

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.



Applications:

- > Automotive: interior applications, eg: switches, telematics, climate control system, dashboard, etc.
- > Exterior applications, eg: signal lighting, Center High Mounted Stop Light (CHMSL)
- > Signage: full color display video notice board, signage, special effect lighting
- > Lighting: channel light



Optical Characteristics at Tj=25°C

Part Ordering Number	Color	Viewing Angle°	Luminous Intensity @ IF = 20mA IV (mcd)		
			Min.	Typ.	Max.
DNR-PJS-VW1-1	Red, 620nm	120	715.00	1057.50	1400.00
DNA-PJS-V2W-1	Amber, 615nm	120	900.00	1350.00	1800.00
DNY-PJS-VW1-1	Yellow, 590nm	120	715.00	1057.50	1400.00

NOTE

1. All part number above comes in a quantity of 3000 units per reel.
2. Luminous intensity is measured with an accuracy of $\pm 11\%$.
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 = 20mA			Vr @ Ir = 10uA
	Min. (V)	Typ. (V)	Max. (V)	Min. (V)
DNx-PJS	1.8	2.2	2.6	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
LED junction temperature	125	°C
Operating temperature	-40 ... +100	°C
Storage temperature	-40 ... +100	°C
Power dissipation (at room temperature)	130	mW
Thermal resistance		
- Junction / ambient, R _{th JA}	480	K/W
- Junction / solder point, R _{th JS}	230	K/W
(Mounting on FR4 PCB, pad size ≥ 16 mm ² per pad)		

Characteristics

	Symbol	Part Number	Value	Unit
Temperature coefficient of λ_{dom} (typ) $I_F = 20\text{mA}$; $0\text{ }^{\circ}\text{C} \leq T \leq 100\text{ }^{\circ}\text{C}$	$TC_{\lambda_{\text{dom}}}$ (typ)	DNR-PJS	0.05	nm / K
		DNA-PJS	0.06	
		DNY-PJS	0.08	
Temperature coefficient of V_F (typ) $I_F = 20\text{mA}$; $0\text{ }^{\circ}\text{C} \leq T \leq 100\text{ }^{\circ}\text{C}$	TC_V	DNR-PJS	-2.2	mV / K
		DNA-PJS	-2.0	
		DNY-PJS	-1.9	
Temperature coefficient of I_V (typ) $I_F = 20\text{mA}$; $0\text{ }^{\circ}\text{C} \leq T \leq 100\text{ }^{\circ}\text{C}$	TC_{I_V}	DNR-PJS	-0.5	% / K
		DNA-PJS	-0.7	
		DNY-PJS	-0.9	

Wavelength Grouping at $T_j=25^{\circ}\text{C}$

Color	Group	Wavelength distribution (nm)
DNR; Red	Full	620 - 630
DNA; Amber	Full	610 - 621
	W	610 - 615
	X	615 - 621
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 $\pm 1\text{ nm}$.

Luminous Intensity Group at Tj=25°C

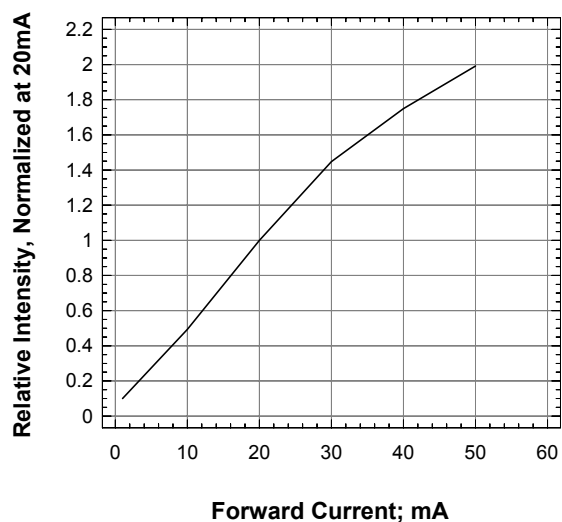
Brightness Group	Luminous Intensity IV (mcd)
V1	715.0...900.0
V2	900.0...1125.0
W1	1125.0...1400.0
W2	1400.0...1800.0

