DOMINANT™
Opto Technologies
Innovating Illumination

DATA SHEET:

Mini DomiLED™

AlInGaP : DNx-MJS

Mini DomiLED™

Synonymous with function and performance, the Mini 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 2.0 x 1.4 x 1.3mm.
> Qualified according to JEDEC moisture sensitivity Level 2.
> Compatible to IR reflow soldering.
> Environmental friendly; RoHS compliance.
> Compliance to AEC-Q101 Standard.

Applications:

> Automotive: interior applications, eg: switches, telematics, climate control system, dashboard, etc.
> Backlighting: button, LCD display

Optical Characteristics at Tj=25˚C

Part Ordering Number	Color	Viewing Angle˚	Luminous Intensity @ IF = 30mA IV (mcd) Min.	Typ.	Max.
DNS-MJS-UV1-1	Super red, 632nm	120	450.0	715.0	900.0
DNA-MJS-U2V-1	Amber, 615nm	120	560.0	900.0	1125.0
DNO-MJS-VW1-1	Orange, 605nm	120	715.0	1125.0	1400.0
DNO-MJS-WX1-1	Orange, 605nm	120	1125.0	1800.0	2240.0
DNY-MJS-U2V-1	Yellow, 587nm	120	560.0	900.0	1125.0
DNY-MJS-V2W-1	Yellow, 587nm	120	900.0	1400.0	1800.0

NOTE
1. All part number above comes in a quantity of 3000 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 Tj=25˚C

Part Number	Vf @ If = 30mA Min. (V)	Typ. (V)	Max. (V)	Vr @ Ir = 10uA Min. (V)
DNx-MJS	1.9	2.1	2.7	12

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

Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	50	mA
Peak pulse current; (tp ≤ 10µs, Duty cycle = 0.005)	100	mA
Reverse voltage	12	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)	135	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)	 480 230	 K/W K/W

Characteristics

	Symbol	Part Number	Value	Unit
Temperature coefficient of λ_{dom} (typ) I_F = 30mA; 0 ˚C <= T <= 100 ˚C	$TC_{\lambda dom}$ (typ)	DNS-MJS DNA-MJS DNO-MJS DNY-MJS	0.06 0.07 0.09 0.10	nm / K
Temperature coefficient of V_F (typ) I_F = 30mA; 0 ˚C <= T <= 100 ˚C	TC_V	DNS-MJS DNA-MJS DNO-MJS DNY-MJS	-5.9 -2.3 -2.0 -1.7	mV / K
Temperature coefficient of I_V (typ) I_F = 30mA; 0 ˚C <= T <= 100 ˚C	TC_{IV}	DNS-MJS DNA-MJS DNO-MJS DNY-MJS	-0.7 -0.8 -0.9 -1.0	% / K

Wavelength Grouping at Tj=25˚C

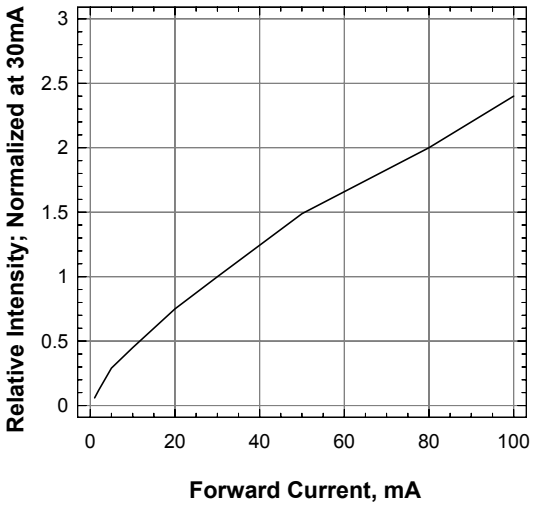
Color	Group	Wavelength distribution (nm)
DNS; Super-red	Full	625 - 640
DNA; Amber	Full	610 - 621
	W	610 - 615
	X	615 - 621
DNO; Orange	Full	600 - 612
	W	600 - 603
	X	603 - 606
	Y	606 - 609
	Z	609 - 612
DNY; Yellow	Full	582 - 594
	W	582 - 585
	X	585 - 588
	Y	588 - 591
	Z	591 - 594

