

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.
- > Based on InGaN technology.
- > 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.



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 @ 20mA		IV (mcd) Max.
			Min.	Typ.	
● DNT-DZJS-VW1-1	True Green, 525nm	120	715.0	950.0	1400.0
● DNT-DZJS-ST2-1	True Green, 525nm	120	180.0	285.0	450.0
● DNB-DZJS-ST2-1	Blue, 470nm	120	180.0	285.0	450.0
● Not for new design					

NOTE

1. Luminous intensity is measured with an accuracy of $\pm 11\%$.
2. 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 = 20 mA		
	Min. (V)	Typ. (V)	Max. (V)
DNx-DZJS	2.9	3.2	3.7

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, Rth JA	480	K/W
- Junction / solder point, Rth JS	230	K/W
(Mounting on FR4 PCB, pad size ≥ 16 mm ² per pad)		

Wavelength Grouping at Tj=25°C

Color	Group	Wavelength distribution (nm)
DNT; True Green	Full	520 - 535
	A	520 - 525
	B	525 - 530
	C	530 - 535
DNB; Blue	Full	465 - 475
	A	465 - 470
	B	470 - 475

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

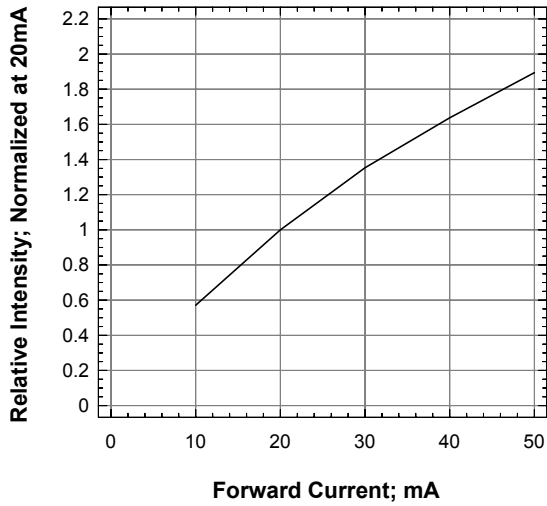
InGaN wavelength is very sensitive to drive current. Operating at lower current is not recommended and may yield unpredictable performance. Current pulsing should be used for dimming purposes.

Luminous Intensity Group at Tj=25°C

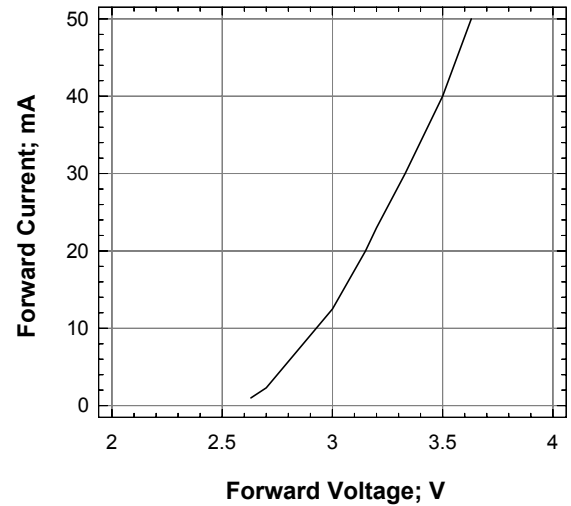
Brightness Group	Luminous Intensity IV (mcd)
S1	180.0...224.0
S2	224.0...285.0
T1	285.0...355.0
T2	355.0...450.0
V1	715.0...900.0
V2	900.0...1125.0
W1	1125.0...1400.0
W2	1400.0...1800.0