Vf Binning (Optional)

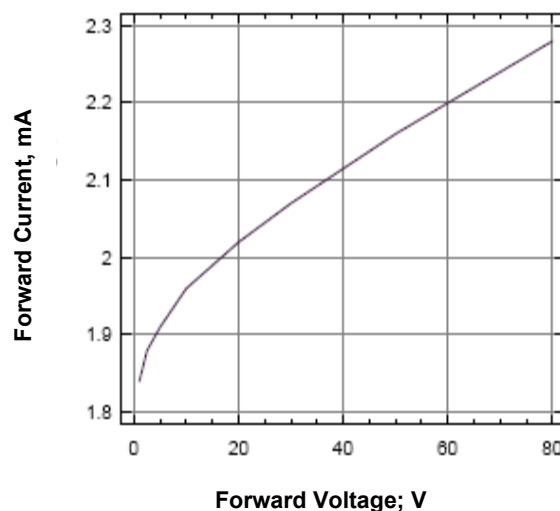
Vf Bin @ 20mA	Forward Voltage (V)
VA	1.75 ... 1.90
VB	1.90 ...2.05
VC	2.05... 2.20
VD	2.20 ... 2.35
VE	2.35... 2.50
VF	2.50 ... 2.65

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

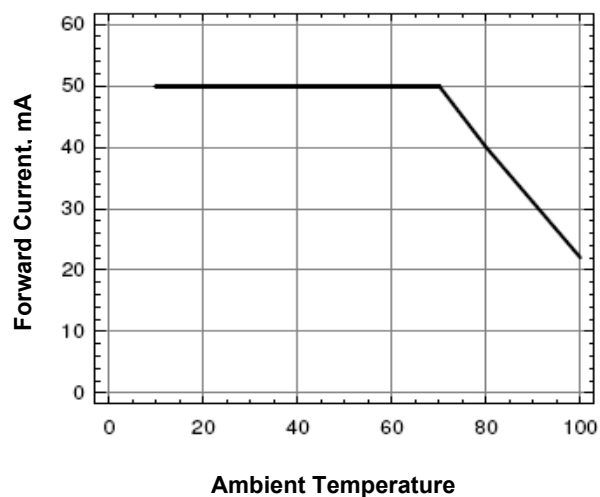
