DOMINANT™
Opto Technologies
Innovating Illumination

DATA SHEET:

SPNova™

Infrared 850nm NP8-DSG

SPNova™

Featuring a staggering brilliance and significant flux output, the SPNova™ showcases the latest technological advent in this range.

Features:

> Super high brightness surface mount LED.
> High flux output.
> 120° viewing angle.
> Compact package outline (LxWxH) of 6.0 x 6.0 x 1.5mm.
> Ultra low height profile - 1.5 mm.
> Designed for high current drive.
> Low thermal resistance; Rth (js) = 20 K/W.
> Qualified according to JEDEC moisture sensitivity Level 2.
> Compatible to IR reflow soldering.
> Environmental friendly; RoHS compliance.

Applications:

> Machine automation vision
> Vision for security applications
> Military applications
> Night vision for automotive
> CCD cameras

Optical Characteristics at Tj=25˚C

Part Ordering Number	Wavelength (nm)	Viewing Angle˚	Ie @ IF = 1000mA		
			Min (mW/sr)	Typ (mW/sr)	Max (mW/sr)
NP8-DSG-1	850	120	130	170	390

NOTE
1. Radiant intensity is measured with an accuracy of ± 11%.

Electrical Characteristics at Tj=25˚C

Part Number	Vf @ If = 1000mA			V_r @ I_r = 10uA
	Min. (V)	Typ. (V)	Max. (V)	Min. (V)
NP8-DSG	1.5	2.2	2.7	5

Forward voltages are measure using a current pulse of 1 ms and with an accuracy of ± 0.1V.

Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	1000	mA
Peak pulse current (tp ≤ 10µs, Duty cycle = 0.1)	1500	mA
Reverse Voltage	5	V
ESD Threshold (HBM)	2000	V
LED junction temperature	125	˚C
Operating temperature	-40 … +100	˚C
Storage temperature	-40 … +100	˚C
Power dissipation	2700	mW

Wavelength Grouping

Group	Wavelength distribution (nm)
Full	845 - 865

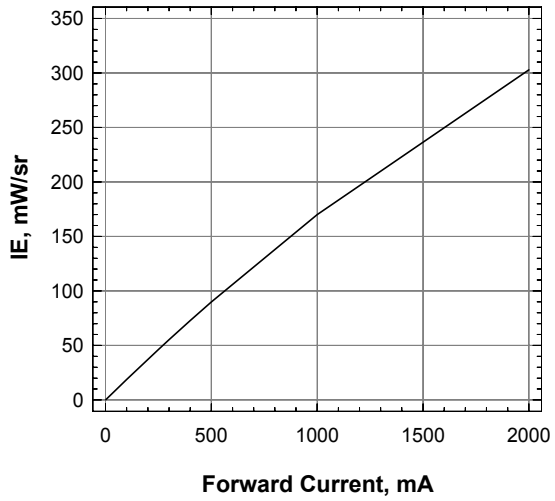
Peak wavelength is measured with an accuracy of ±1 nm.

Radiant Intensity Group at Tj=25˚C

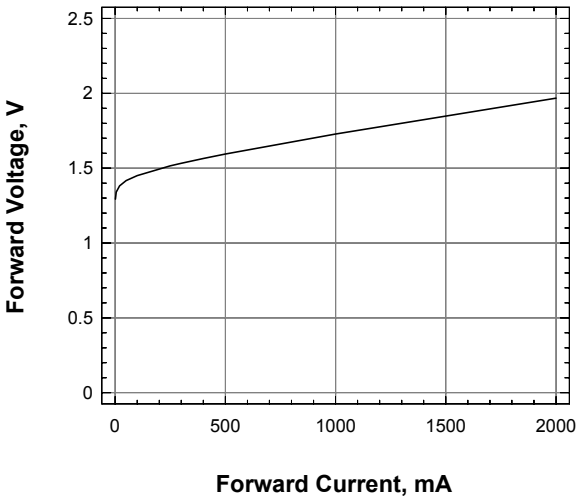
Brightness Group	Radiant Intensity (mW/sr)
A	130.0 ... 390.0

Radiant Intensity is measured with an accuracy of ± 11%.

