

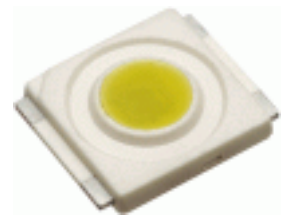
SPNovaLEDTM

Featuring a staggering brilliance and significant flux output, the SPNovaLEDTM showcases the latest technological advent in this range. With its extremely high level of brightness and the ultra low high profile, which is only 1.5 mm are highly suitable for both conventional lighting and specialized application such as automotive signal lights, traffic lights, channel lights, tube lights and garden lights among others.



Features:

- > Super high brightness surface mount LED.
- > High flux output; typical 42 lumens
- > 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; typically 350 mA.
- > Low thermal resistance; $R_{th(ja)} = 18 \text{ K/W}$.
- > Qualified according to JEDEC moisture sensitivity Level 2.
- > Compatible to IR reflow soldering.
- > Environmental friendly; RoHS compliance.
- > SPNovaLED are Class 1M LED products. Do not view directly with optical instrument.



Applications:

- > Automotive: exterior applications, eg: Fog-lamp, Rear Mirror Lighting, etc
- > Communication: FlashLED
- > Industry: white goods (eg: Oven, microwave, etc.).
- > Lighting: garden light, architecture lighting, general lighting. etc

Part Ordering Number	Chip Technology / Color	Viewing Angle°	Luminous Intensity @ IF = 350mA (mcd)
NPF-TSD-ABD-1	InGaN	120	9000.0 - 18000.0
• NPF-TSD-AB			9000.0 - 11250.0
• NPF-TSD-AC			11250.0 - 14000.0
• NPF-TSD-AD			14000.0 - 18000.0

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 Ta=25°C

Part Number	Typ. (V)	Vf @ If = 350mA	Max. (V)
NPF-TSD	3.6		4.0

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

Material

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

Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	350	mA
Peak pulse current	1000	mA
Reverse Voltage	Not designed for reverse bias	V
ESD threshold (HBM)	2000	V
LED junction temperature	120	°C
Operating temperature	-40 ... +100	°C
Storage temperature	-40 ... +100	°C

Correlated Color Temperature (CCT)

Color Bin	Minimum CCT (K)	Maximum CCT (K)
A	3300	3600
B	3000	3300
C	2800	3000

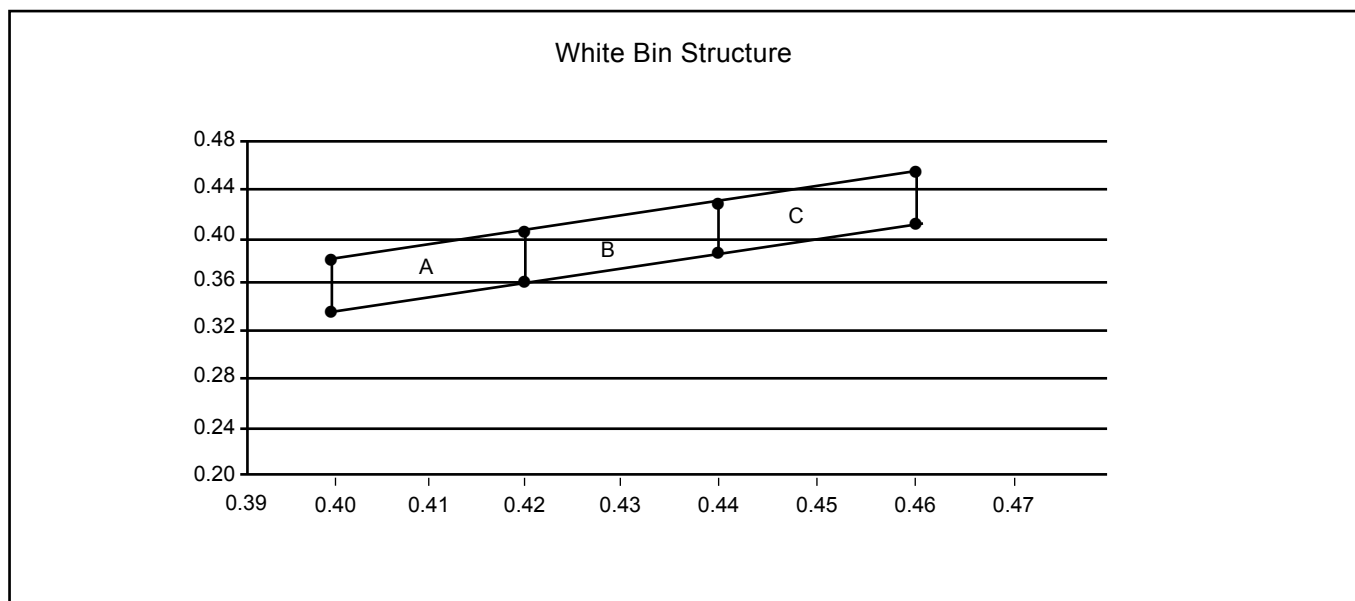
Note: CCT values provided for each of the color bins are an approximation based on correlation.

