

### **SPNovaLED**<sup>™</sup>

Featuring a staggering brilliance and significant flux output, the SPNovaLED<sup>™</sup> 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;  $R_{th(jc)} = 20 \text{ K/W}$ .
- > 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

Part Ordering Number	Wavelength (nm)	Viewing Angle°	I <sub>e</sub> @ I <sub>F</sub> = 500mA	
			Min (mW/sr)	Typ (mW/sr)
NP8-DSS-1	850	120	35	45

NOTE

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

### Wavelength Grouping

Group	Wavelength distribution (nm)
Full	830 - 870

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

### Electrical Characteristics at Ta=25°C

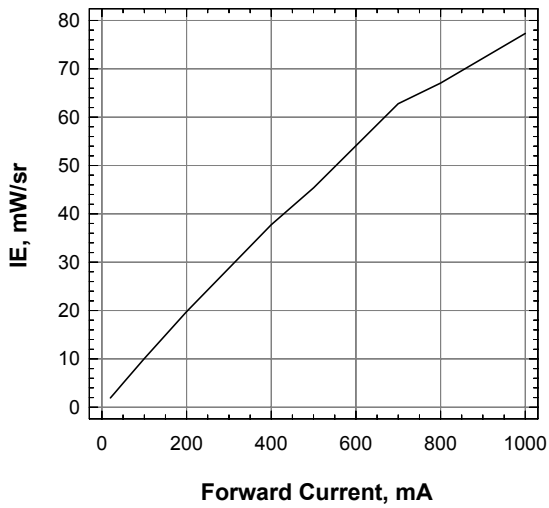
Part Number	V <sub>f</sub> @ I <sub>f</sub> = 500mA			V <sub>r</sub> @ I <sub>r</sub> = 10µA
	Min. (V)	Typ. (V)	Max. (V)	Min. (V)
NP8-DSS	1.5	2.0	2.2	5

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

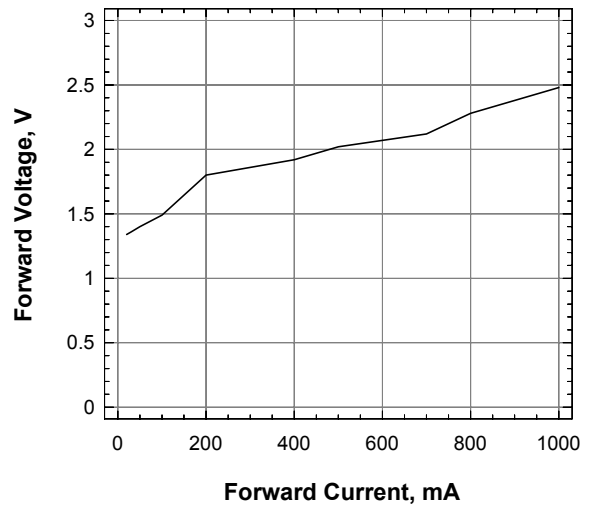
### Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	500	mA
Peak pulse current (t <sub>p</sub> ≤ 10µs, Duty cycle = 0.1)	1000	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	1200	mW