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

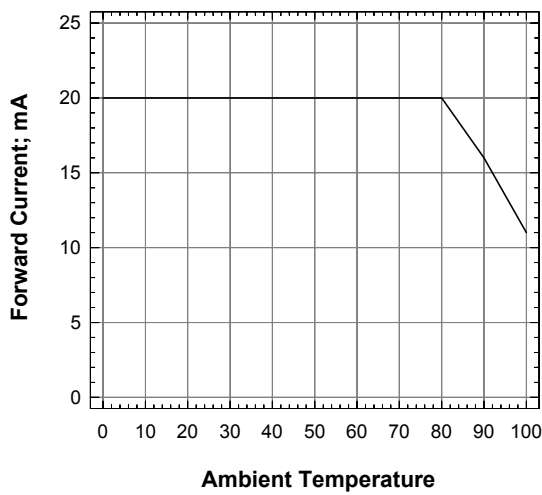
Relative Intensity Vs Forward Current



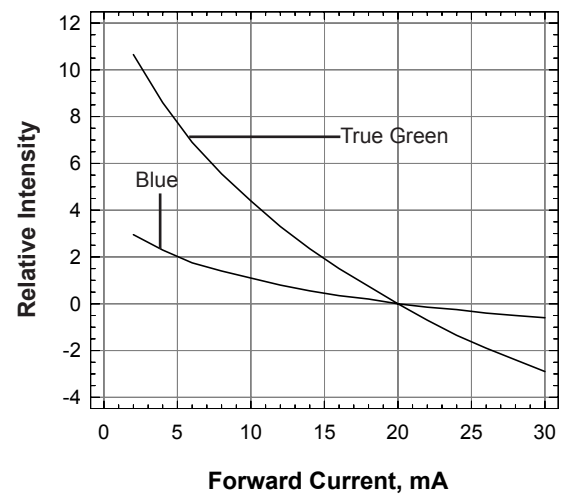
Forward Voltage Vs Forward Current



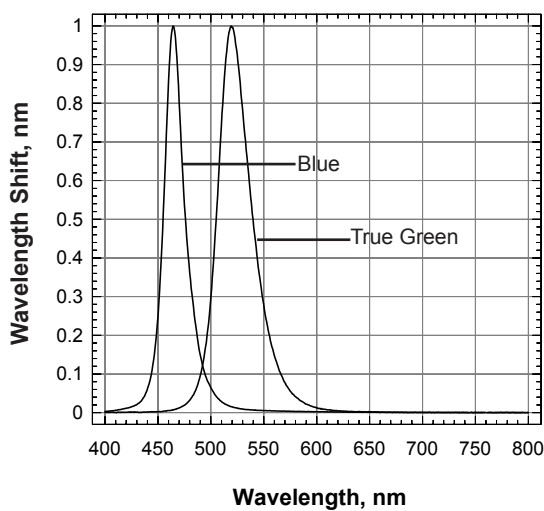
Maximum Current Vs Ambient Temperature



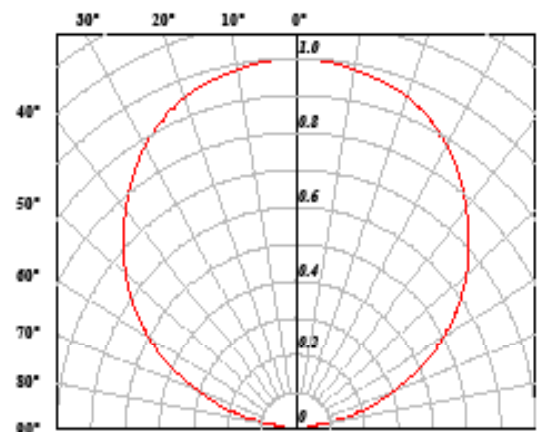
Dominant Wavelength Shift Vs Forward Current



