DOMINANT™
Opto Technologies
Innovating Illumination

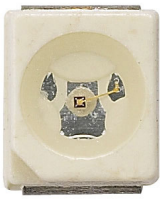
DATA SHEET:

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.
- > Compliance to automotive standard, AEC-Q101.
- > Superior corrosion resistant.

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.).

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, $R_{th\ JA}$ - Junction / solder point, $R_{th\ JS}$ (Mounting on FR4 PCB, pad size >= 16 mm^2 per pad)	 340 180	 K/W K/W

Characteristics

	Symbol	Part Number	Value	Unit
Temperature coefficient of λ_{dom} (typ) I_F = 20mA; 0 ˚C <= T <= 100 ˚C	$TC_{\lambda dom}$ (typ)	DDB-HJS DDT-HJS	0.03 0.03	nm / K
Temperature coefficient of $V_{F\ (typ)}$ I_F = 20mA; 0 ˚C <= T <= 100 ˚C	TC_V	DDB-HJS DDT-HJS	-2.97 -2.37	mV / K
Temperature coefficient of $I_{V\ (typ)}$ I_F = 20mA; 0 ˚C <= T <= 100 ˚C	TC_{IV}	DDB-HJS DDT-HJS	-0.12 -0.11	% / K

Wavelength Grouping at Tj=25˚C

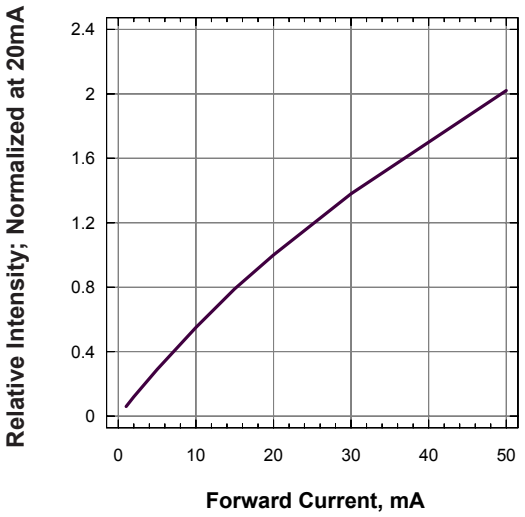
Color	Group	Wavelength distribution(nm)
DDT; True Green	Full	520.0 - 535.0
	A	520.0 - 525.0
	B	525.0 - 530.0
	C	530.0 - 535.0
DDB; Blue	Full	464.0 - 476.0
	A	464.0 - 470.0
	B	470.0 - 476.0

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

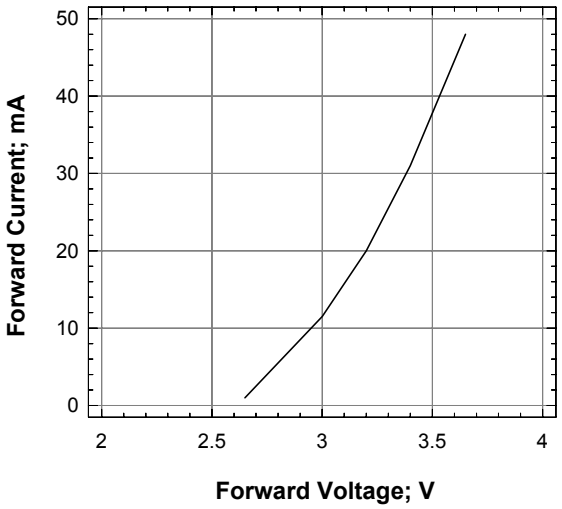
Luminous Intensity Group at Tj=25˚C

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

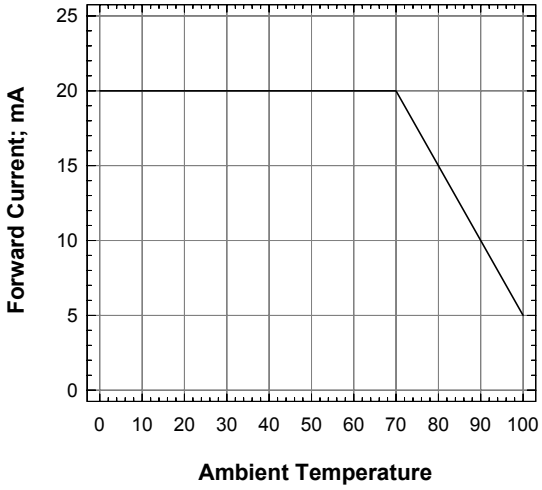
Relative Luminous Intensity Vs Forward Current