Relative Intensity Vs Forward Current



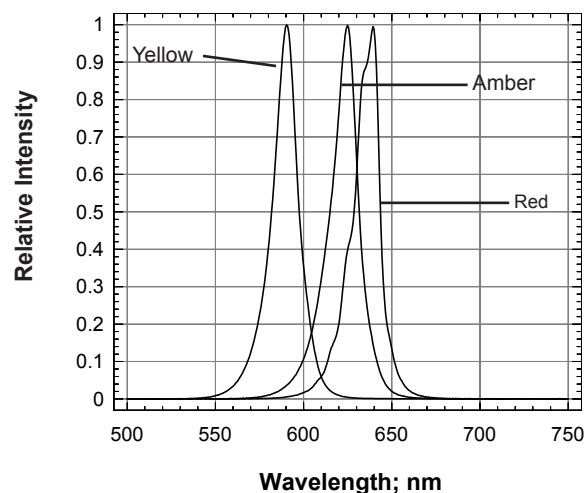
Forward Current Vs Forward Voltage



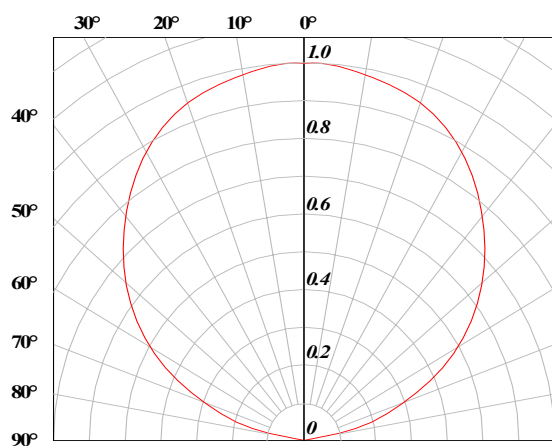
Forward Current Vs Ambient Temperature



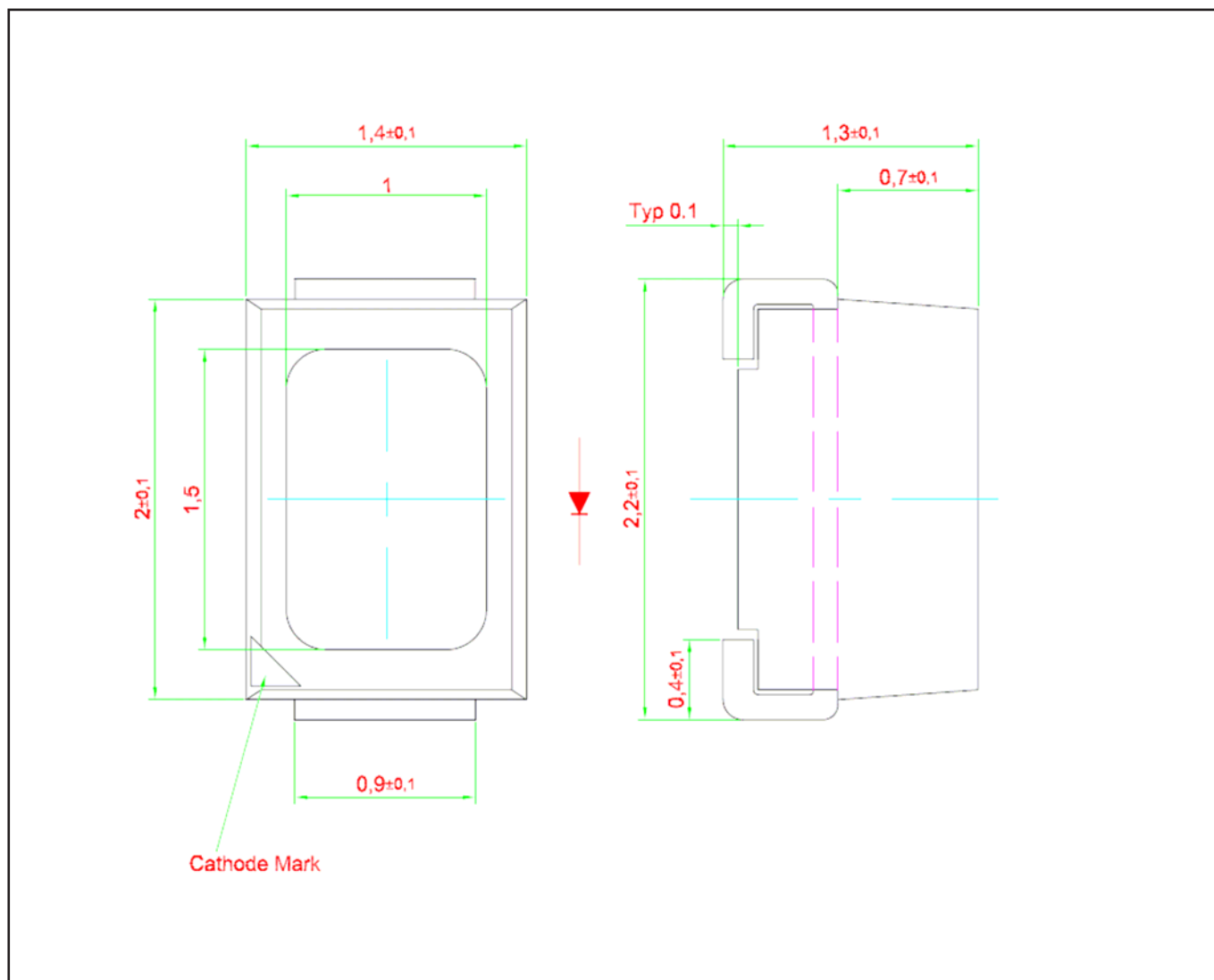
Relative Intensity Vs Wavelength



Radiation Pattern