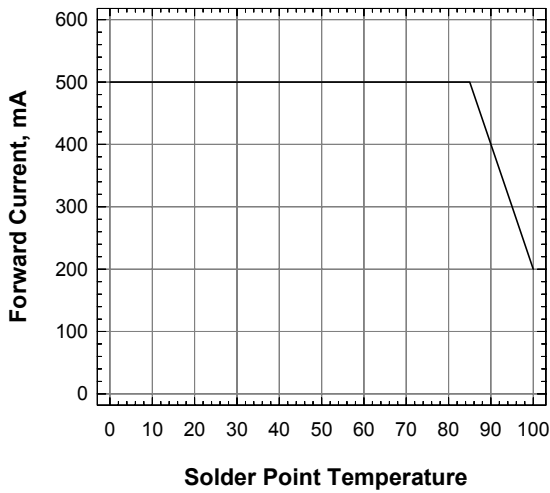
**IE Vs Forward Current**



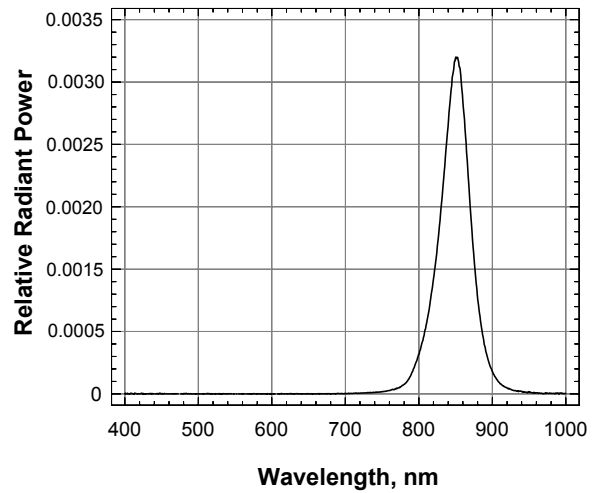
**Forward Voltage Vs Forward Current**



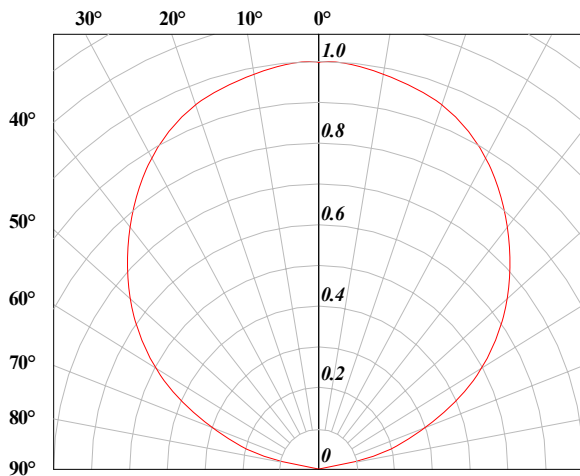
**Forward Current Vs Solder Point Temperature**