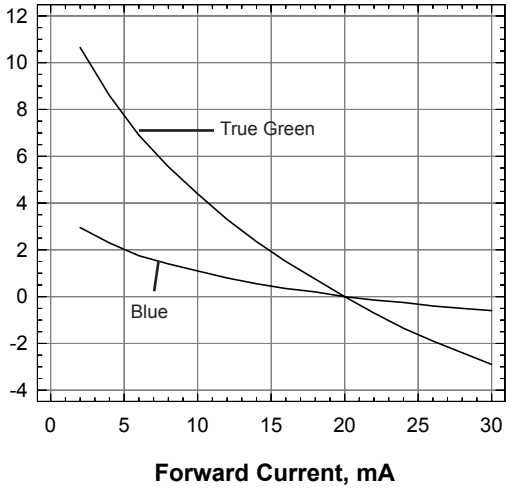
Forward Current Vs Forward Voltage



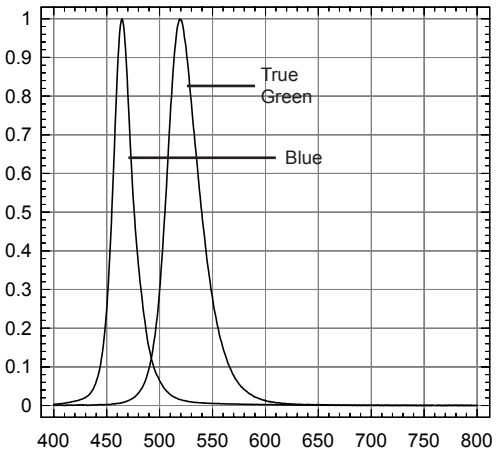
Maximum Current Vs Ambient Temperature



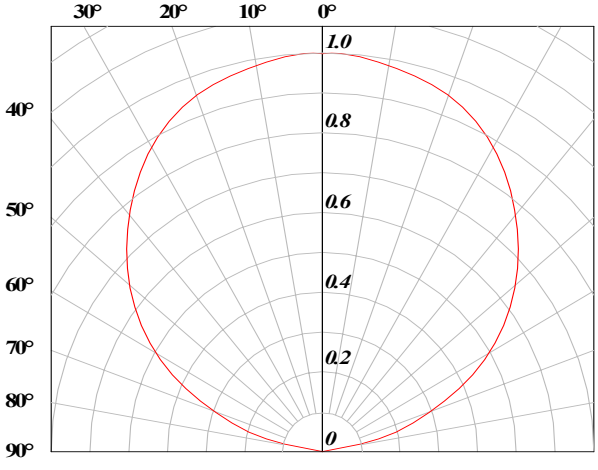
Dominant Wavelength Shift Vs Forward Current