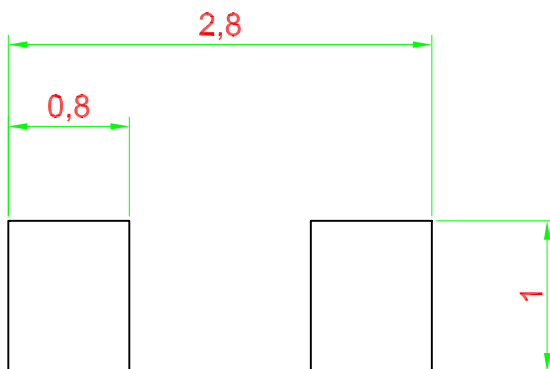
Mini DomiLED™ • AlInGaP : DNx-PJS Package Outlines



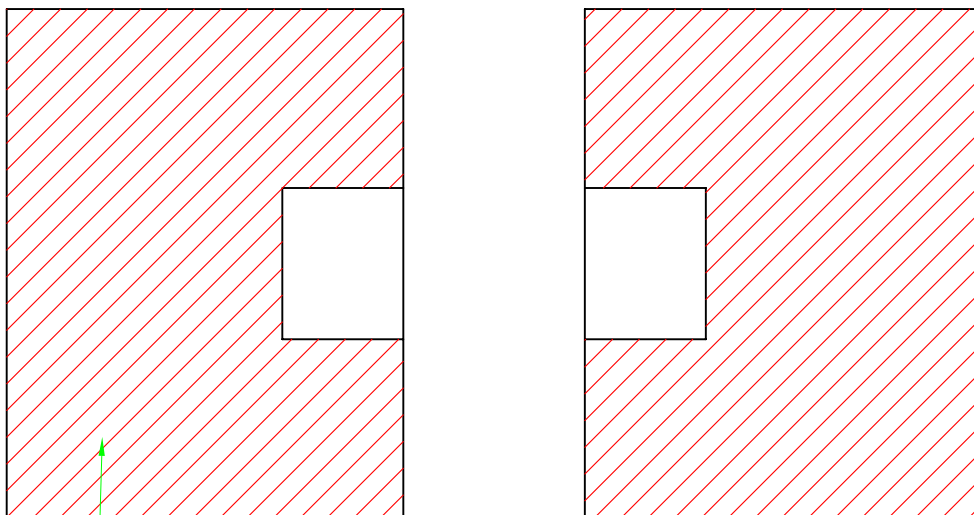
Material

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



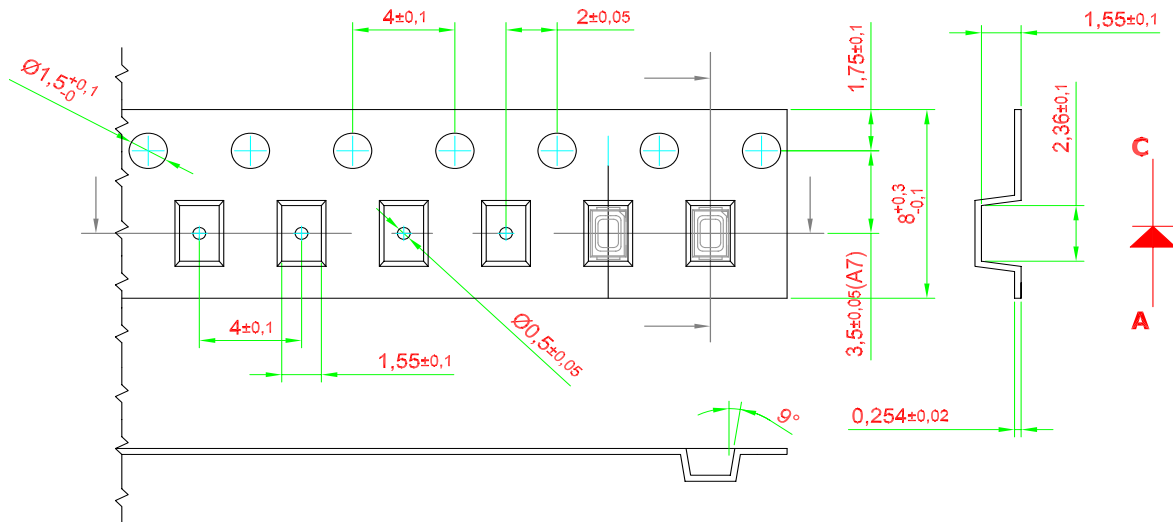
Additional Cu area for improved heat dissipation, > 16mm sq.