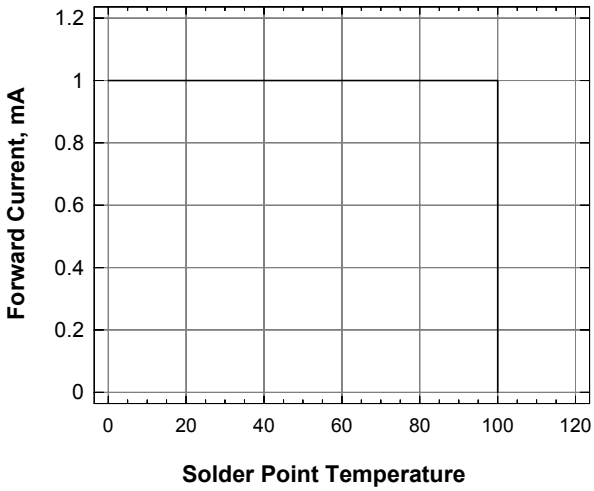
IE Vs Forward Current



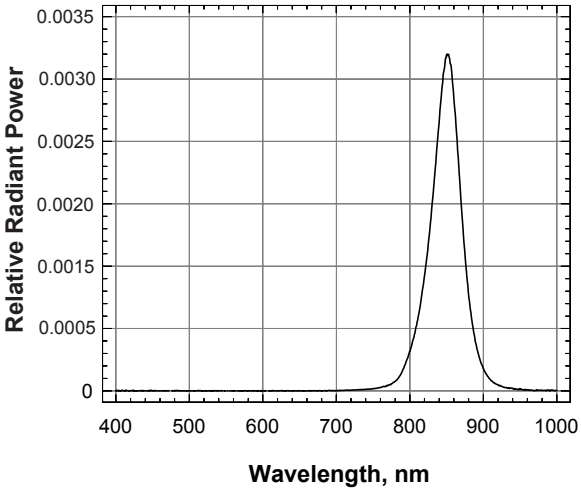
Forward Voltage Vs Forward Current



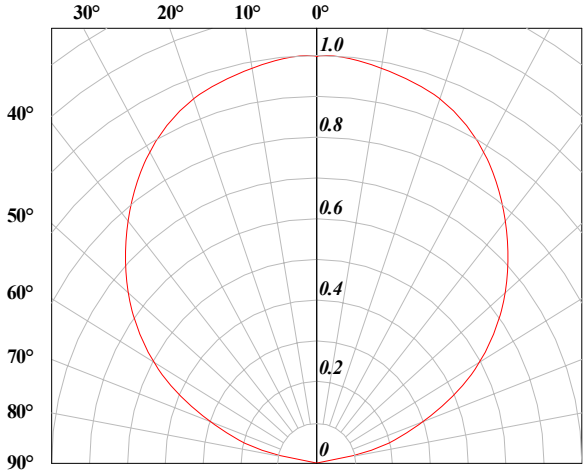
Forward Current Vs Solder Point Temperature