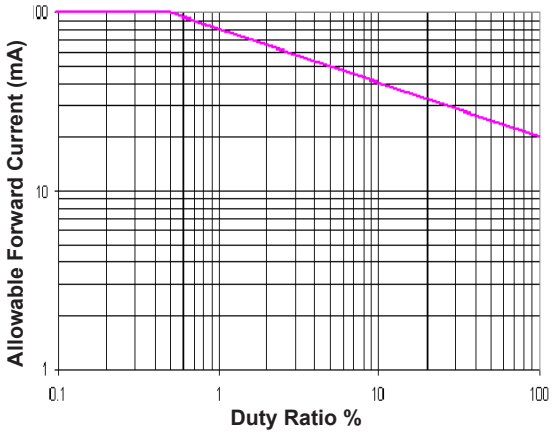
Relative Intensity Vs Wavelength



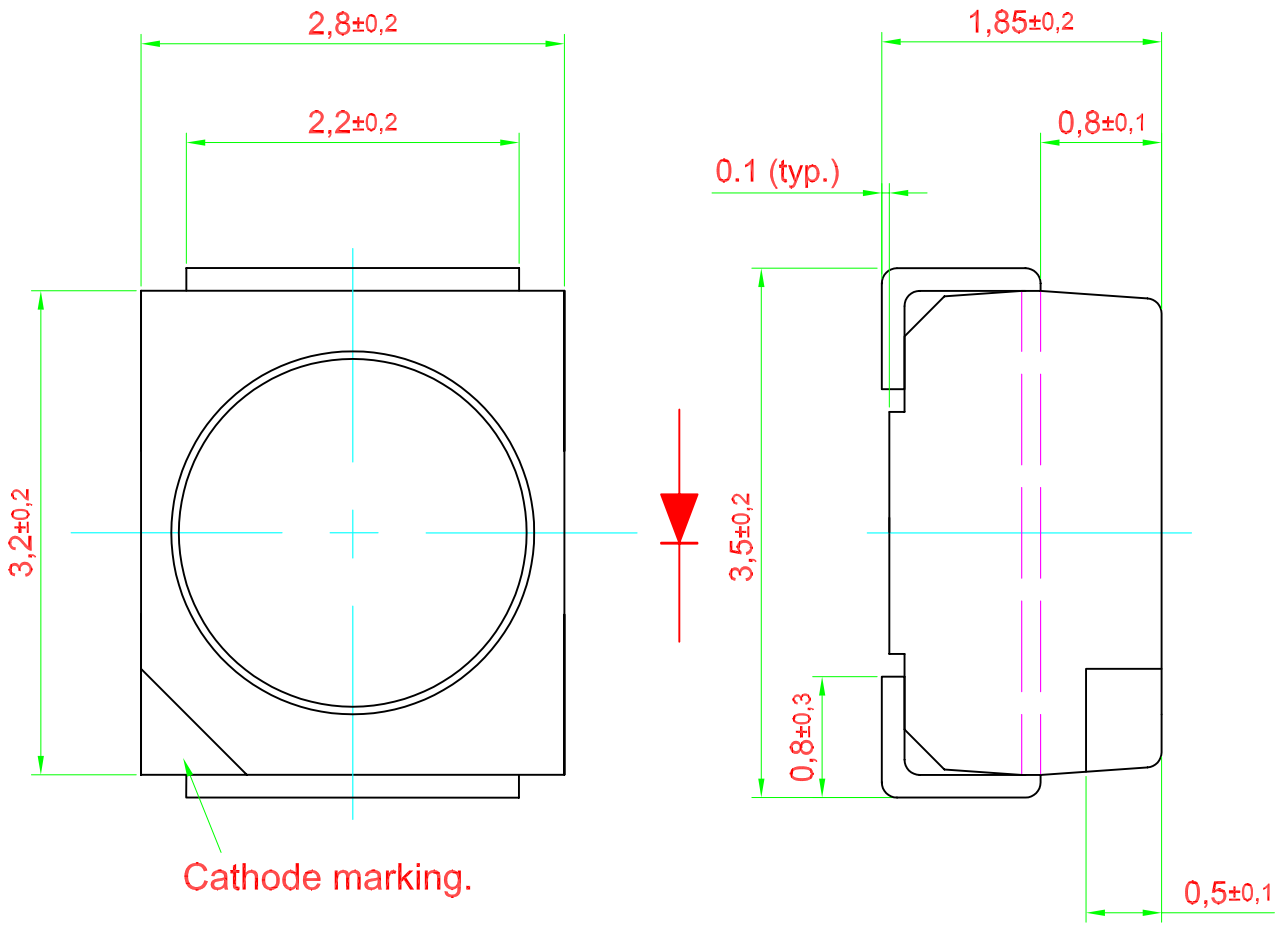
Radiation Pattern



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