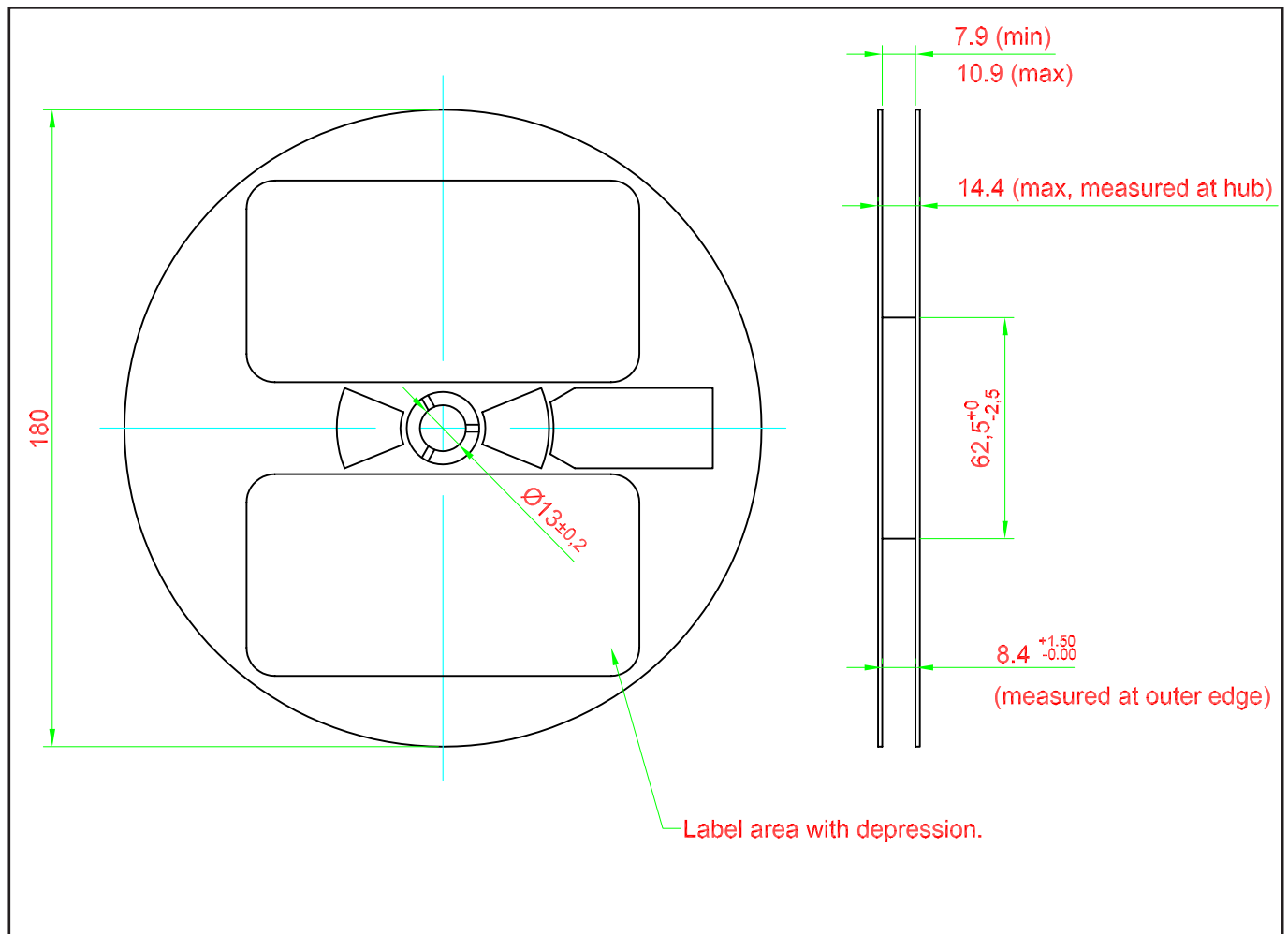
Solder resist.