Correlation Between Luminous Intensity And Luminous Flux

IV Bin	Luminous Intensity (mcd)		Luminous Flux (lm)	
	Min	Max	Min	Max
AB	9000	11250	25.0	32.0
AC	11250	14000	32.0	39.0
AD	14000	18000	39.0	50.0

Note: Data provided above is based on approximation.

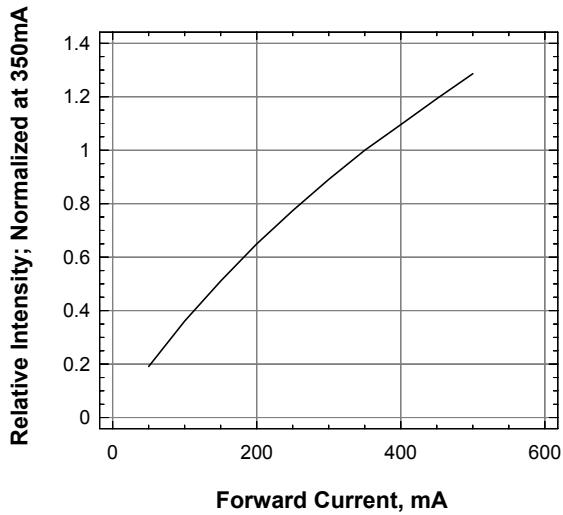
Color Bin



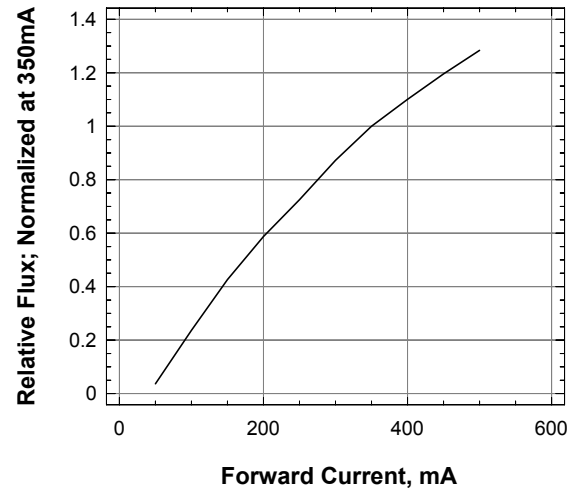
Chromaticity coordinate groups are measured with an accuracy of ± 0.01 .

Bin		1	2	3	4
A	Cx	0.400	0.420	0.420	0.400
	Cy	0.340	0.362	0.408	0.387
B	Cx	0.420	0.440	0.440	0.420
	Cy	0.362	0.383	0.430	0.408
C	Cx	0.440	0.460	0.460	0.440
	Cy	0.383	0.405	0.452	0.430