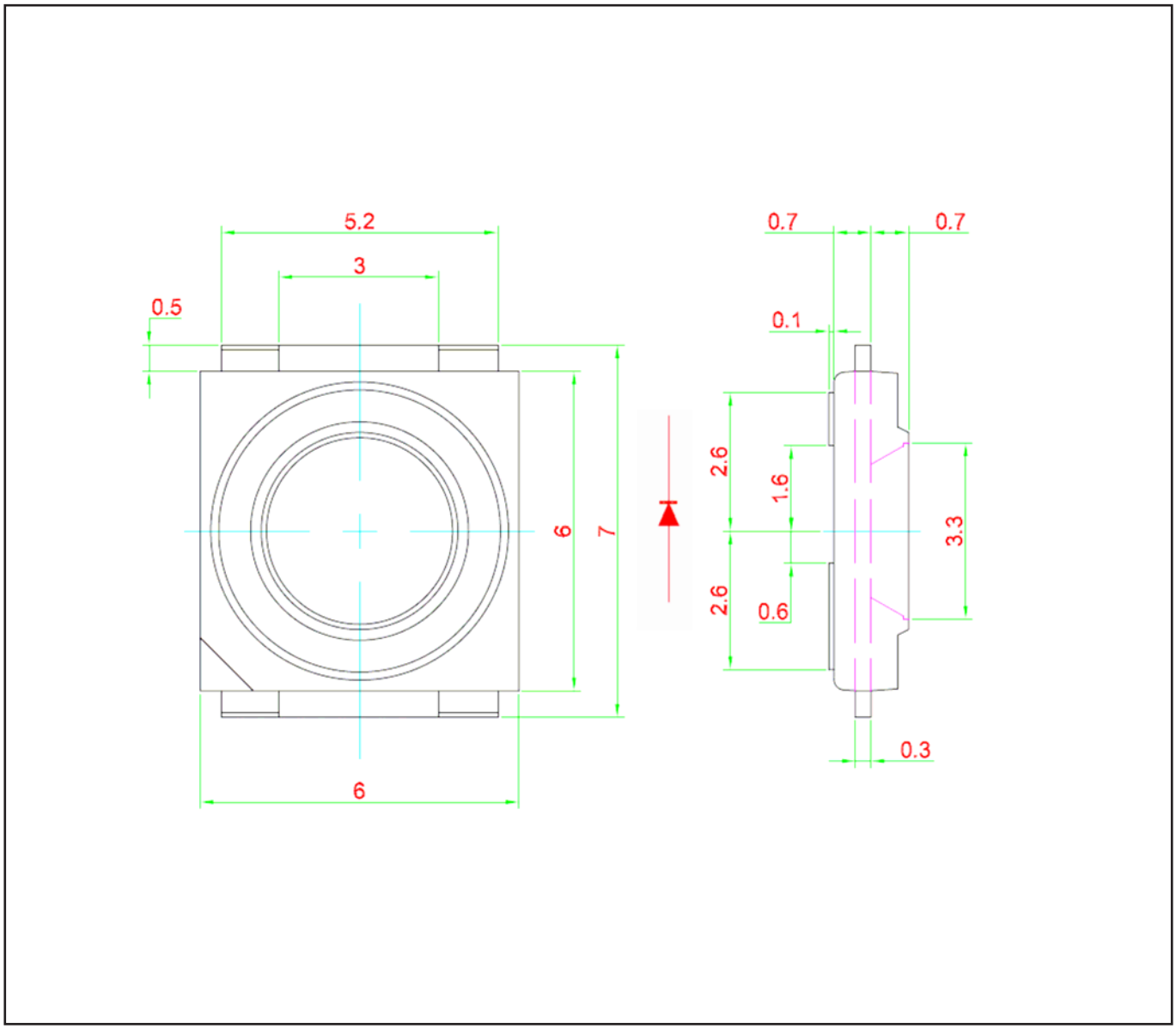
Radiation Spectrum



Radiation Pattern



SPNova™ : Infrared 850nm NP8-DSG Package Outlines

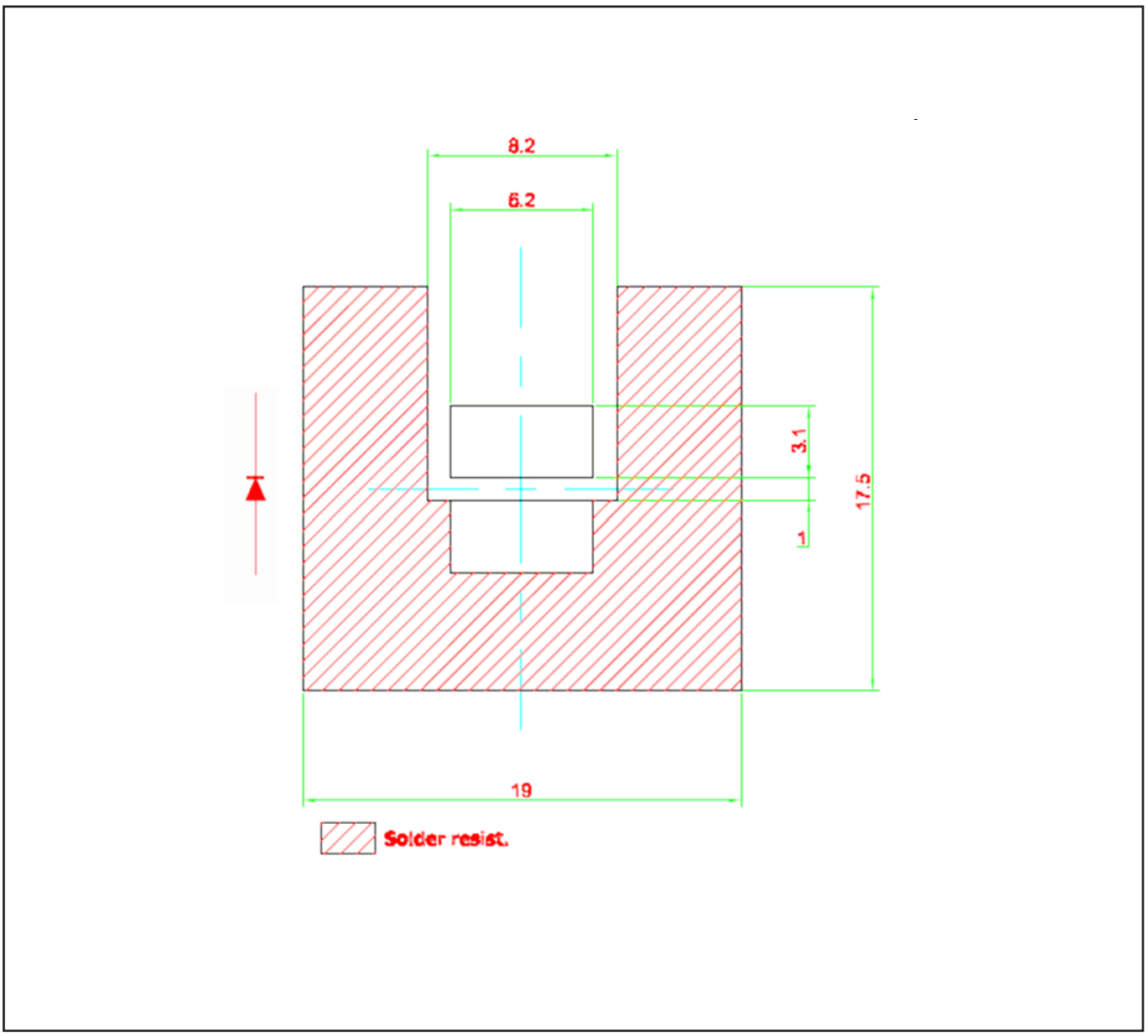


Material

	Material
Lead-frame	Cu Alloy With Ag Plating
Package	High Temperature Resistant Plastic, PPA
Encapsulate	Silicone Resin
Soldering Leads	Sn-Sn Plating

