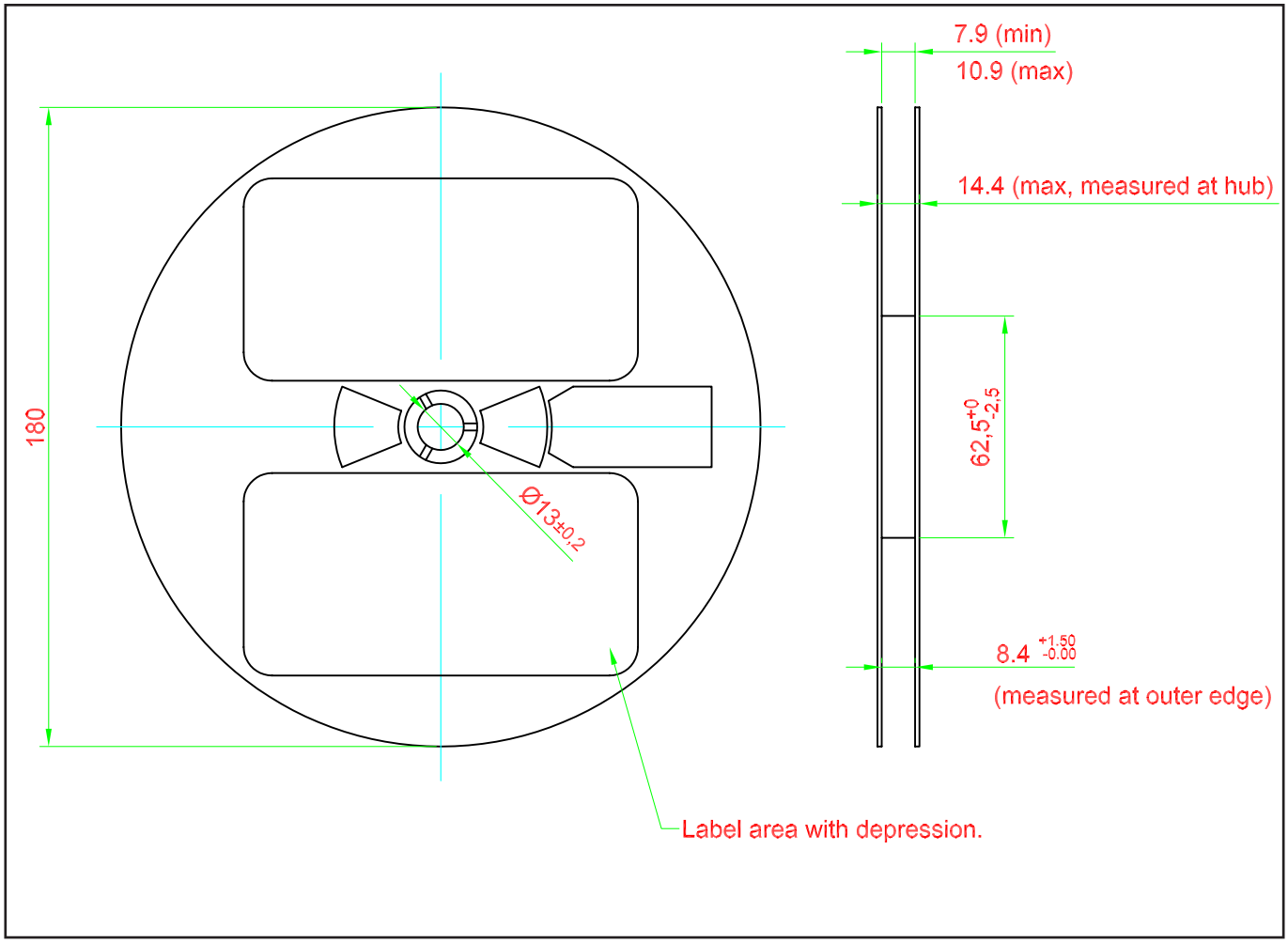
Taping and orientation

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





Packaging Specification