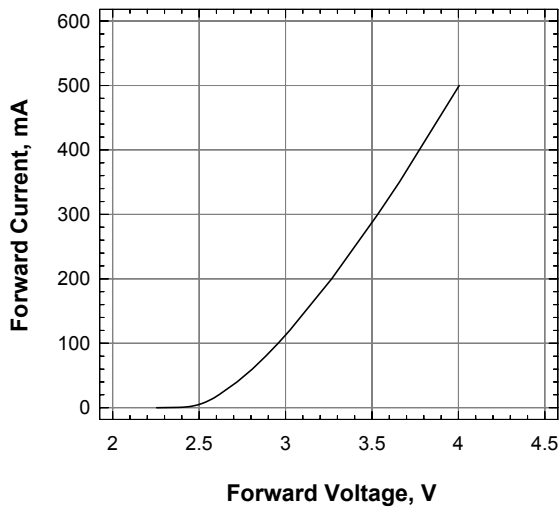
Relative Intensity Vs Forward Current



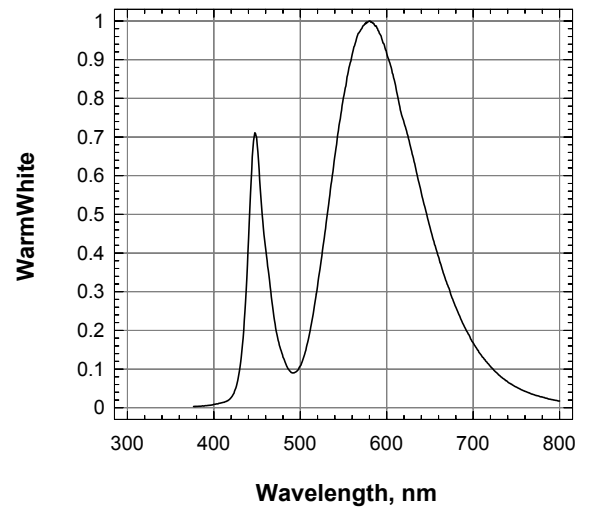
Relative Flux Vs Forward Current



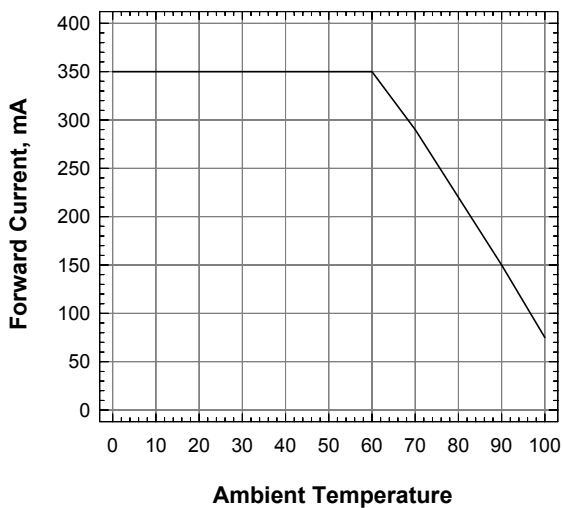
Forward Current Vs Forward Voltage



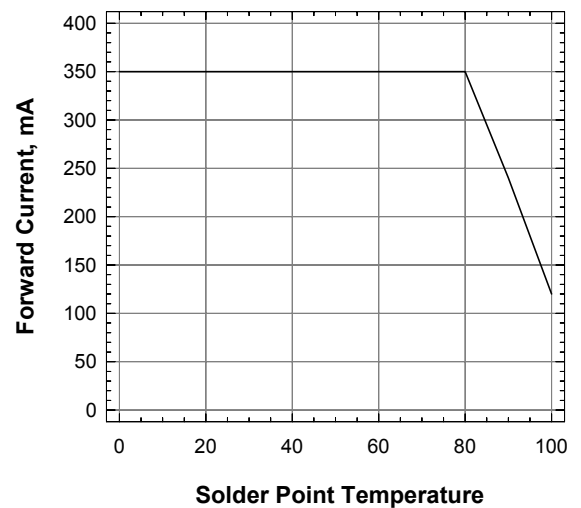
Relative Spectral Emission



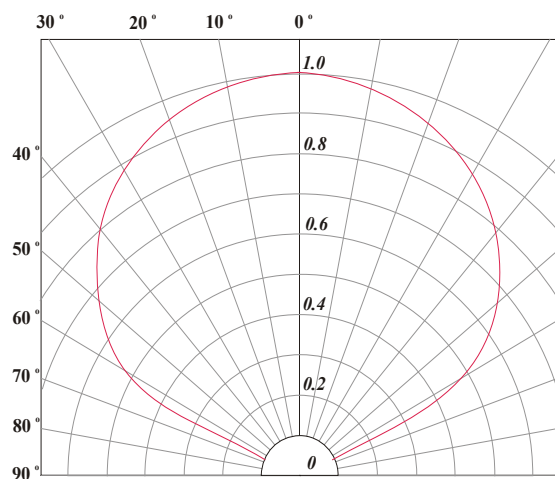
Forward Current Vs Ambient Temperature (Rja=40K/W)



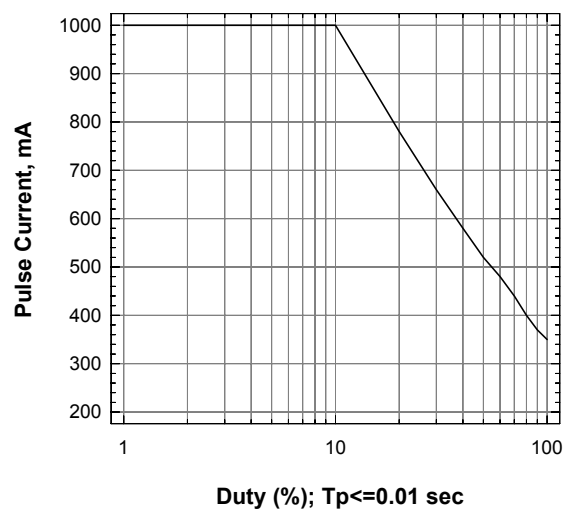
Forward Current Vs Solder Point Temperature