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

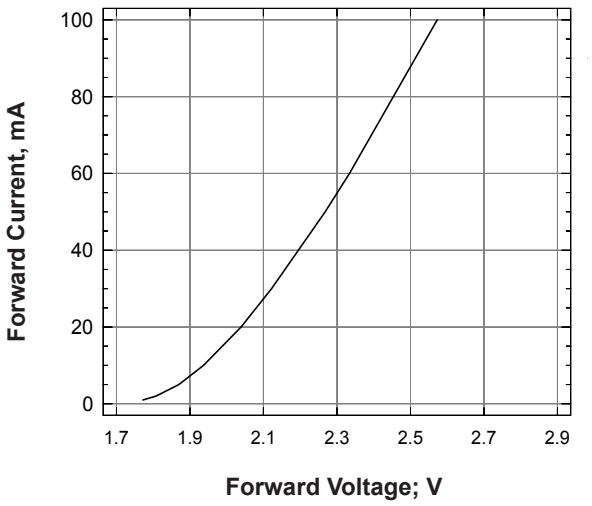
Luminous Intensity Group at Tj=25˚C

Brightness Group	Luminous Intensity IV (mcd)
U1	450.0 ... 560.0
U2	560.0 ... 715.0
V1	715.0 ... 900.0
V2	900.0 ... 1125.0
W1	1125.0 ...1400.0
W2	1400.0 ... 1800.0
X1	1800.0 ... 2240.0