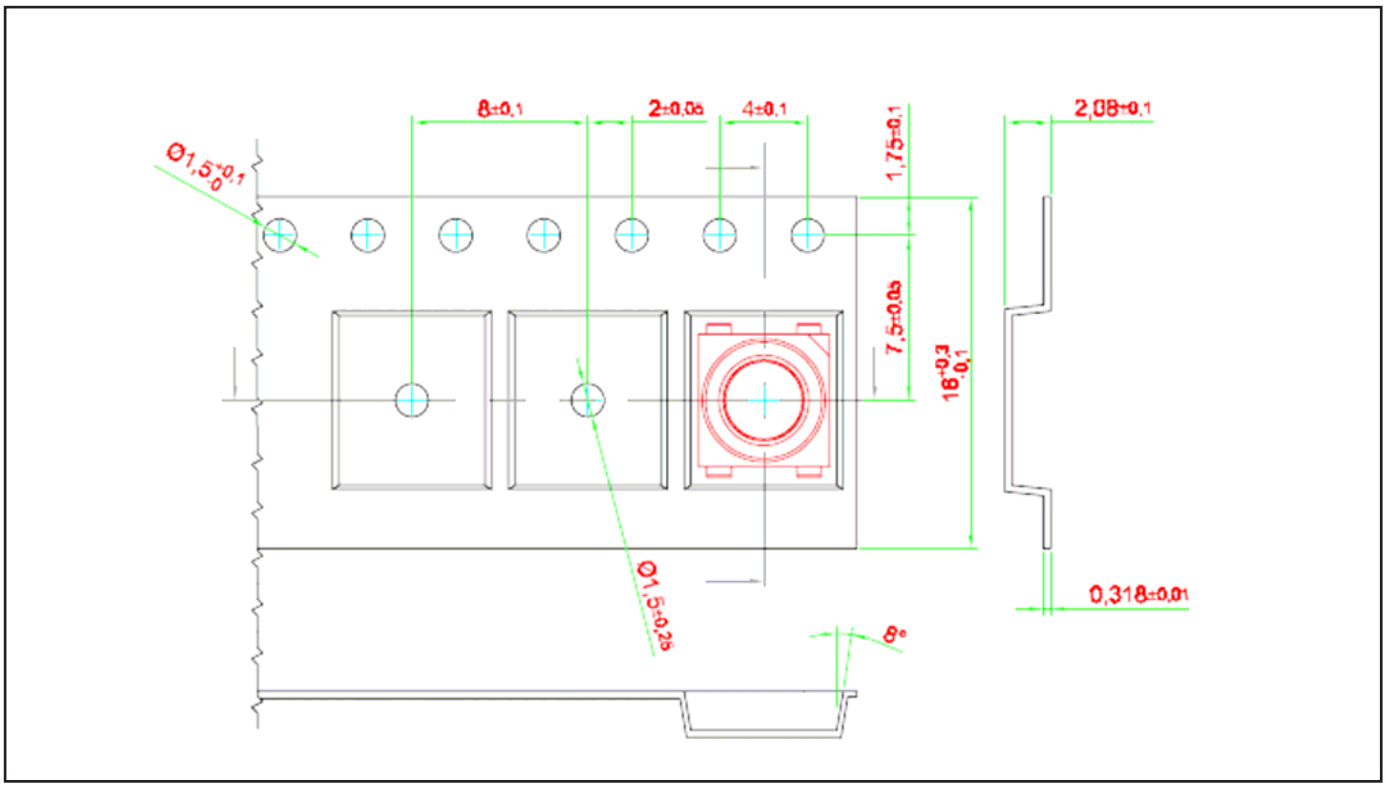
Solder Pad Design

Note: Unit to unit pitching must not be less than 25 mm. Metal core circuit board (MCPCB) is highly recommended for high density applications. Please consult sales and marketing for additional information.