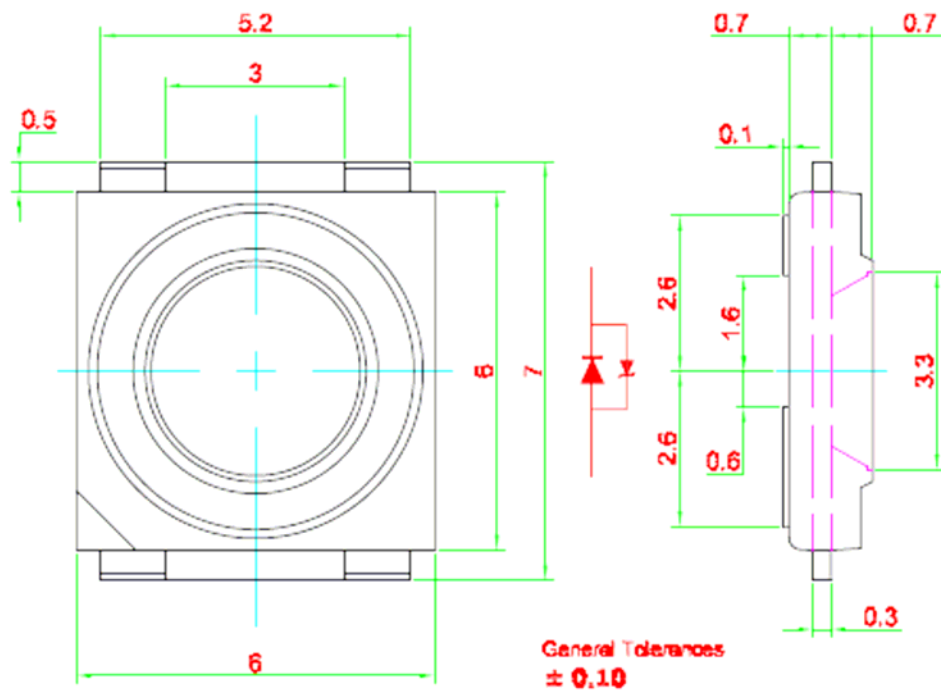
Radiation Pattern



Maximum Permissible Pulse Current, Ta=25

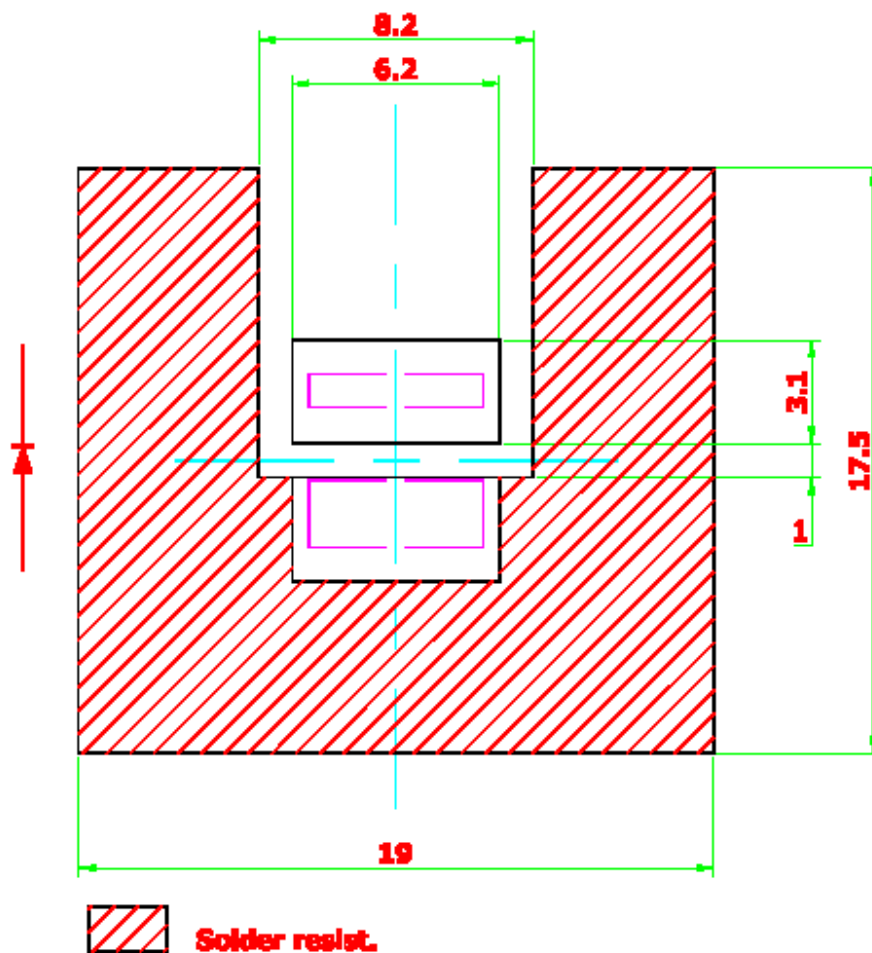


SPNovaLED™ • InGaN Warm White High Lumens : 350 mA Package Outlines