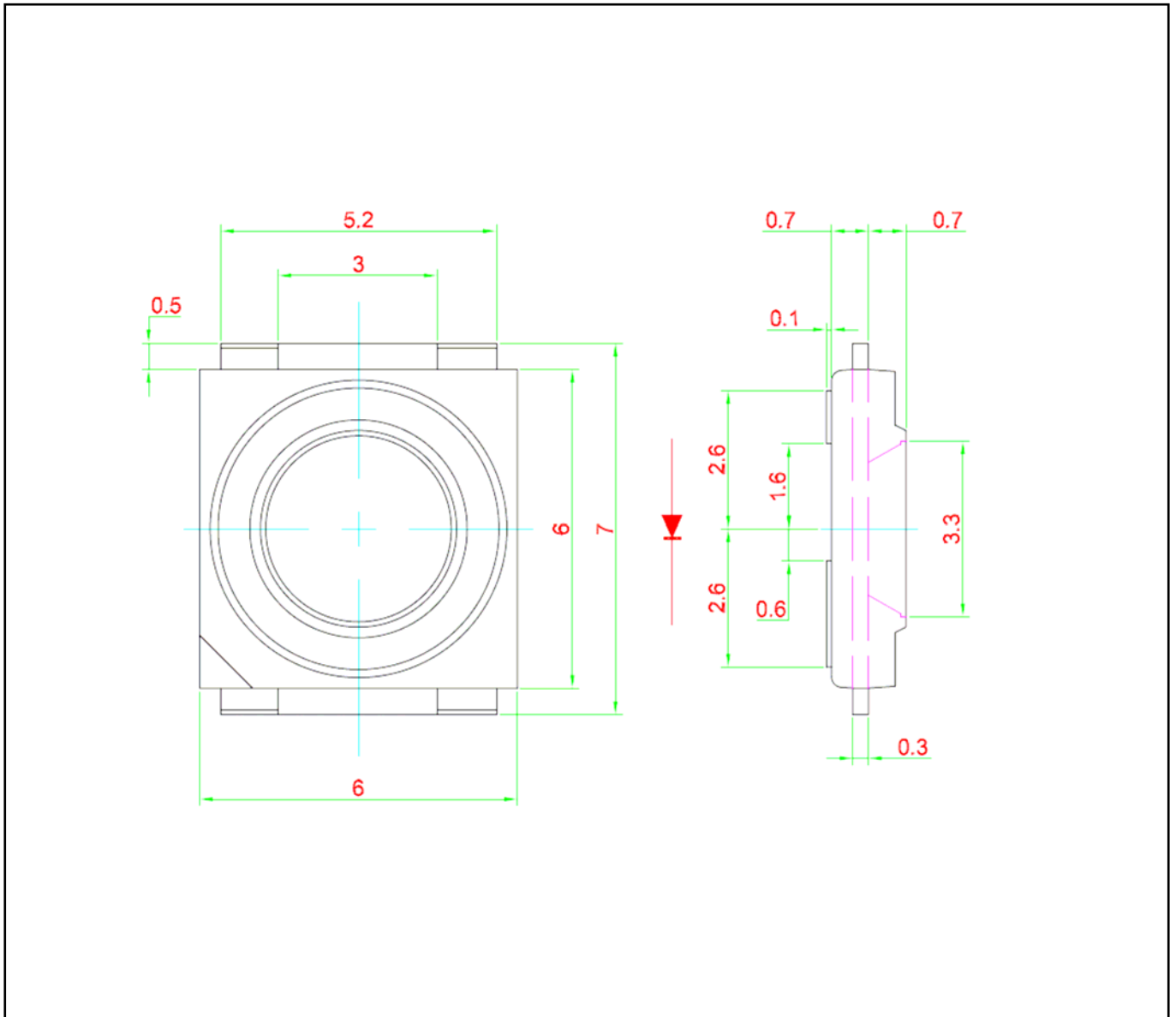
**Radiation Spectrum**



**Radiation Pattern**

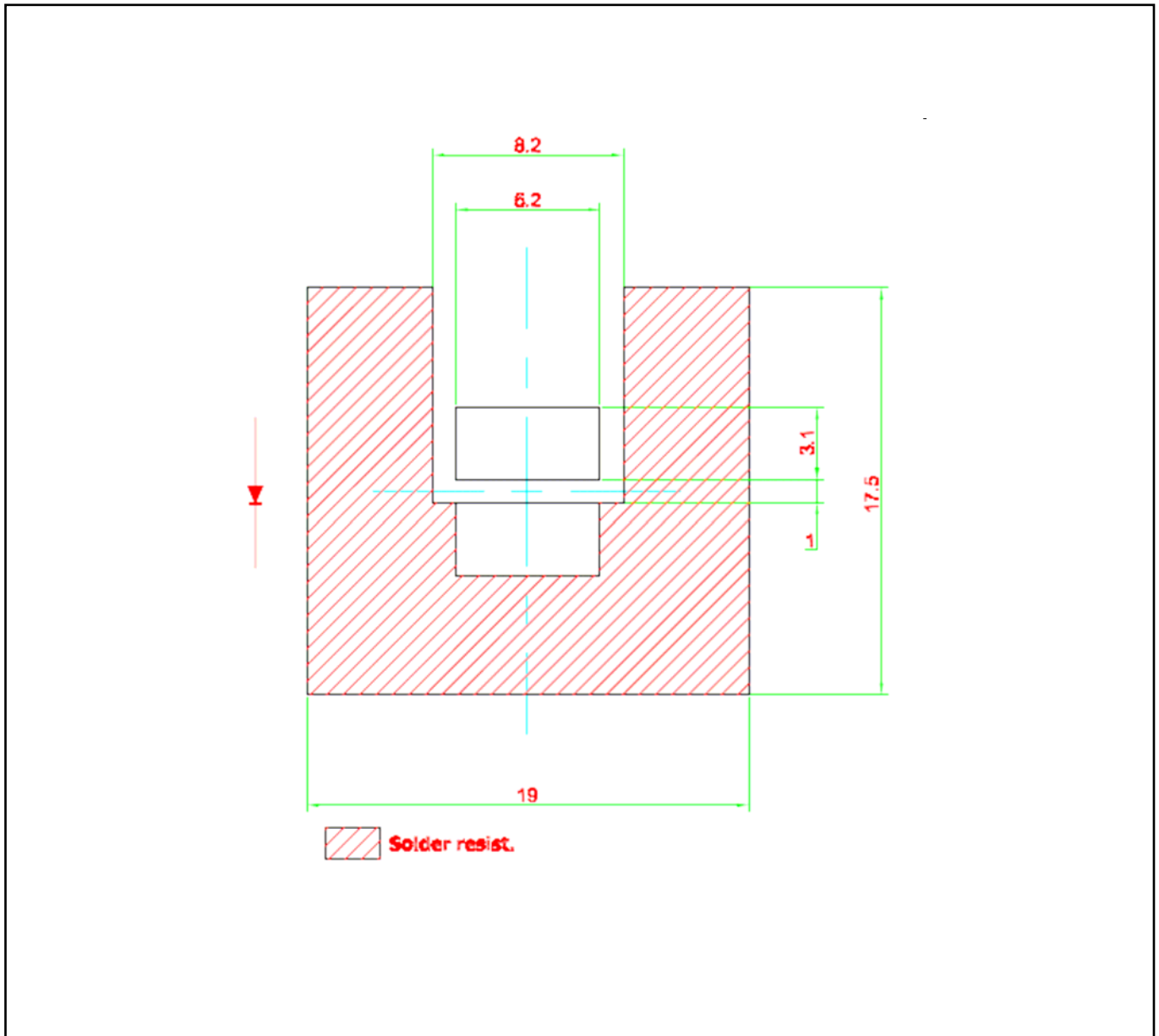