DomiLED™ • InGaN : DDx-HJS Package Outlines

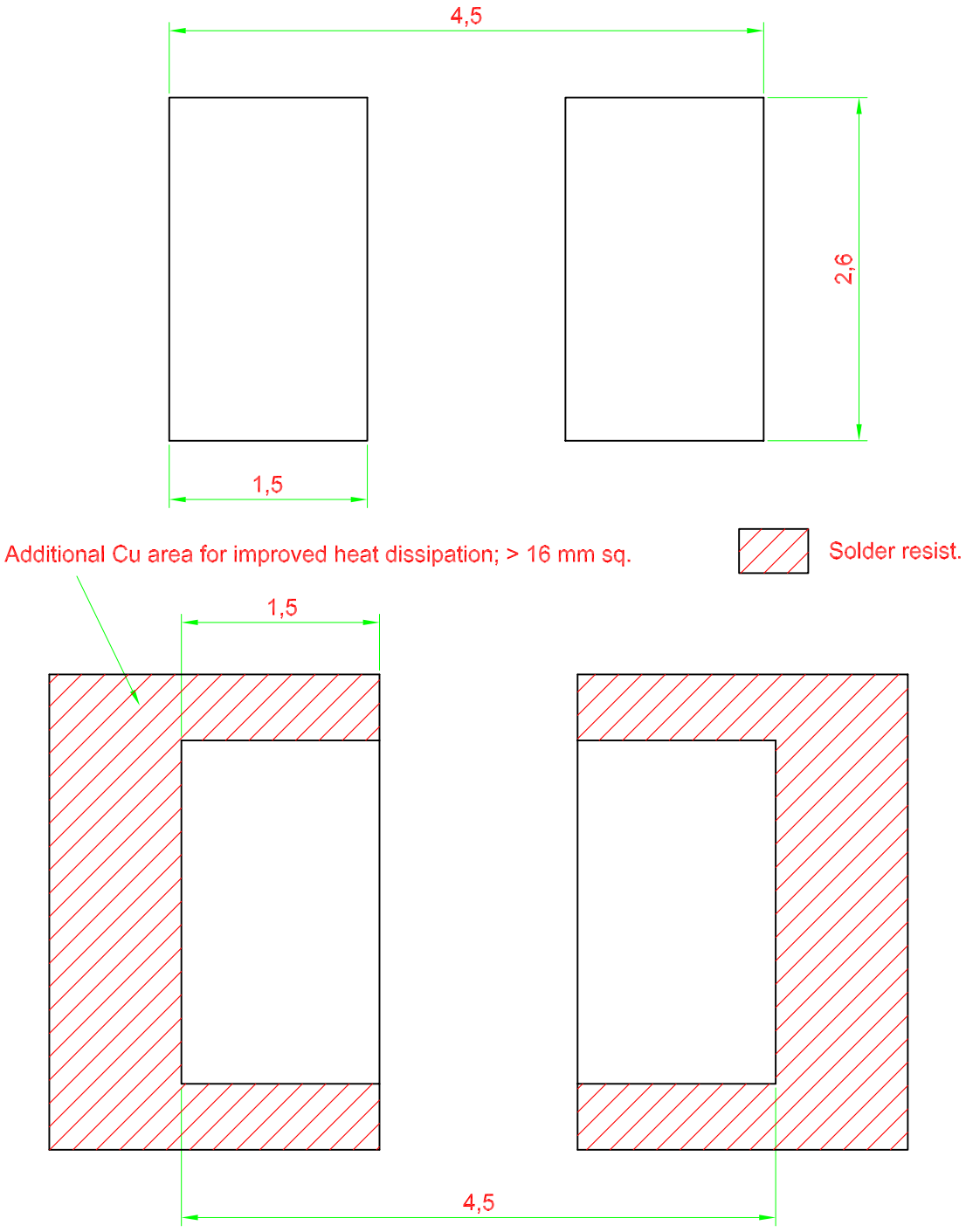


Note : Primary thermal path is through Cathode lead of LED package

Material