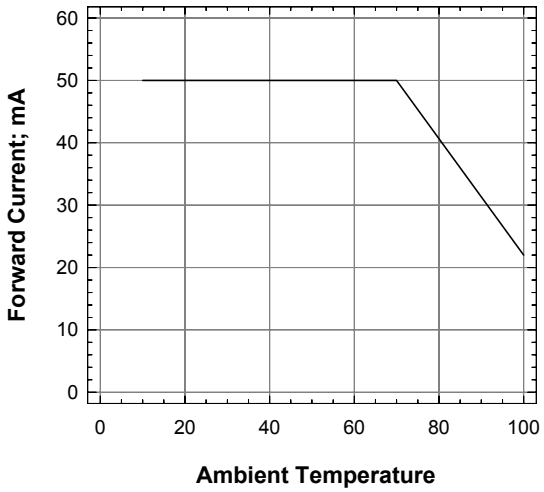
Relative Intensity Vs Forward Current



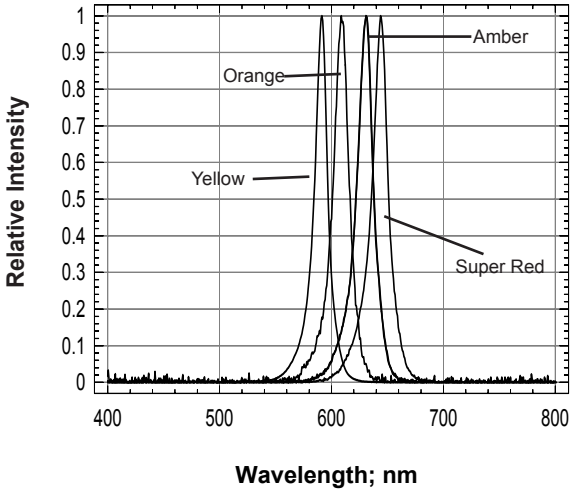
Forward Voltage Vs Forward Current



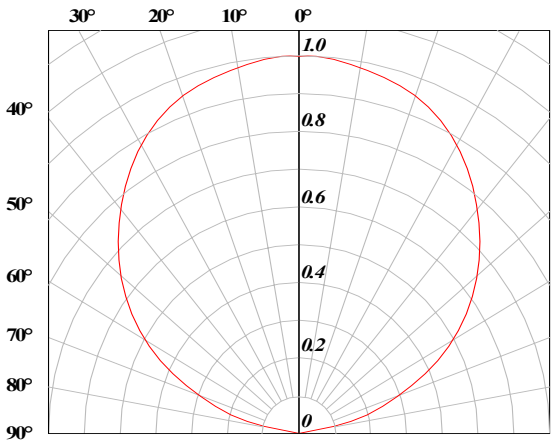
Forward Current Vs Ambient Temperature