**SPNovaLED™ : Infrared 850nm Package Outlines**



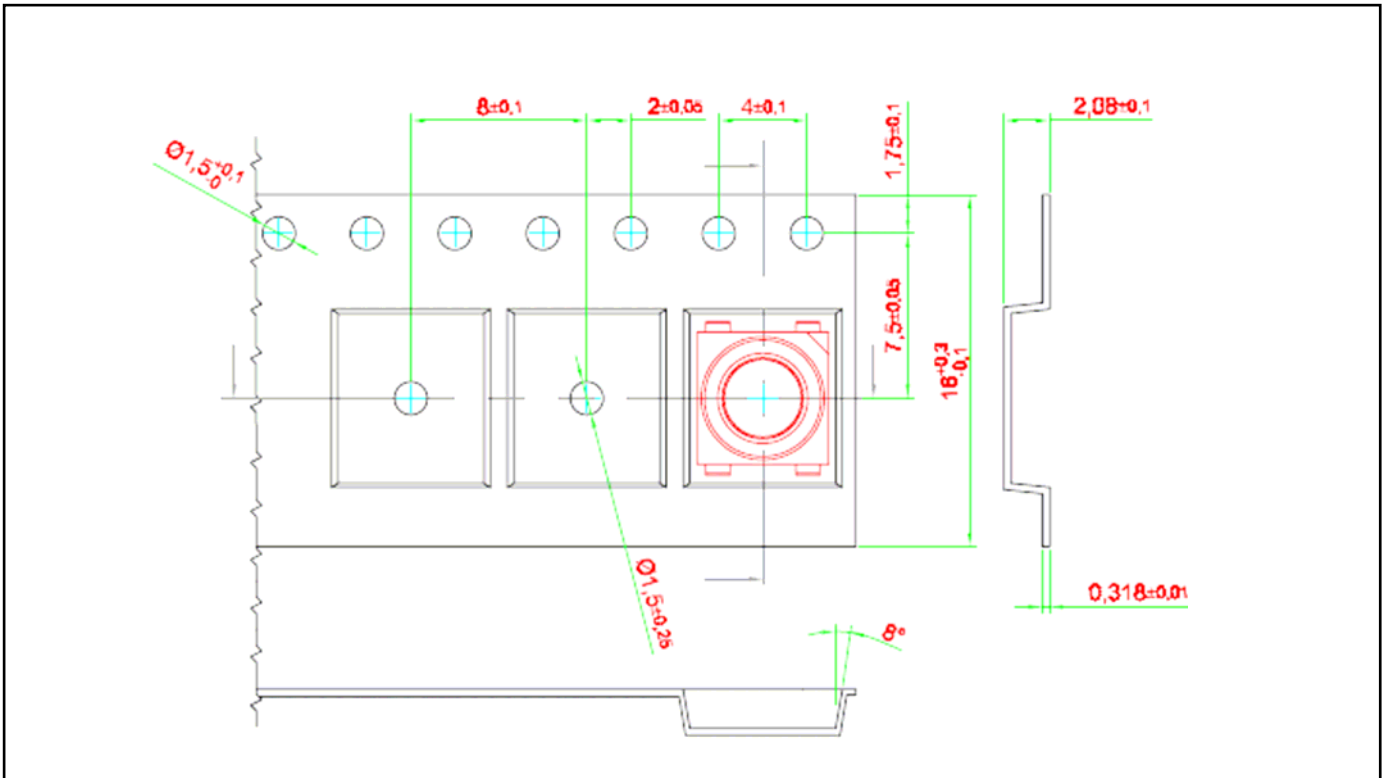
### Solder Pad Design

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.