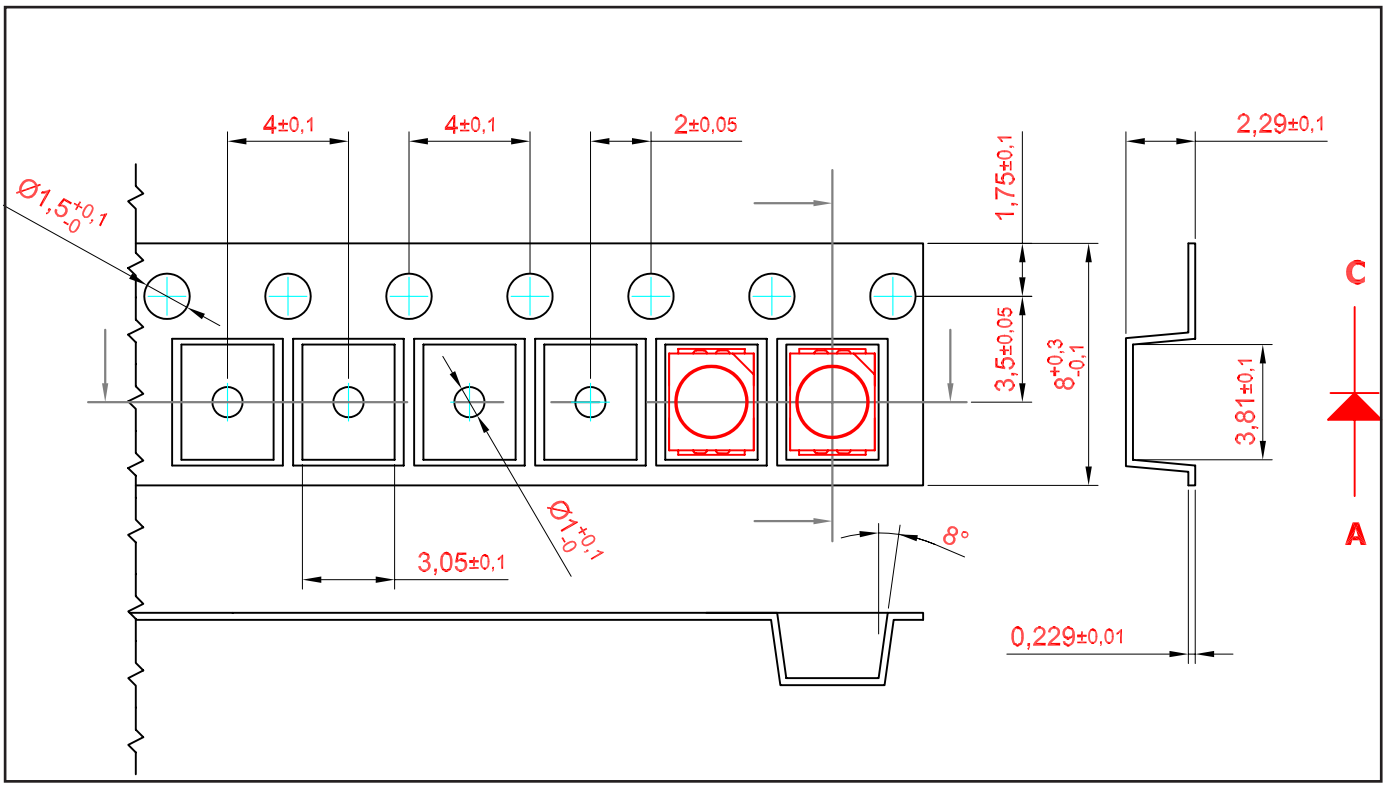
	Material
Lead-frame	Cu Alloy With Ag Plating
Package	High Temperature Resistant Plastic, PPA
Encapsulant	Epoxy
Soldering Leads	Sn Plating