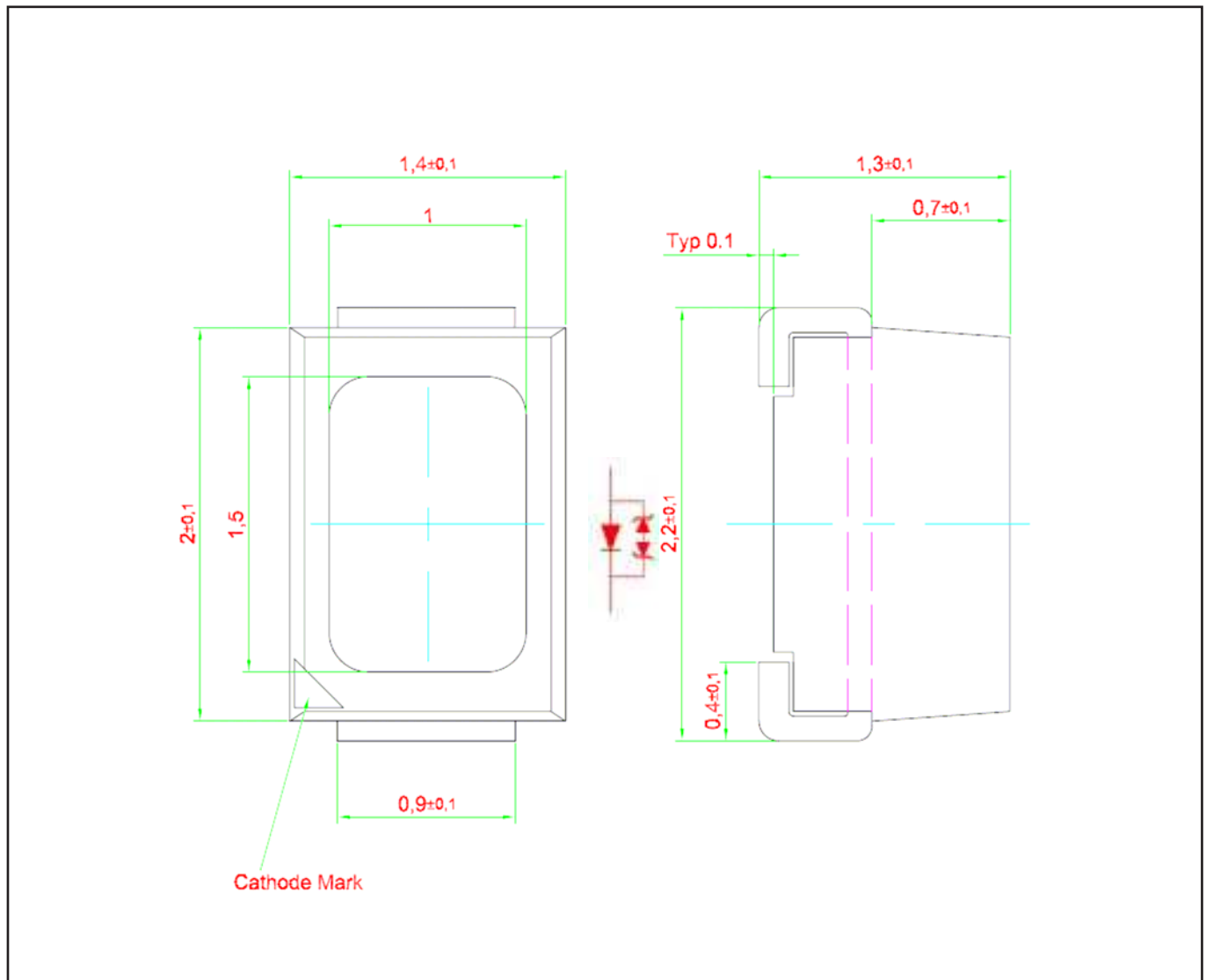
Relative Intensity Vs Wavelength



Radiation Pattern



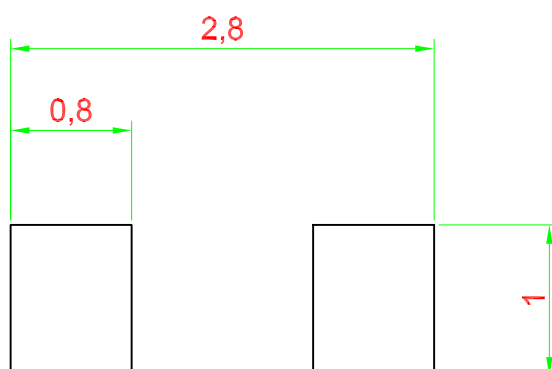
Mini DomiLED™ • InGaN : DNx-DZJS Package Outlines