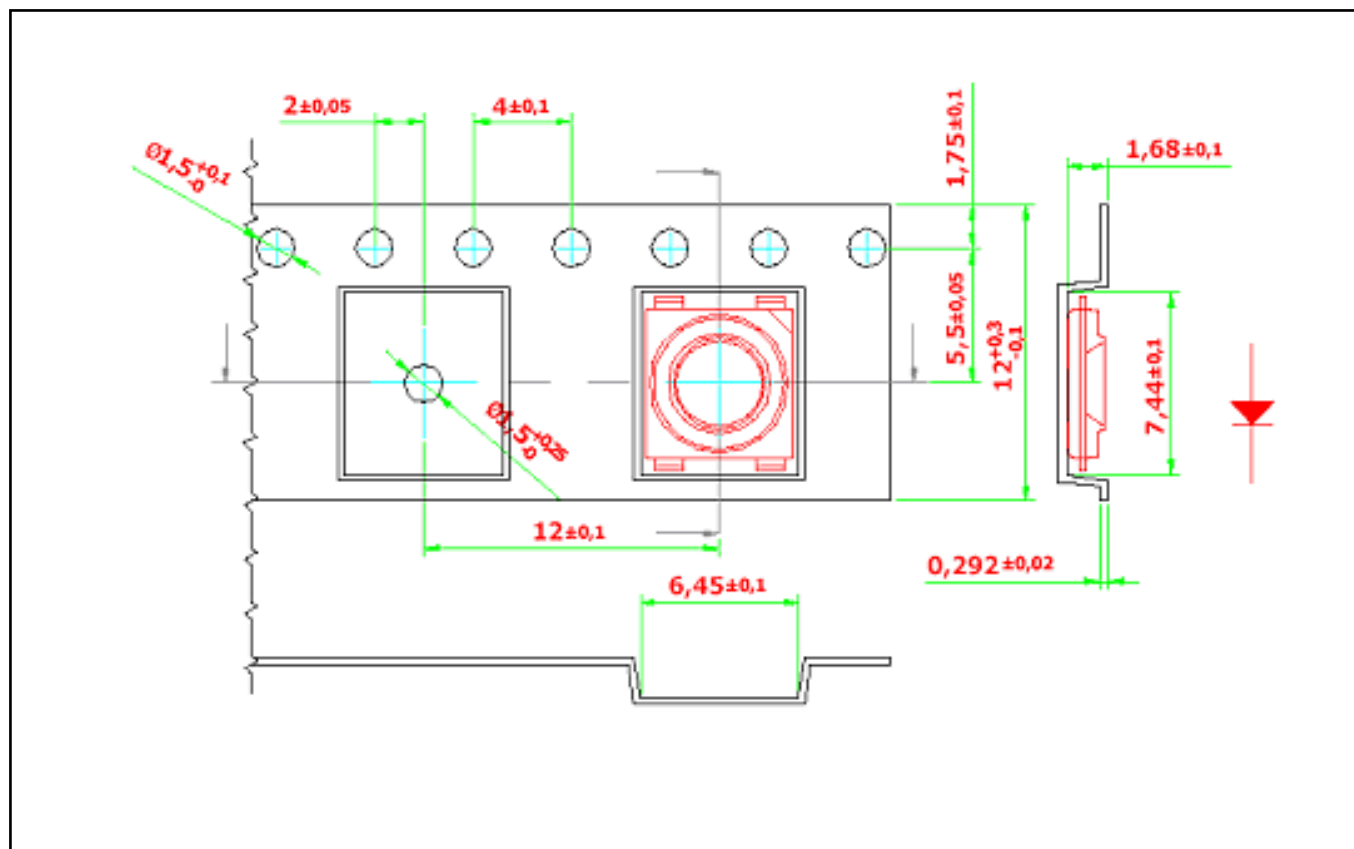
Solder Pad Design

Note: Metal core circuit board (MCPCB) is highly recommended for applications.
Please consult sales and marketing for additional information.