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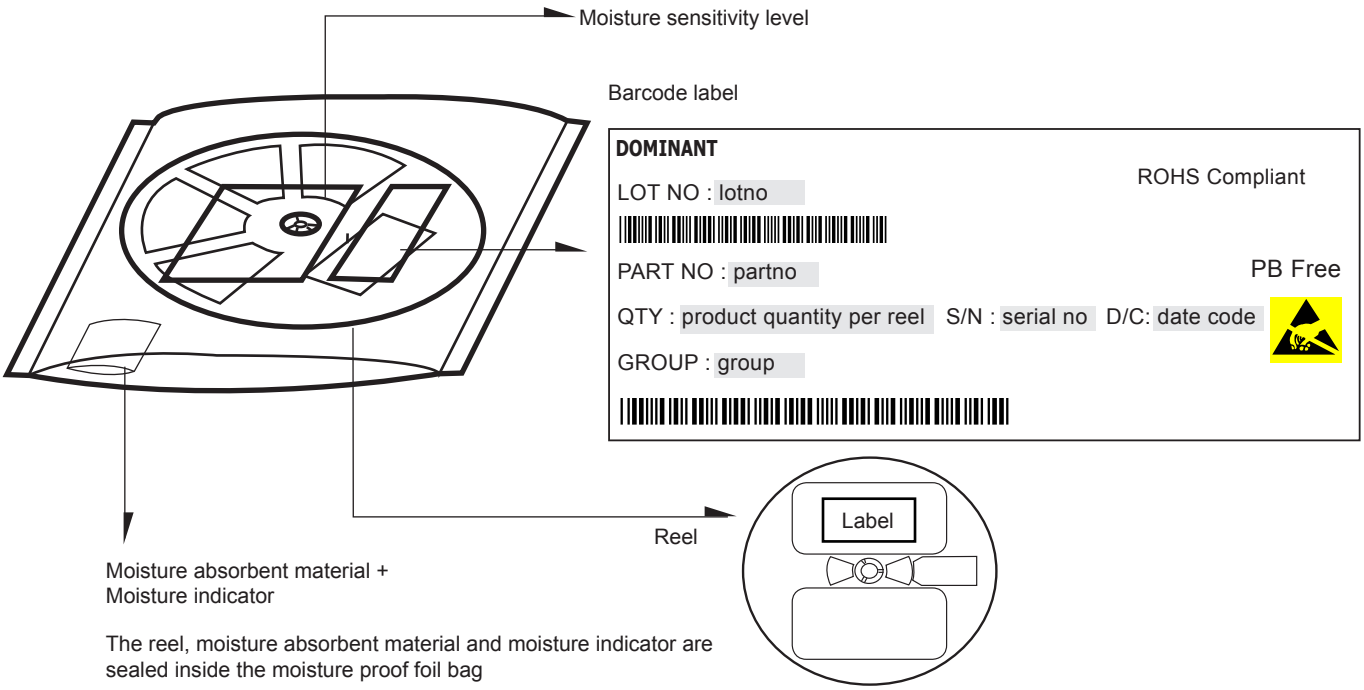
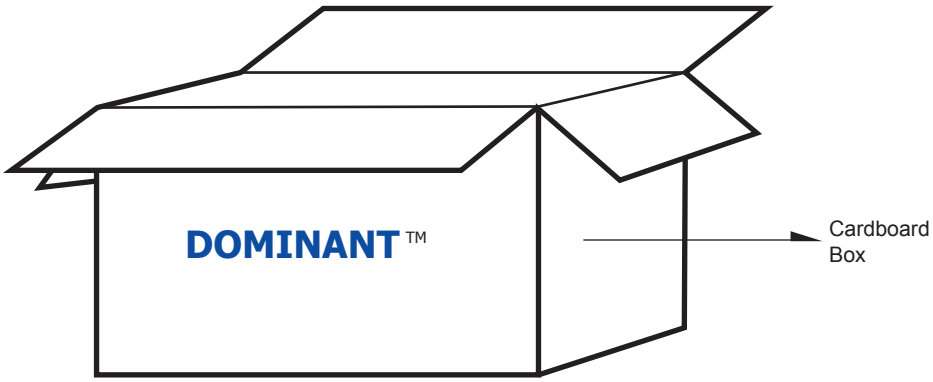