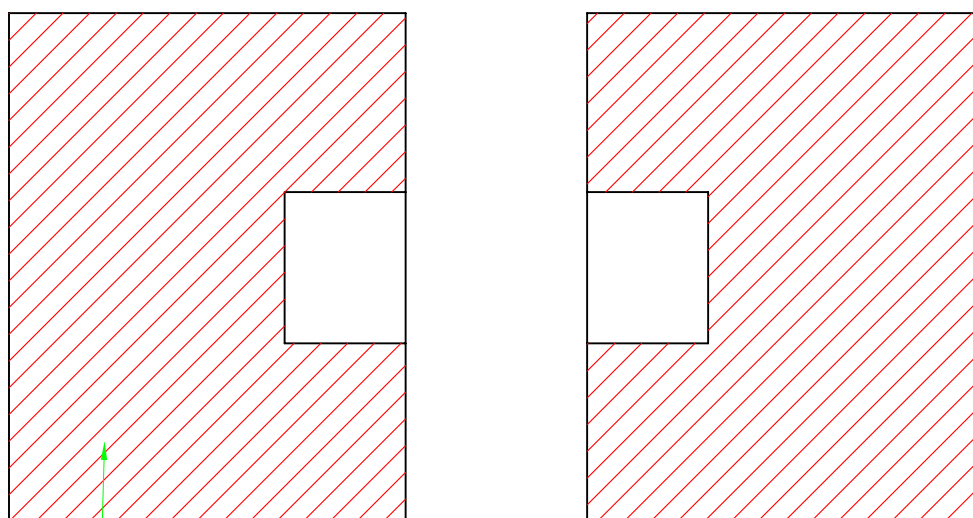
Material

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

Recommended Solder Pad



Improved Design For Better Heat Dissipation



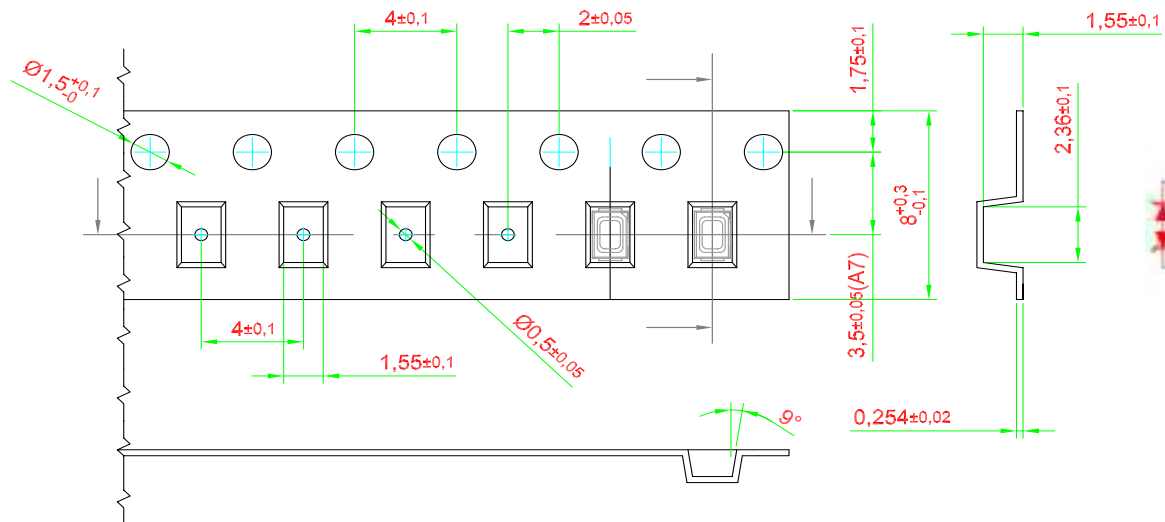
Additional Cu area for improved heat dissipation, > 16mm sq.