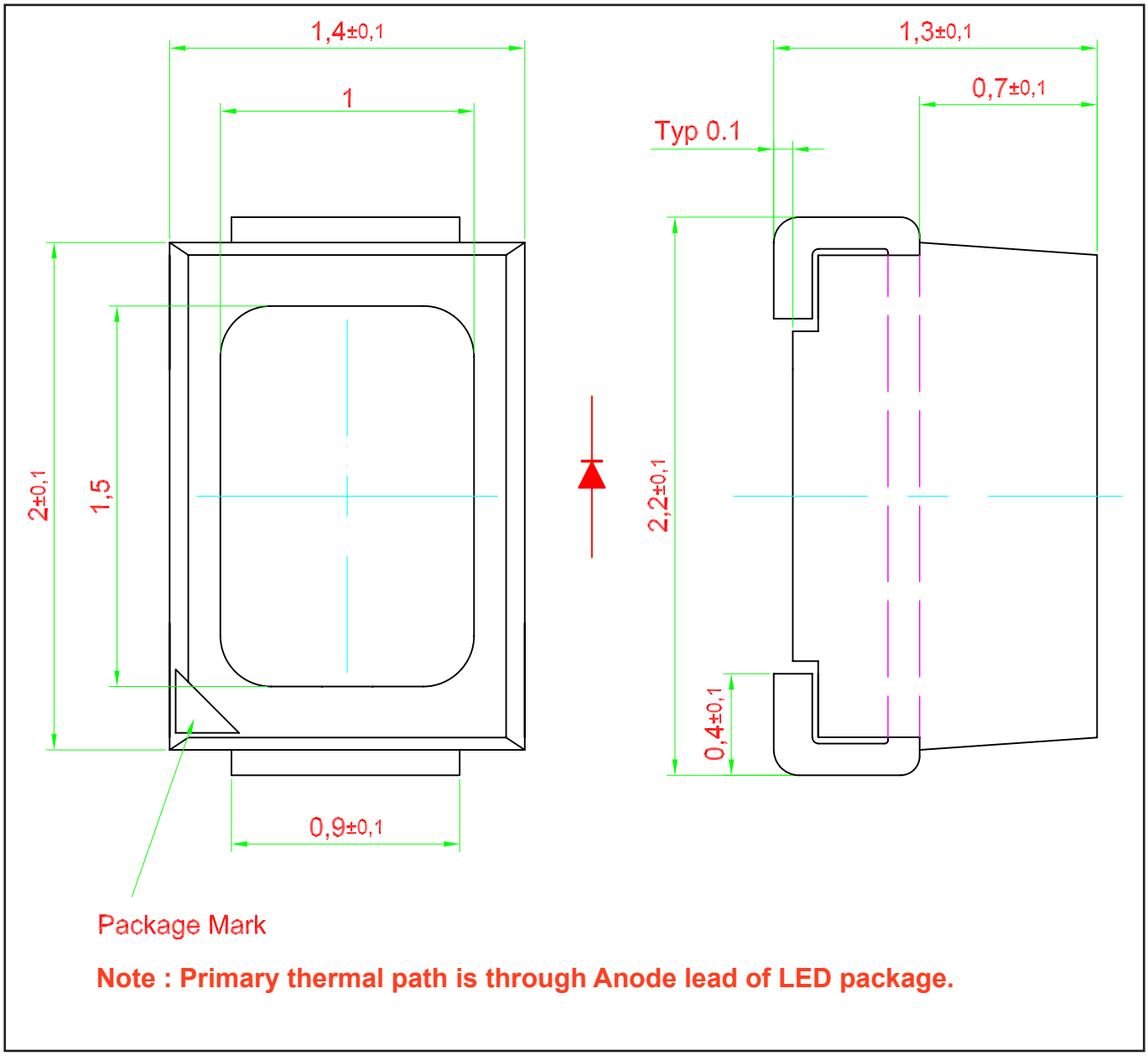
Relative Intensity vs Wavelength



Radiation Pattern



Mini DomiLED™ • AlInGaP : DNx-MJS Package Outlines

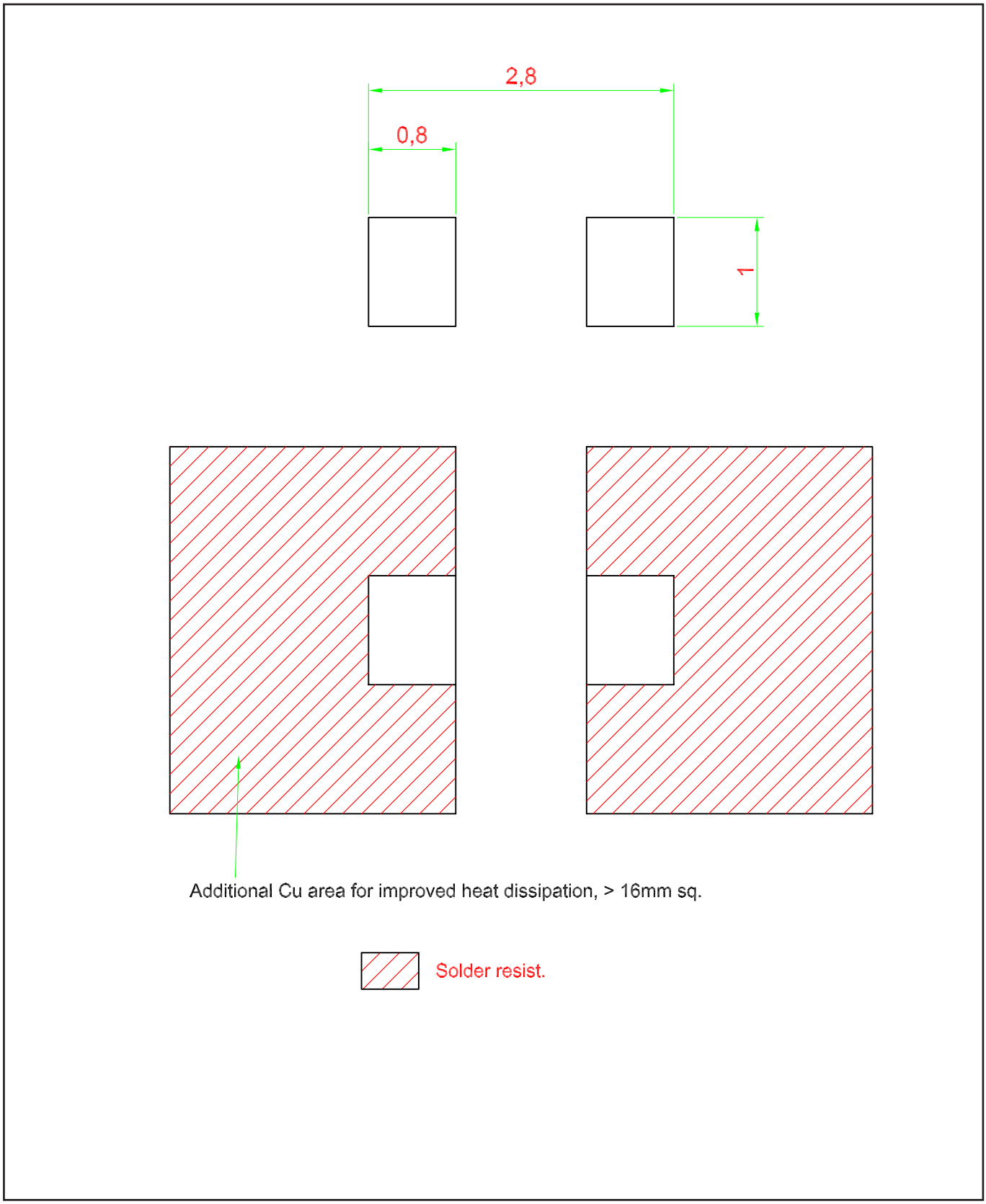


Note : Primary thermal path is through Anode lead of LED package.