Taping and orientation

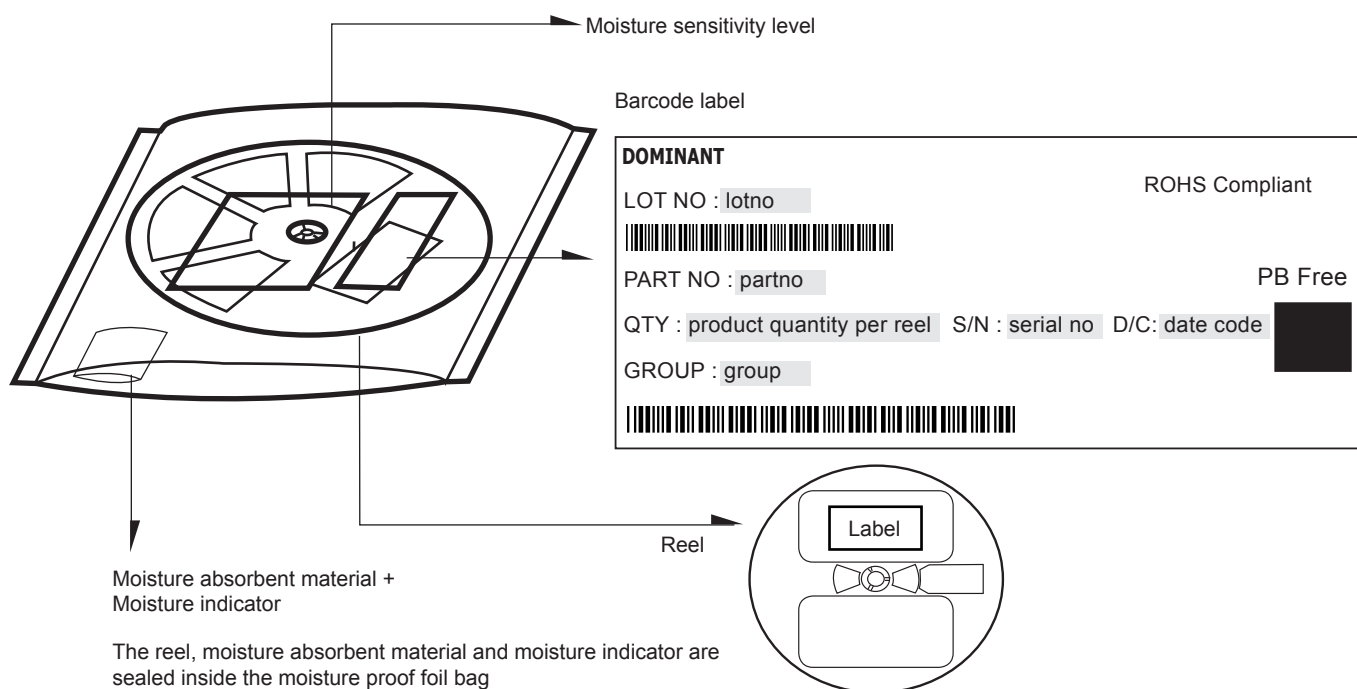
- Reels come in quantity of 3000 units.
- Reel diameter is 180 mm.