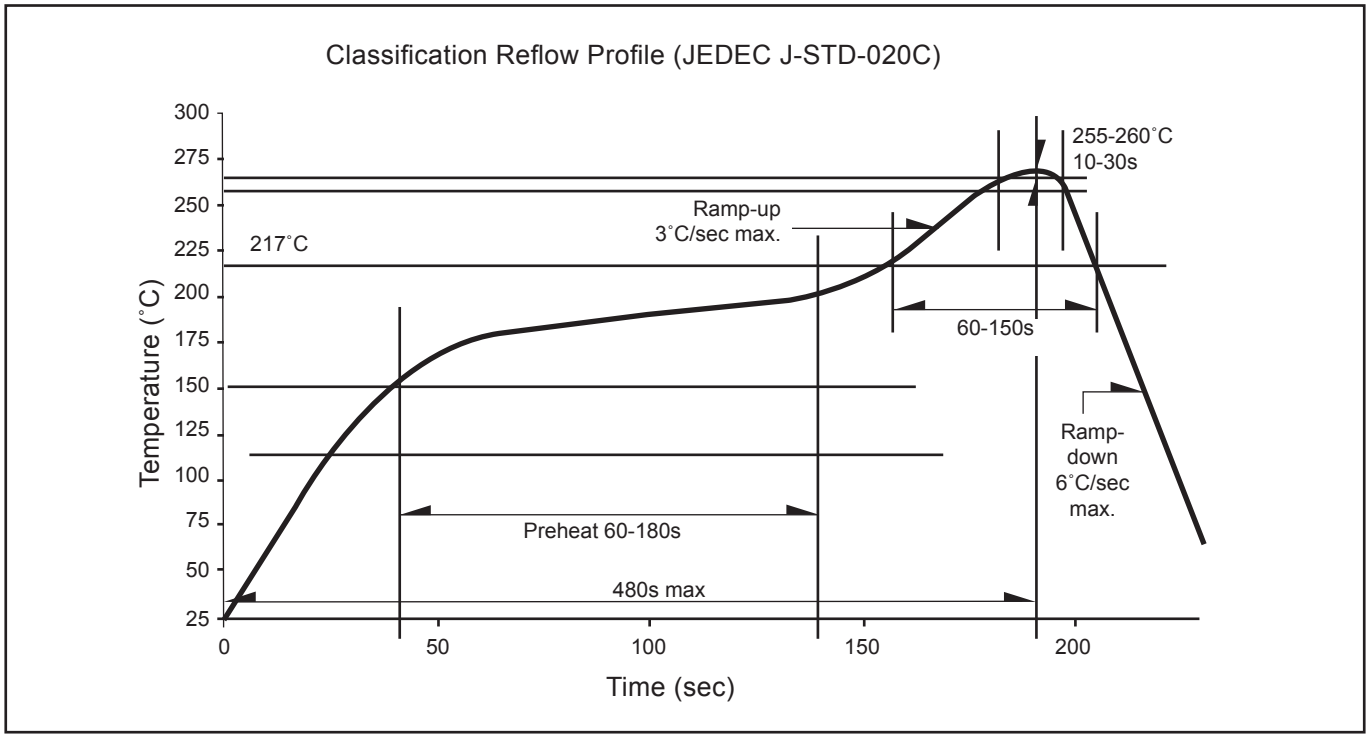
	Average 1pc DomiLED/Multi DomiLED	1 completed bag (2000pcs)
Weight (gram)	**0.034**	**190 ± 10**



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	06 Apr 2009
2	Add Thermal Resistance	14 Apr 2010
2	Add partno: DDT-HJS-VW1-1	16 Dec 2010
2	Add partno: DDB-HJS-TU1-1 Not for new design: DDB-HJS-S2T-1	12 Sep 2011
4	Update Graph: Relative Luminous Intensity Vs Forward Current	29 Dec 2011
5	Add graph: Allowable Forward Current Vs Duty Ratio	18 Jun 2012

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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