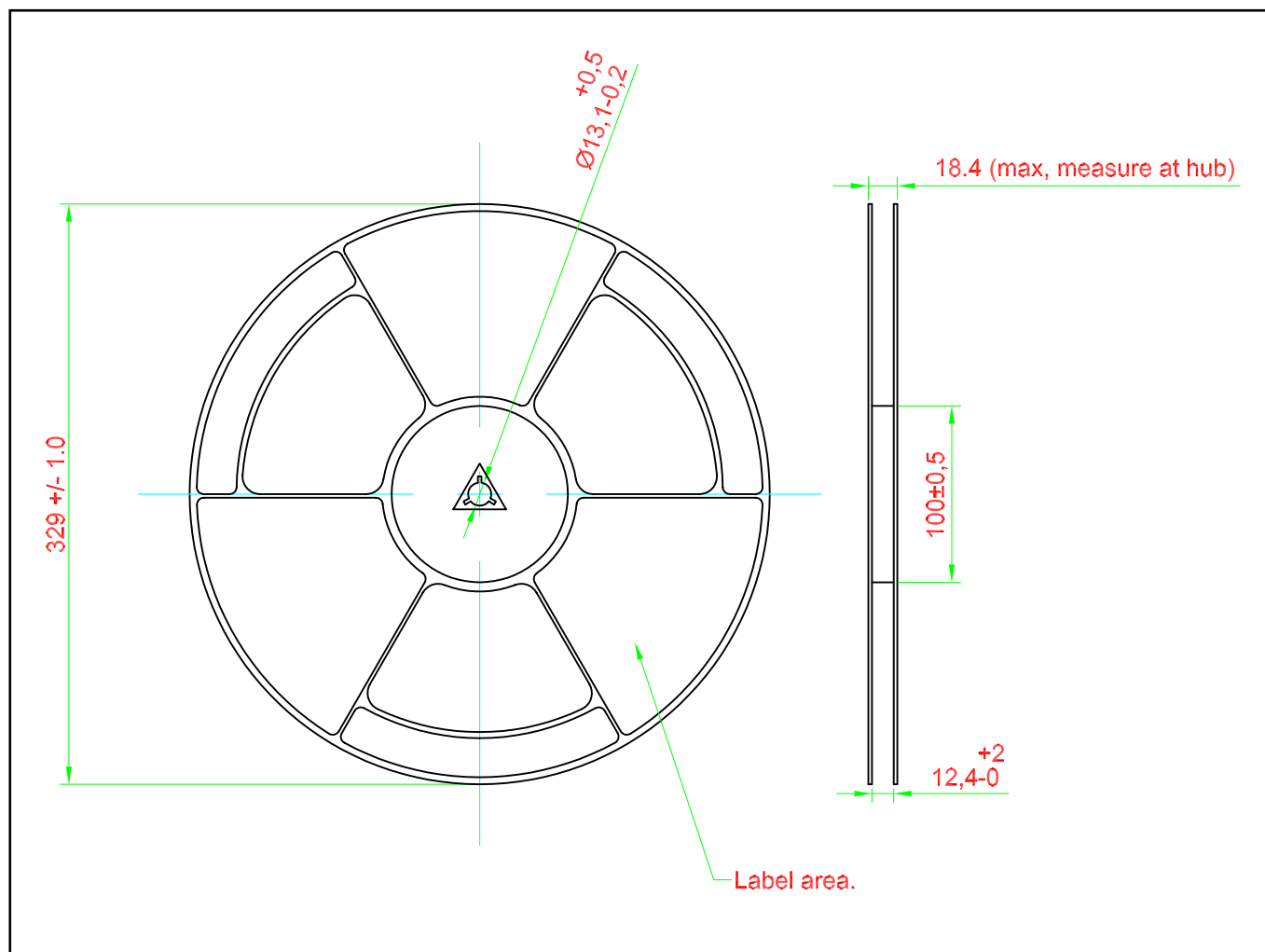


Taping and orientation

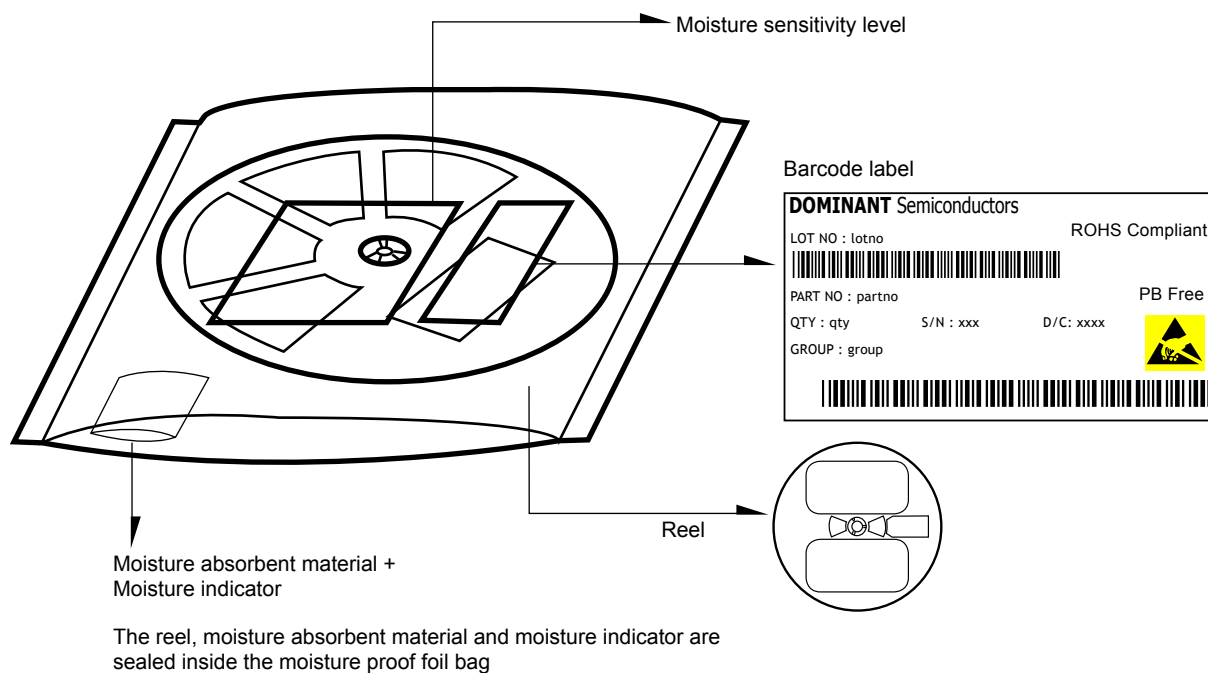
- Reels come in quantity of 2000 units.
- Reel diameter is 330 mm.