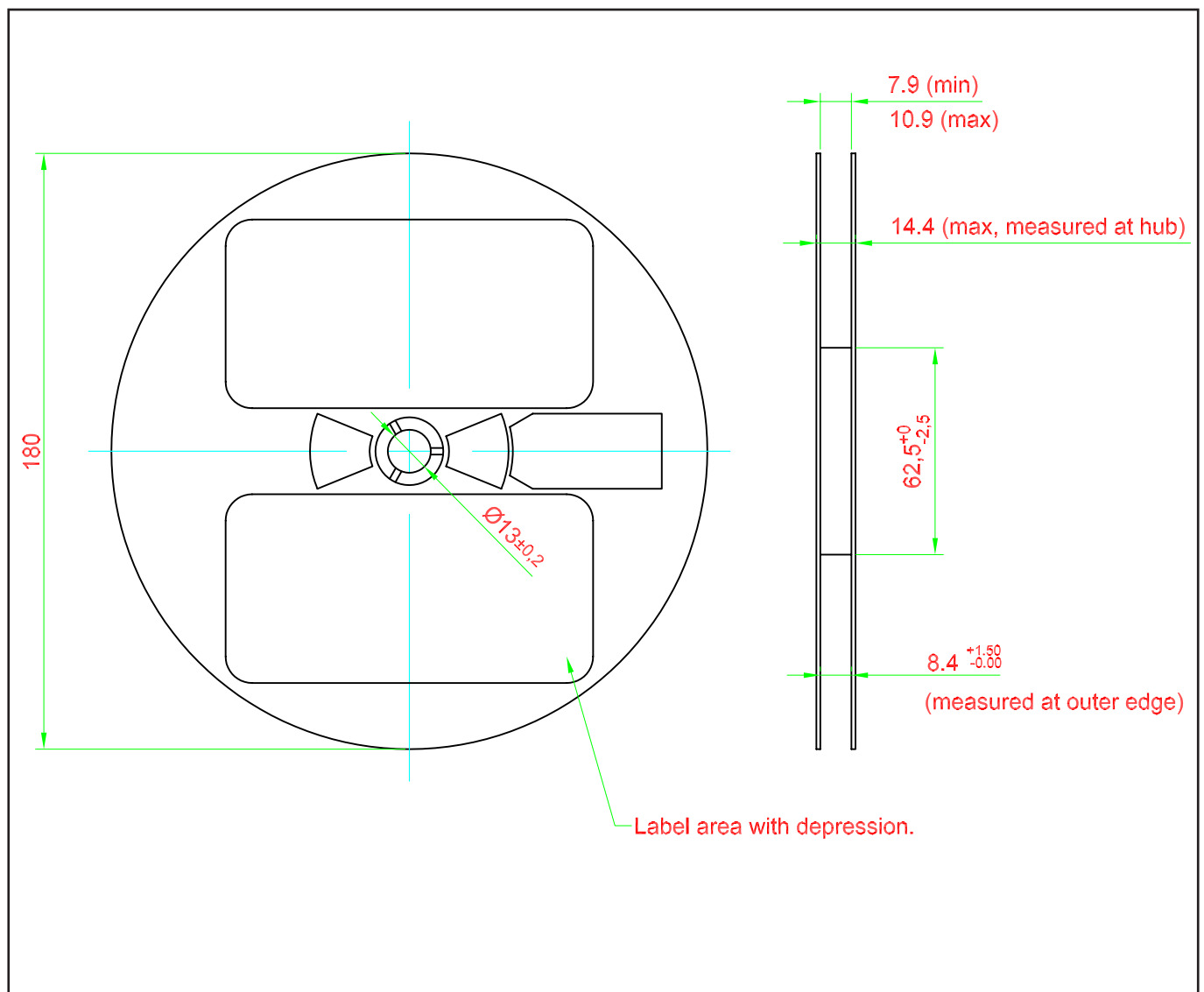
Solder resist.