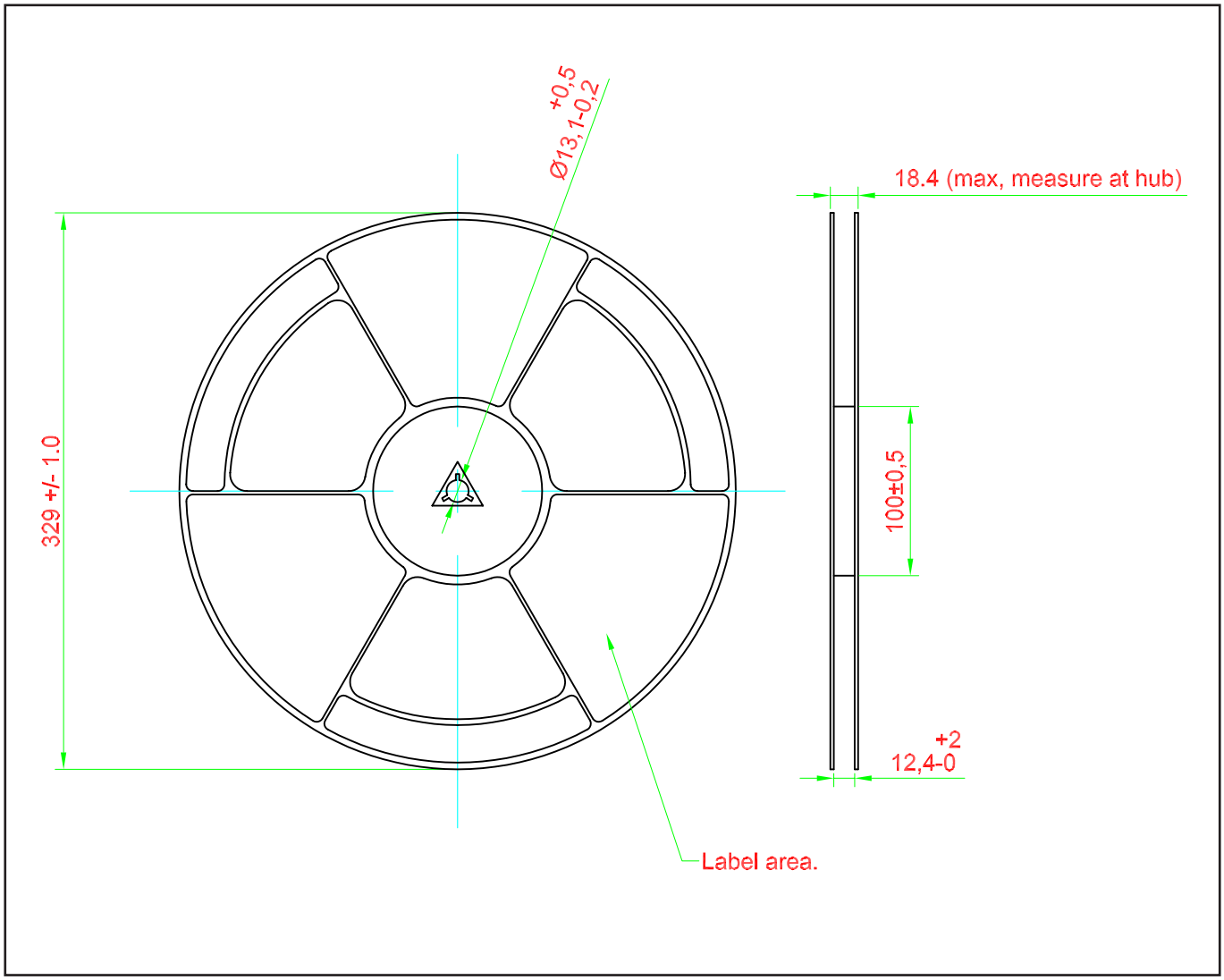


Taping and orientation

- Reels come in quantity of 2000 units.
- Reel diameter is 330 mm.