Material

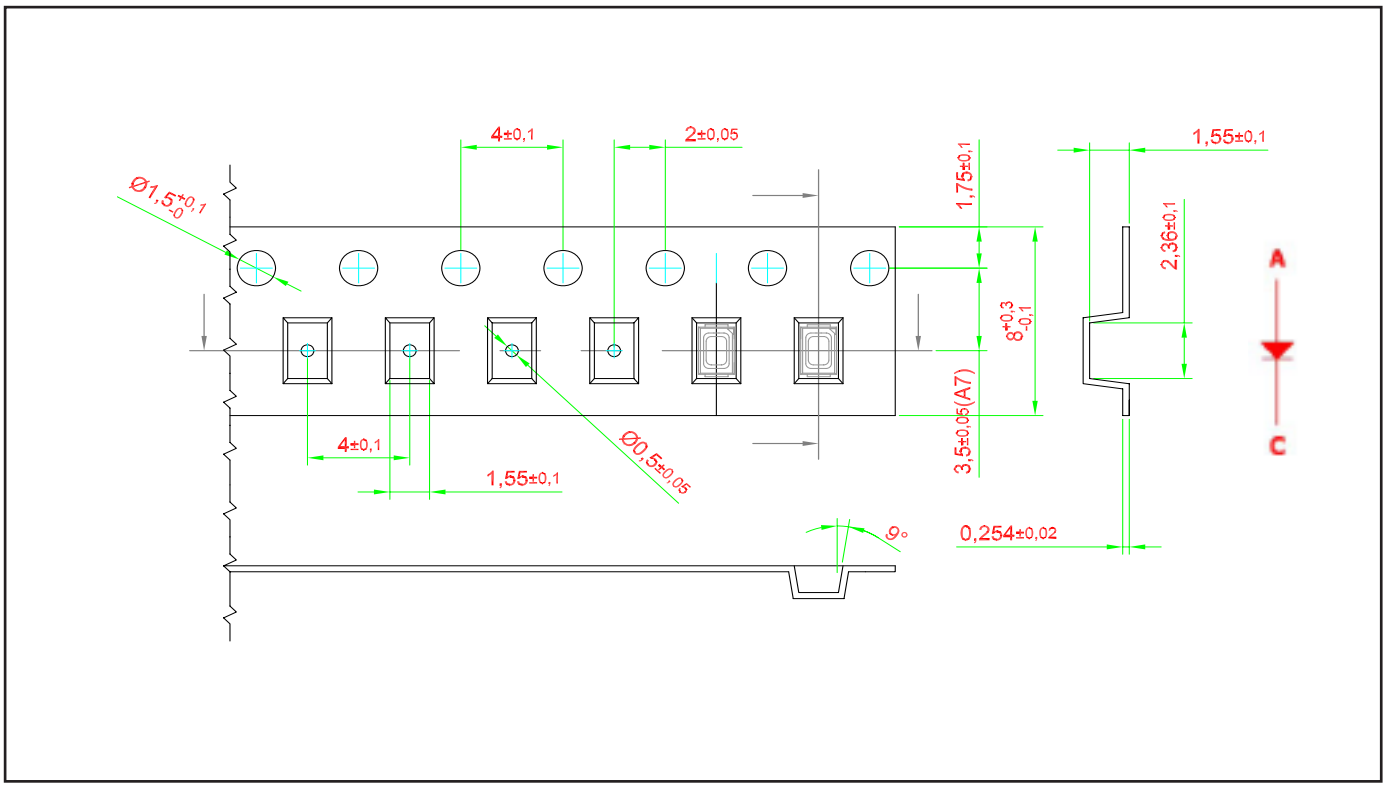
	Material
Lead-frame	Cu Alloy With Ag Plating
Package	High Temperature Resistant Plastic, PPA
Encapsulant	Epoxy
Soldering Leads	Sn-Sn Plating