Taping and orientation

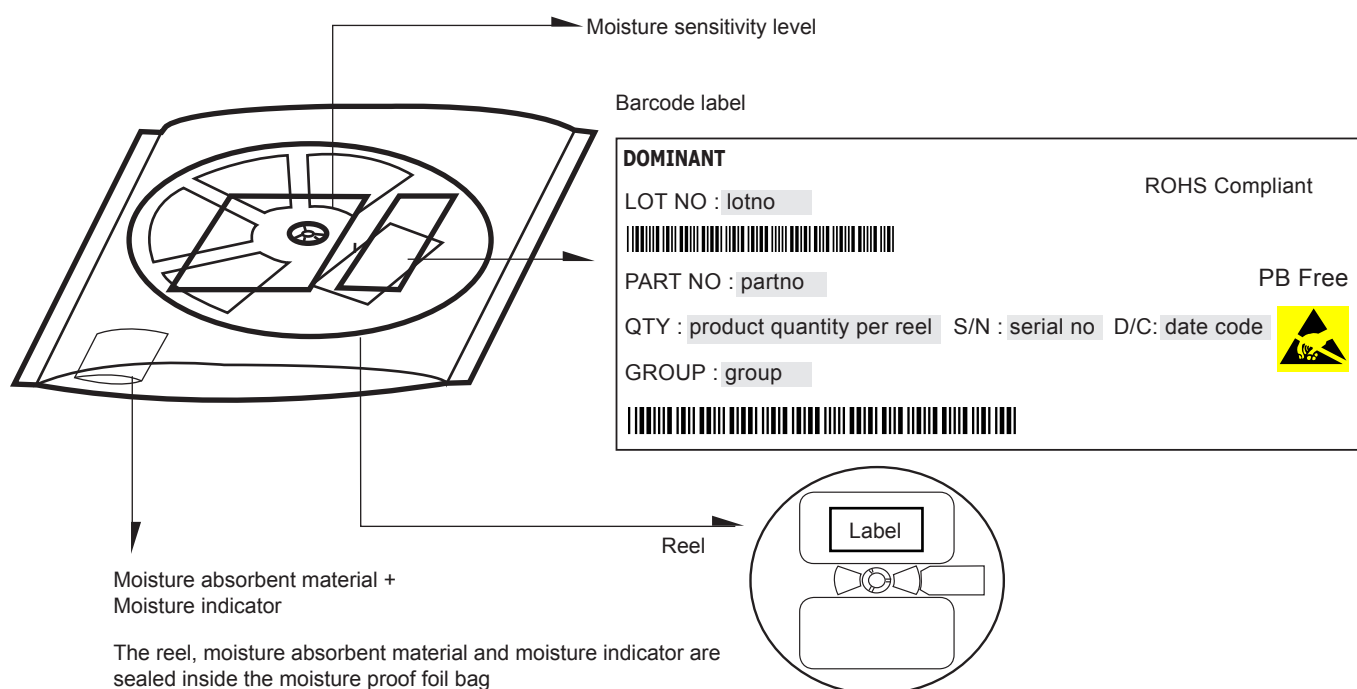
- Reels come in quantity of 3000 units.
- Reel diameter is 180 mm.