Packaging Specification



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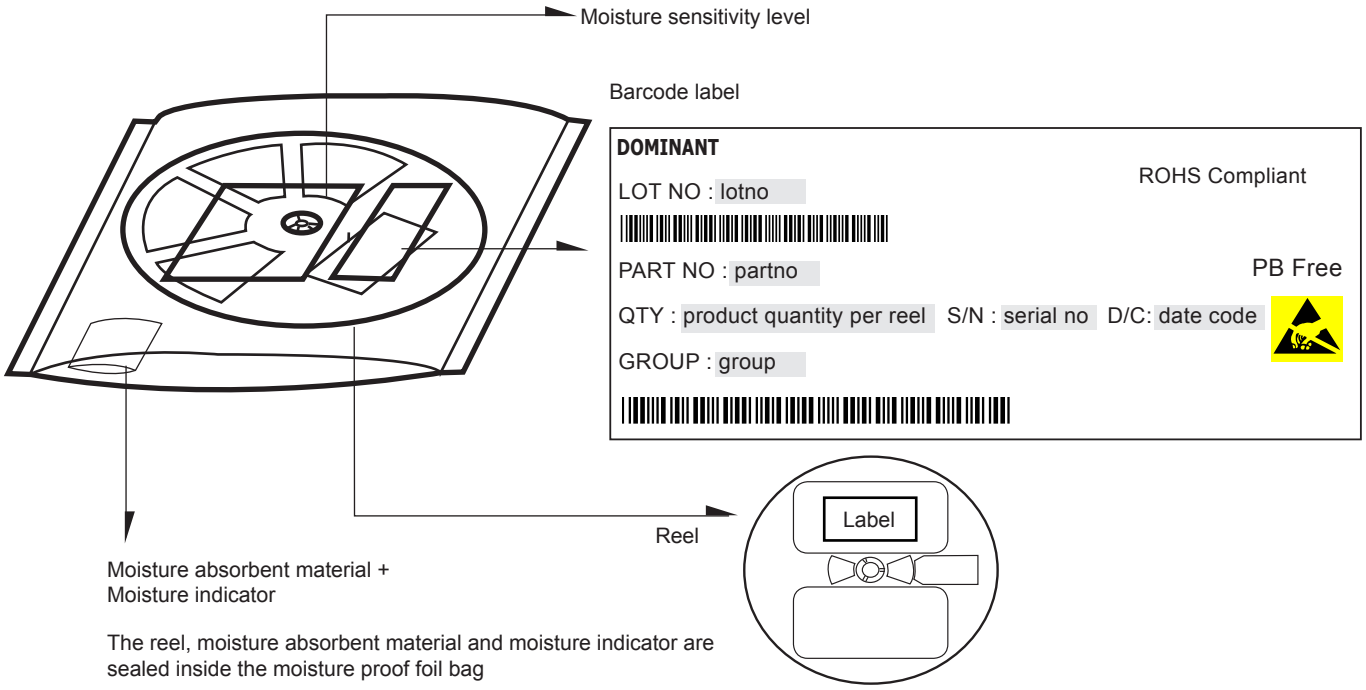
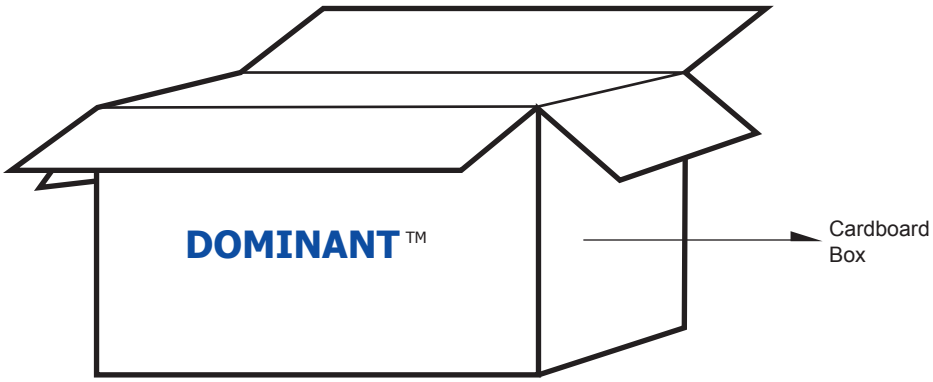