Recommended Solder Pad

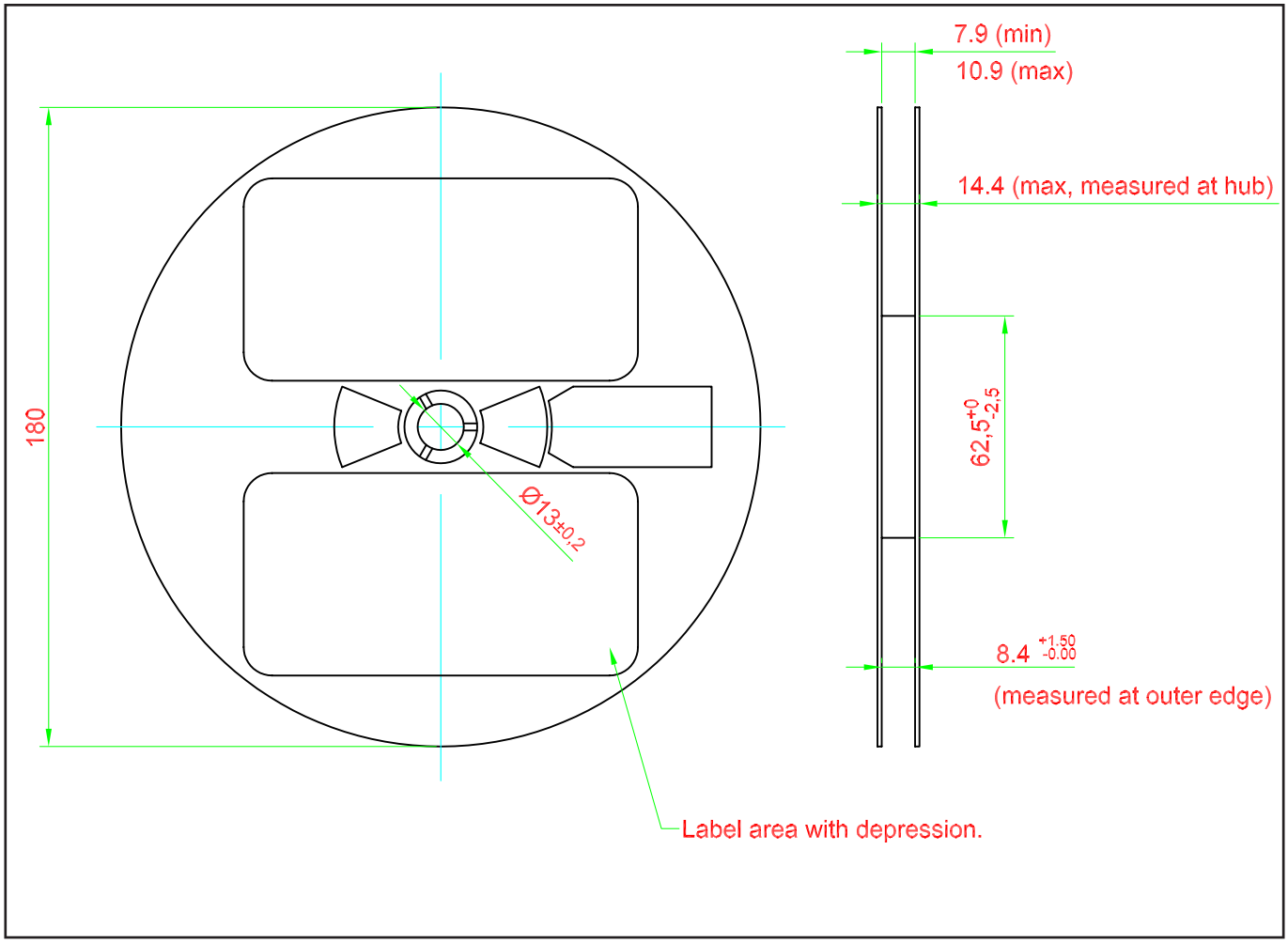


Taping and orientation