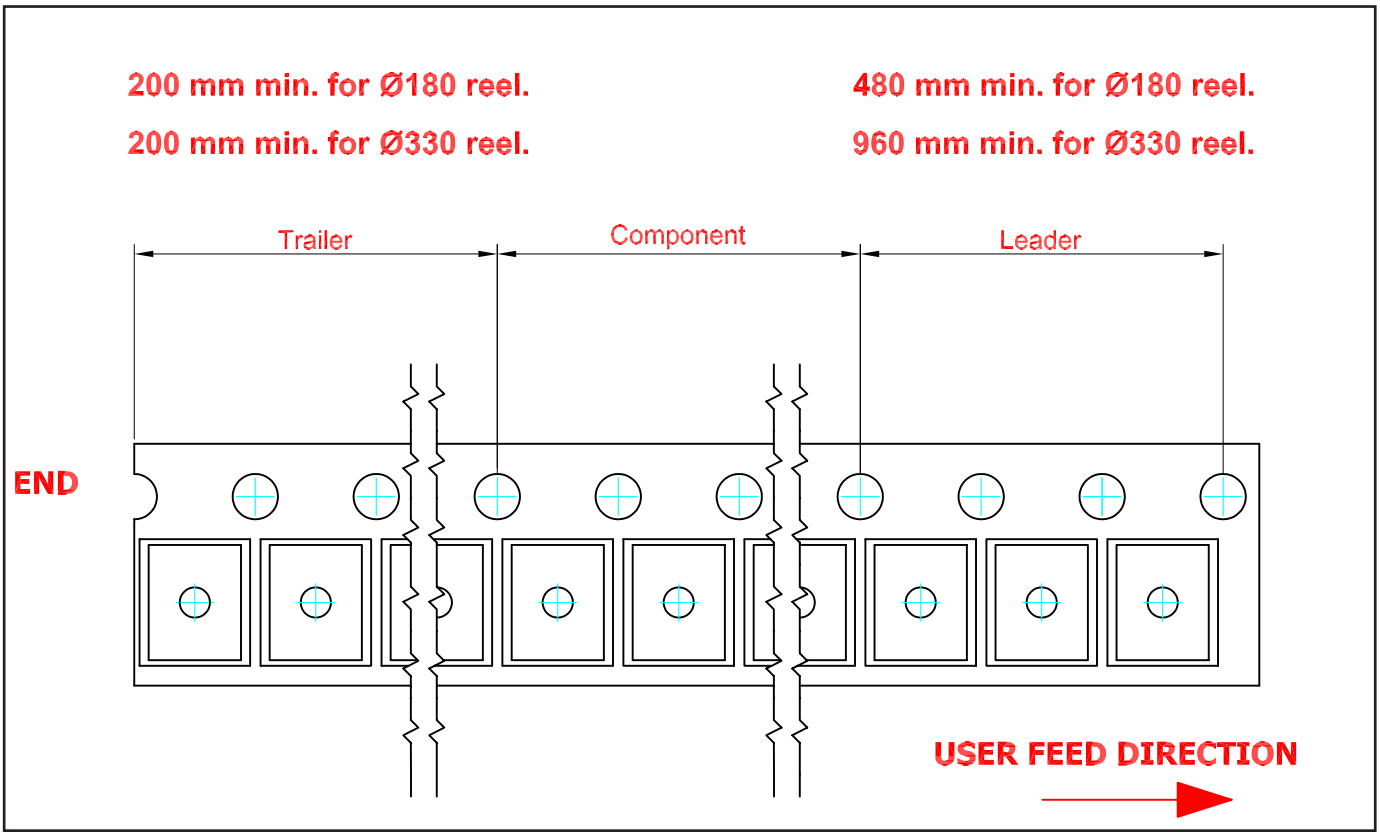
Recommended Solder Pad



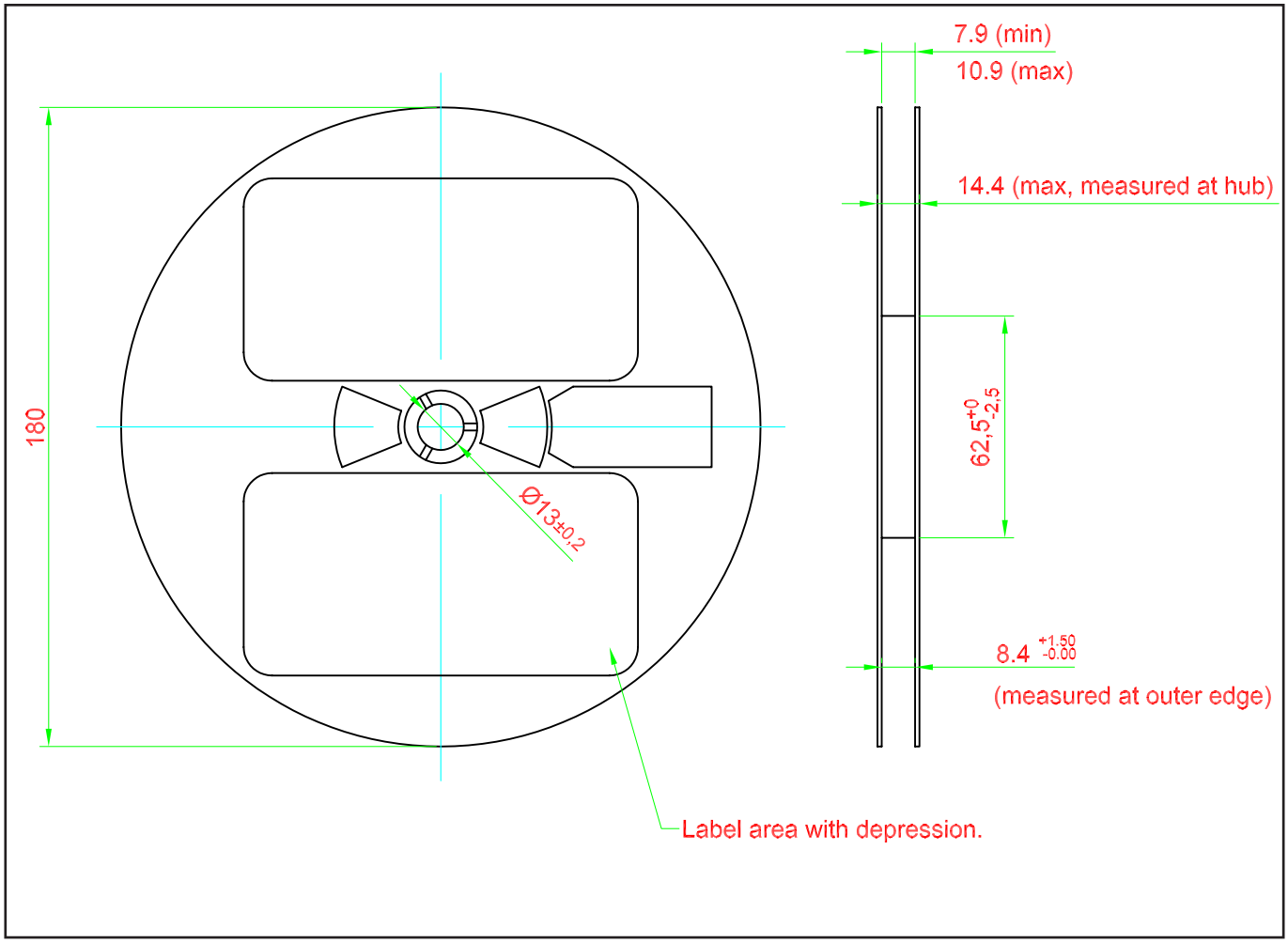
Taping and orientation

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

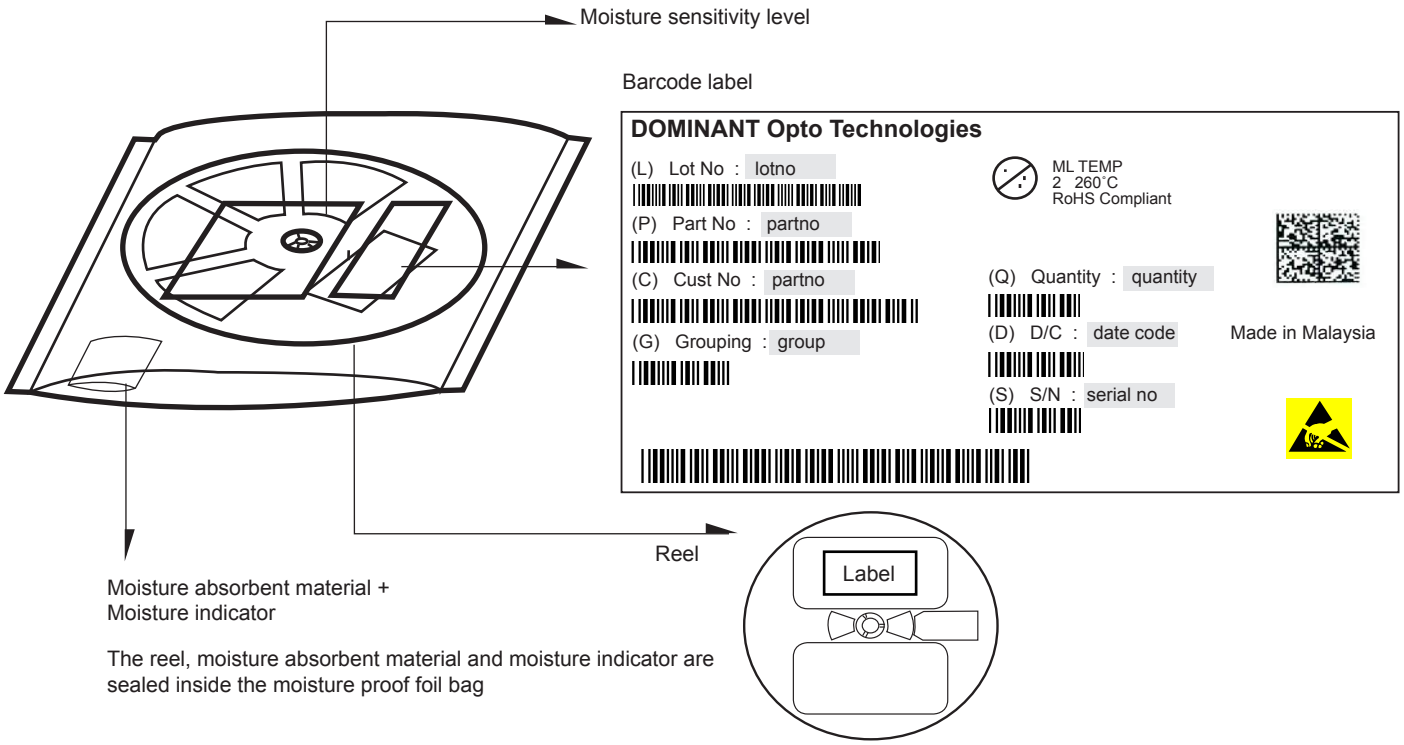




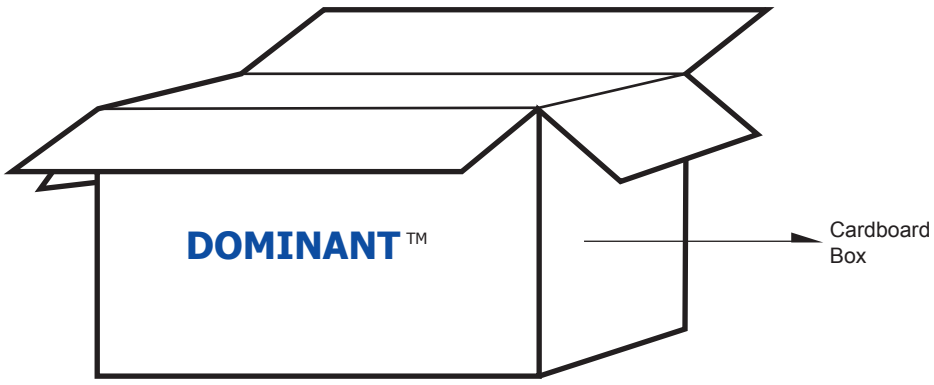
Packaging Specification



Packaging Specification



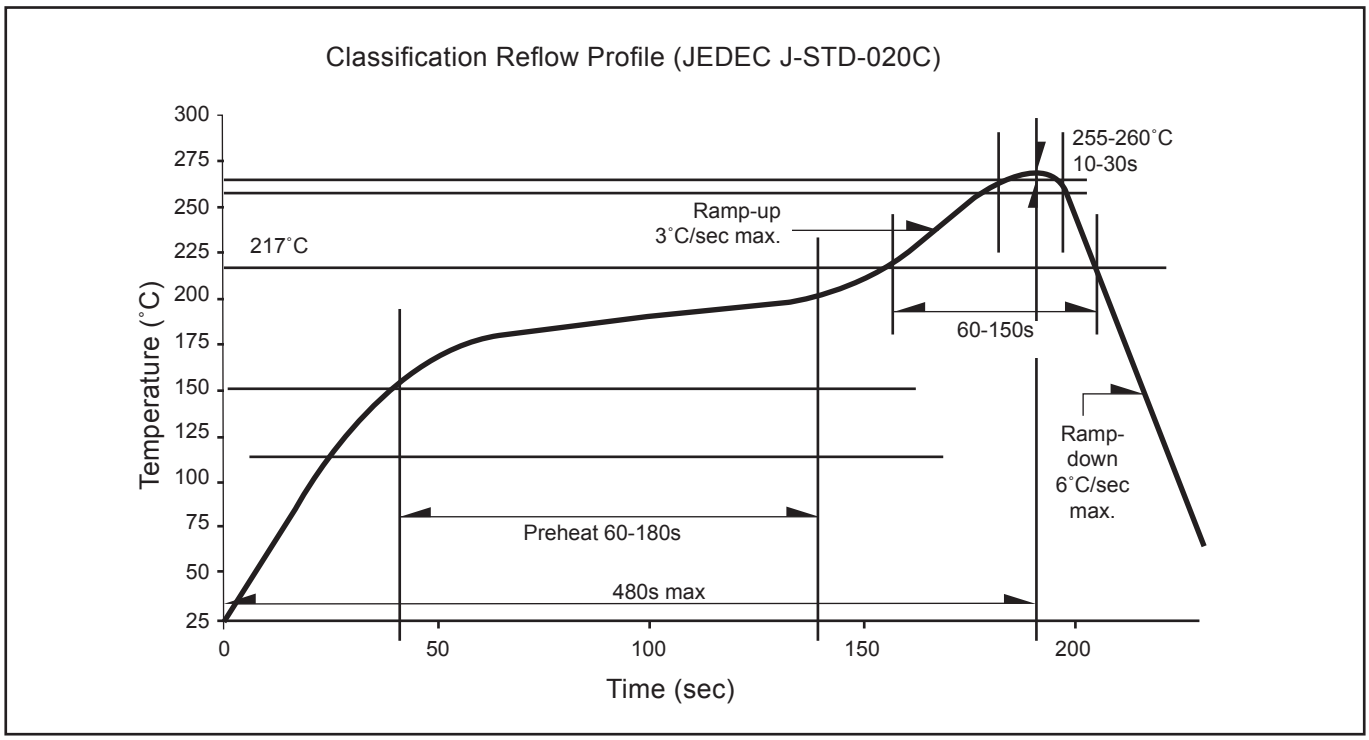
	Average 1pc DomiLED/Multi DomiLED	1 completed bag (2000pcs)
Weight (gram)	**0.034**	**240 ± 10**



For DomiLED™

Cardboard Box Size	Dimensions (mm)	Empty Box Weight (kg)	Reel / Box
Super Small	325 x 225 x 190	0.38	9 reels MAX
Small	325 x 225 x 280	0.54	15 reels MAX
Medium	570 x 440 x 230	1.46	60 reels MAX
Large	570 x 440 x 460	1.92	120 reels 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
1, 3, 6, 10	Add Features Add Characteristics Add Remarks in Package Outline Update Package Specification	26 Nov 2015

NOTE

All the information contained in this document is considered to be reliable at the time of publishing. However, DOMINANT Opto Technologies does not assume any liability arising out of the application or use of any product described herein.

DOMINANT Opto Technologies reserves the right to make changes to any products in order to improve reliability, function or design.

DOMINANT Opto Technologies products are not authorized for use as critical components in life support devices or systems without the express written approval from the Managing Director of DOMINANT Opto Technologies

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

DOMINANT™
Opto Technologies
Innovating Illumination