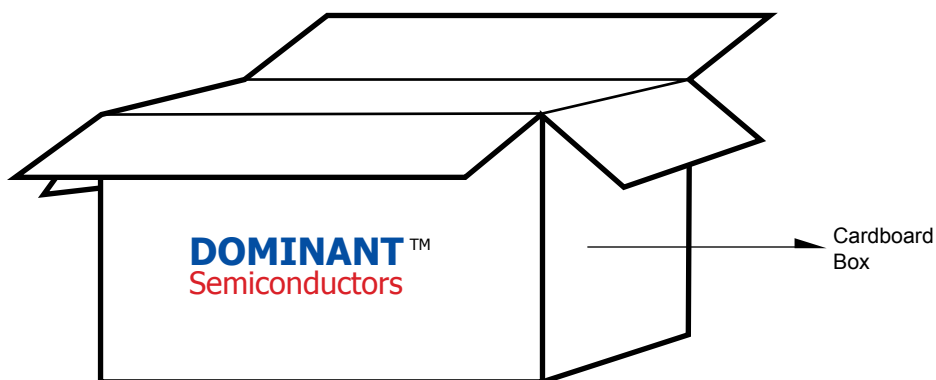
Packaging Specification



Packaging Specification



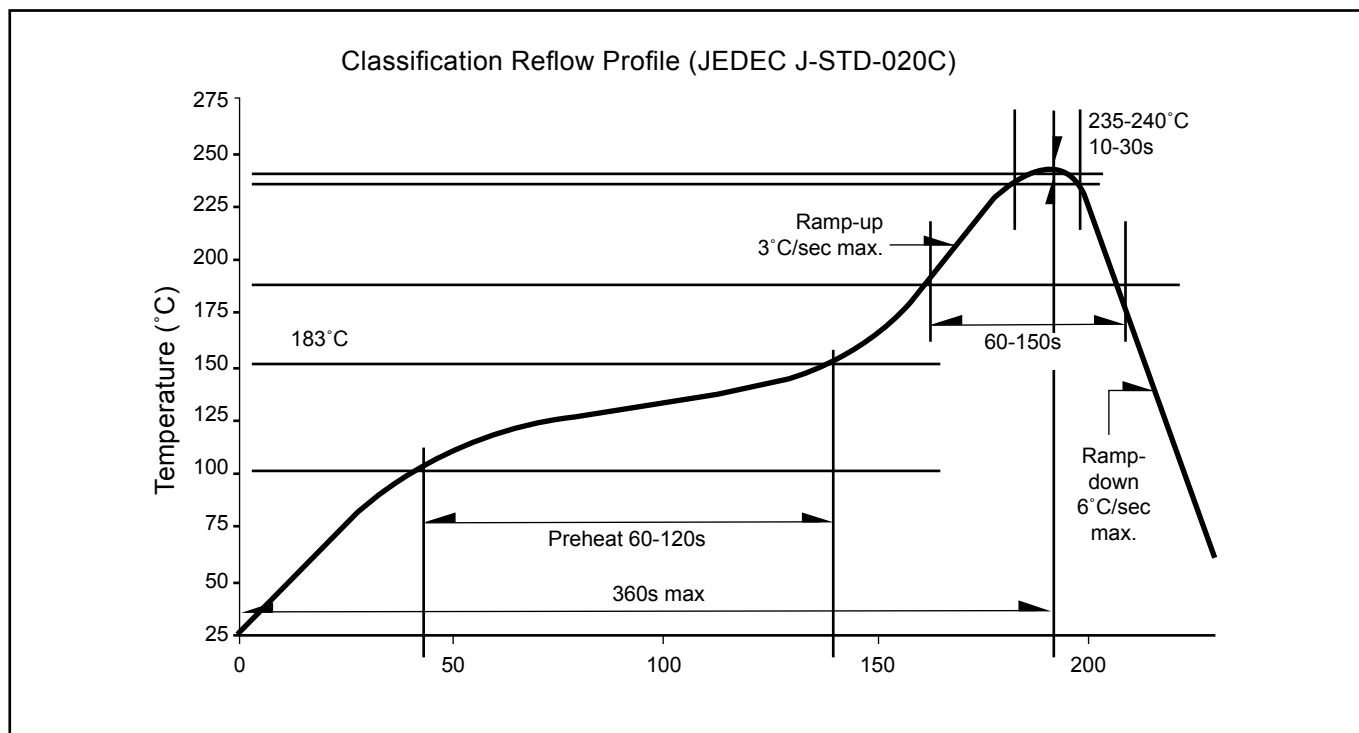
	Average 1pc SPNovaLED	1 completed bag (2000pcs)
Weight (gram)	0.188	800 ± 10