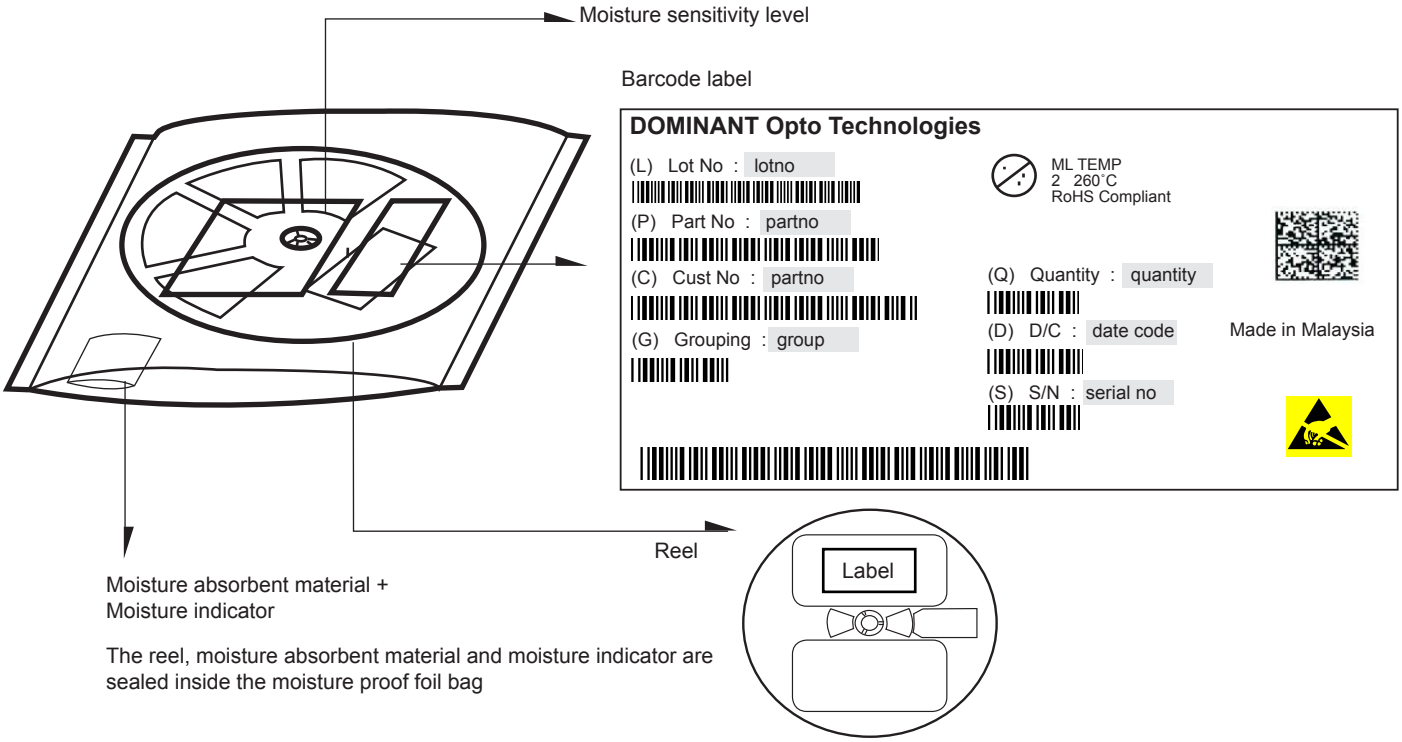
- Reels come in quantity of 3000 units.
- Reel diameter is 180 mm.