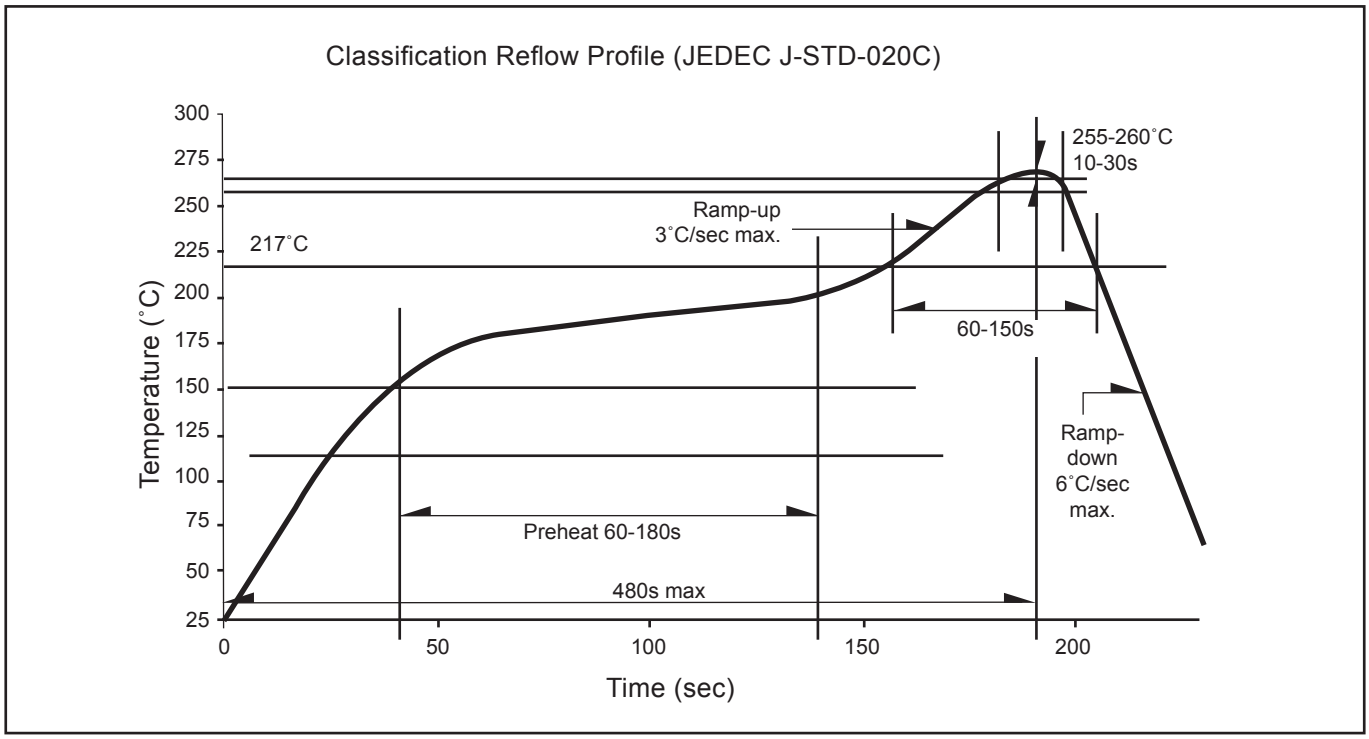
	Average 1pc SPNova	1 completed bag (2000pcs)
Weight (gram)	**0.188**	**800 ± 10**



For SPNova™

Cardboard Box Size	Dimensions (mm)	Empty Box Weight (kg)	Reel / Box	Quantity / Box (pcs)
Large	416 x 516 x 476	1.74	20 reels MAX	40,000 MAX

Recommended Pb-free Soldering Profile



Revision History

Page	Subjects	Date of Modification
-	Initial Release	21 May 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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