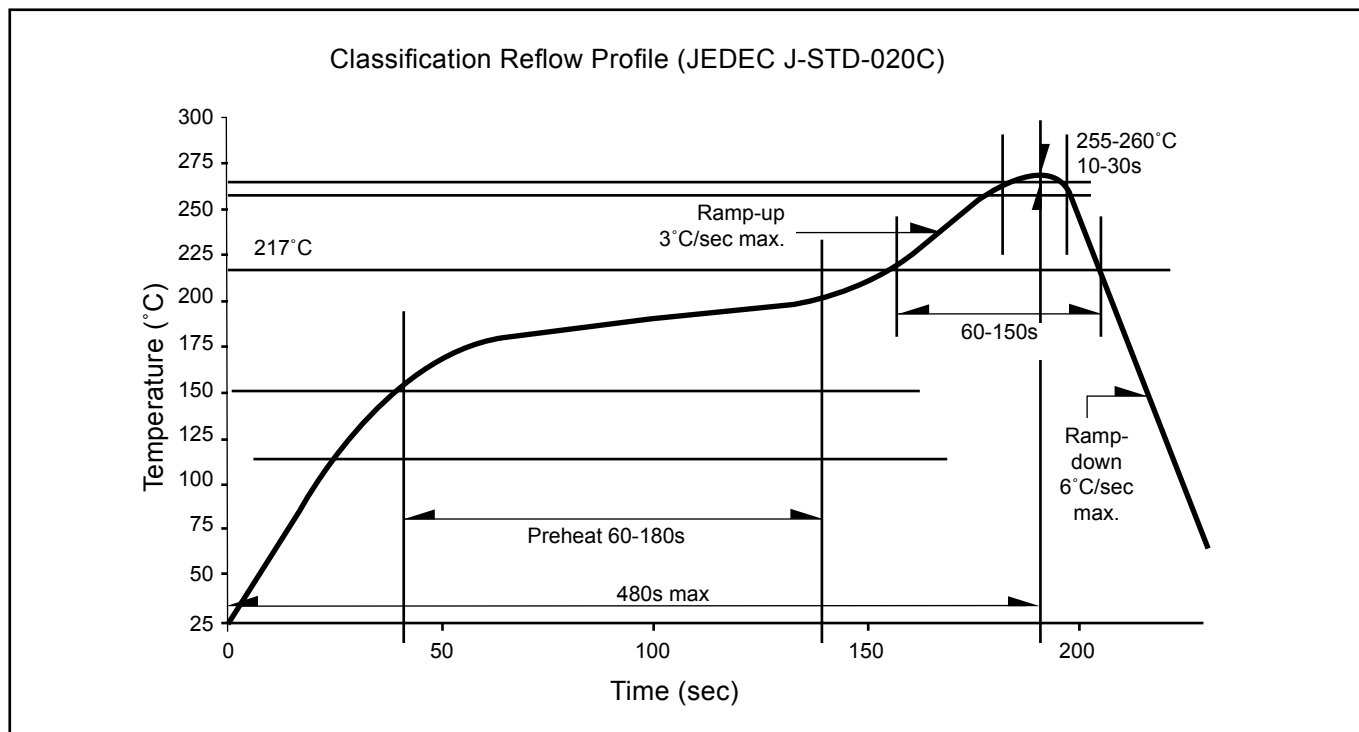
For SPNovaLED™

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 Sn-Pb IR-Reflow Soldering Profile



Recommended Pb-free Soldering Profile



Revision History

Page	Subjects	Date of Modification
-	Initial Release	13 Sep 2006

NOTE

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About Us

DOMINANT Semiconductors 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 Semiconductors can be found on the Internet at <http://www.dominant-semi.com>.

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