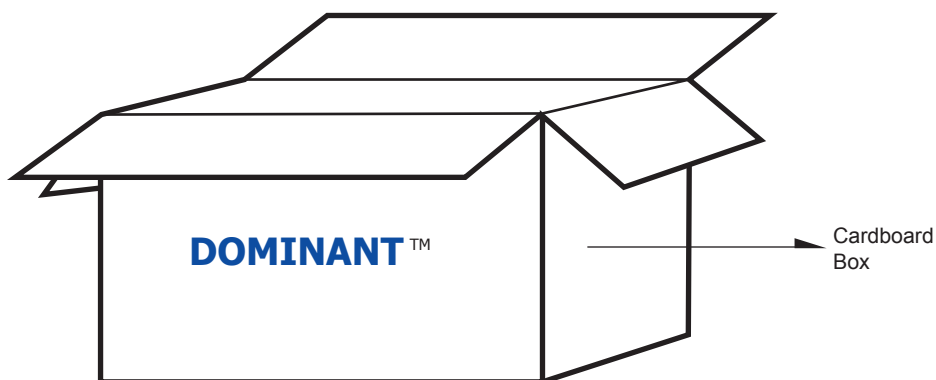
Packaging Specification



Packaging Specification



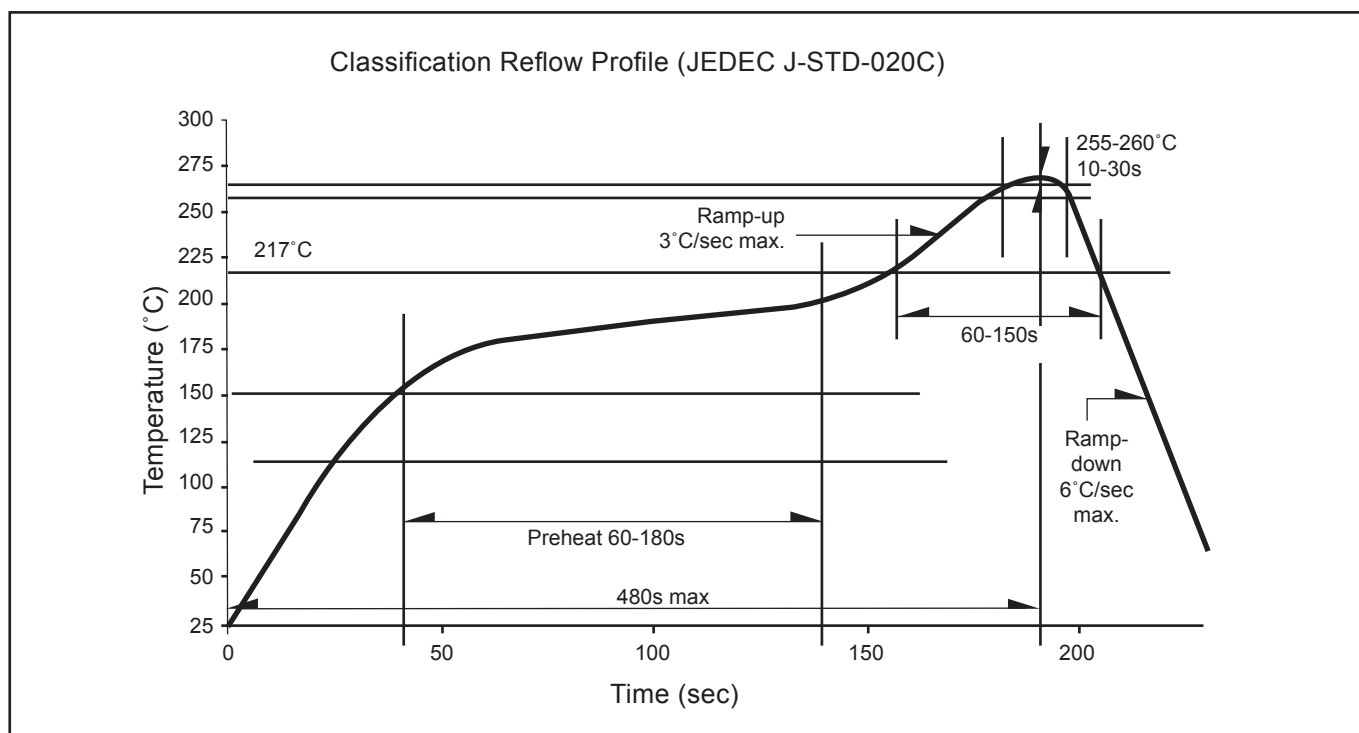
	Average 1pc Mini DomiLED	1 completed bag (3000pcs)
Weight (gram)	0.007	140 ± 10



For Mini 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	45,000 MAX
Large	416 x 516 x 476	1.74	96 reels MAX	288,000 MAX

Recommended Pb-free Soldering Profile



Revision History

Page	Subjects	Date of Modification
-	Initial Release	19 Jan 2010
7	Update carrier tape drawing	06 Jul 2010
2	Add Part No: DNT-DZJS-ST2-1	22 Mar 2011
2	Add Temperature Resistance	28 Nov 2012
2	Not for new design: DNT-DZJS-VW1-1, DNT-DZJS-ST2-1, DNB-DZJS-ST2-1	11 Jun 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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