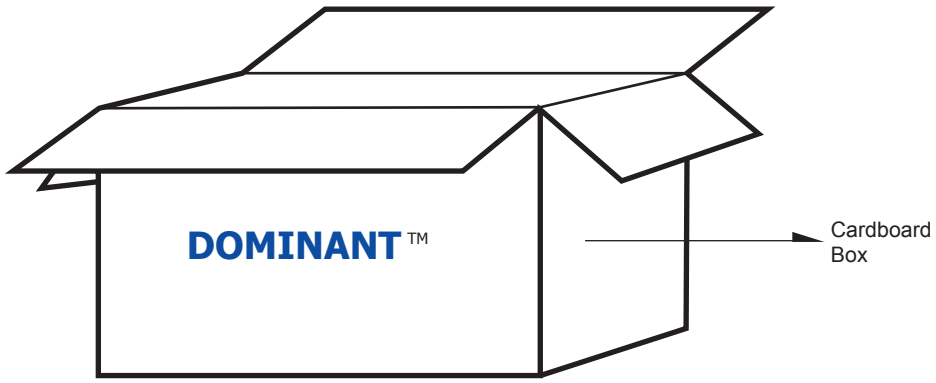
Packaging Specification



Packaging Specification



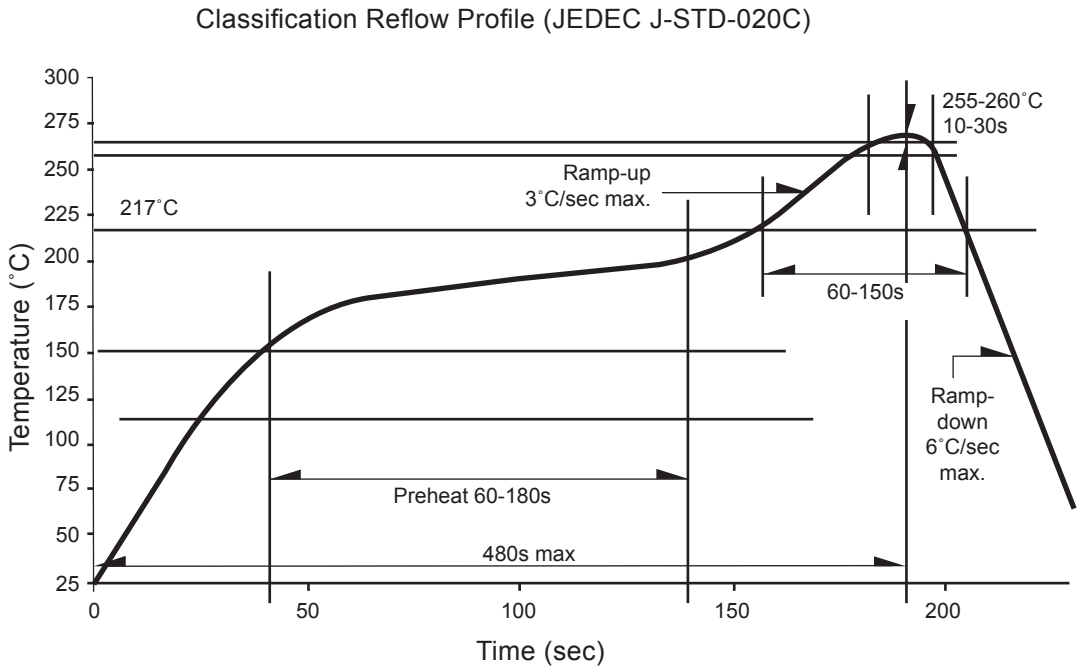
	Average 1pc Mini DomiLED	1 completed bag (3000pcs)
Weight (gram)	**0.007**	**200 ± 10**



For Mini 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	03 Mar 2009
5	Typo error on package marking	27 Aug 2009
7	Update carrier tape drawing	10 Aug 2010
2	Add new partno: DNO-MJS-VW1-1	28 Dec 2010
2	Add new partno: DNO-MJS-WX1	14 Aug 2012
2	Typo error on Vf	03 Sep 2013
2, 3, 5	- Add Thermal Resistance and Characteristics - Typo error on Typ Vf - Amend graph: Forward Current Vs Forward Voltage	10 Dec 2013
2	Add new partno: DNY-MJS-V2W-1	05 Dec 2014
1, 5, 6, 10	Update Features Typo error on graph: Forward Voltage Vs Forward Current Update remark in Package Outline Update Packaging Specification	29 Sep 2015

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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