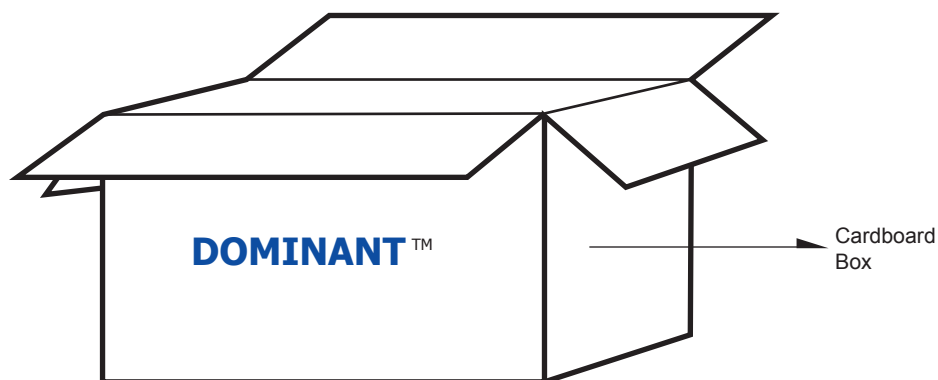
Packaging Specification



Packaging Specification



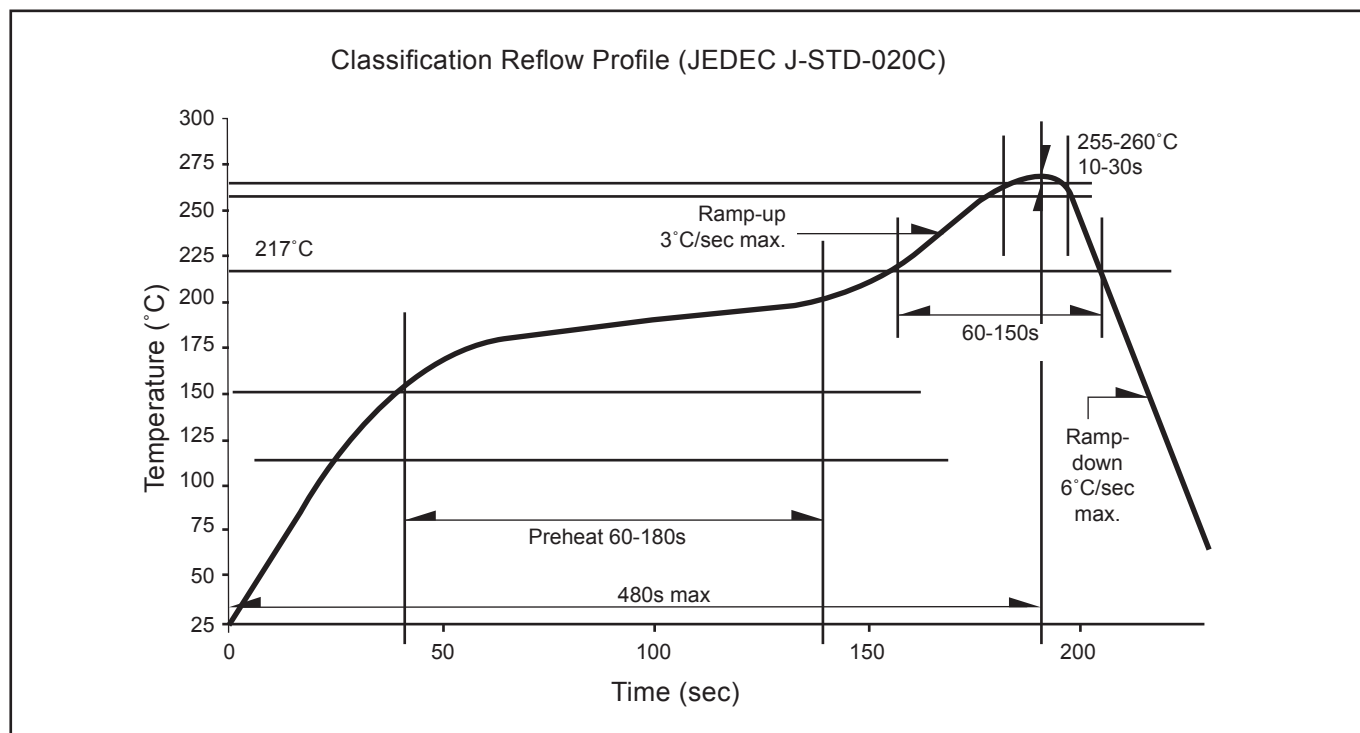
	Average 1pc Mini DomiLED	1 completed bag (3000pcs)
Weight (gram)	0.007	140 ± 10



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	03 Mar 2011
3	Add Vf binning	25 Apr 2011
3	Typo error on Vf binning	05 May 2011
2, 3	Add thermal resistance, Add characteristic	07 May 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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