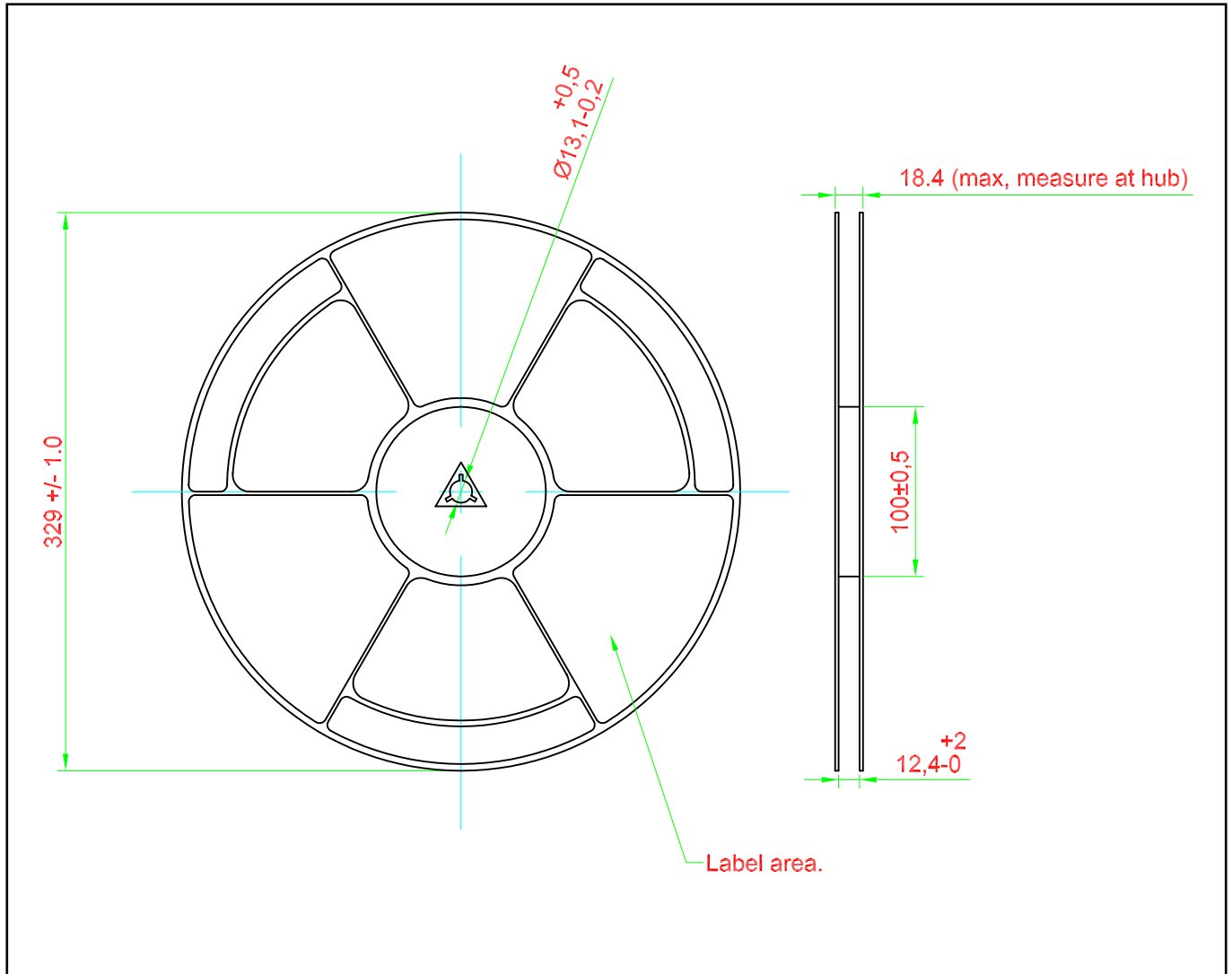


### Taping and orientation

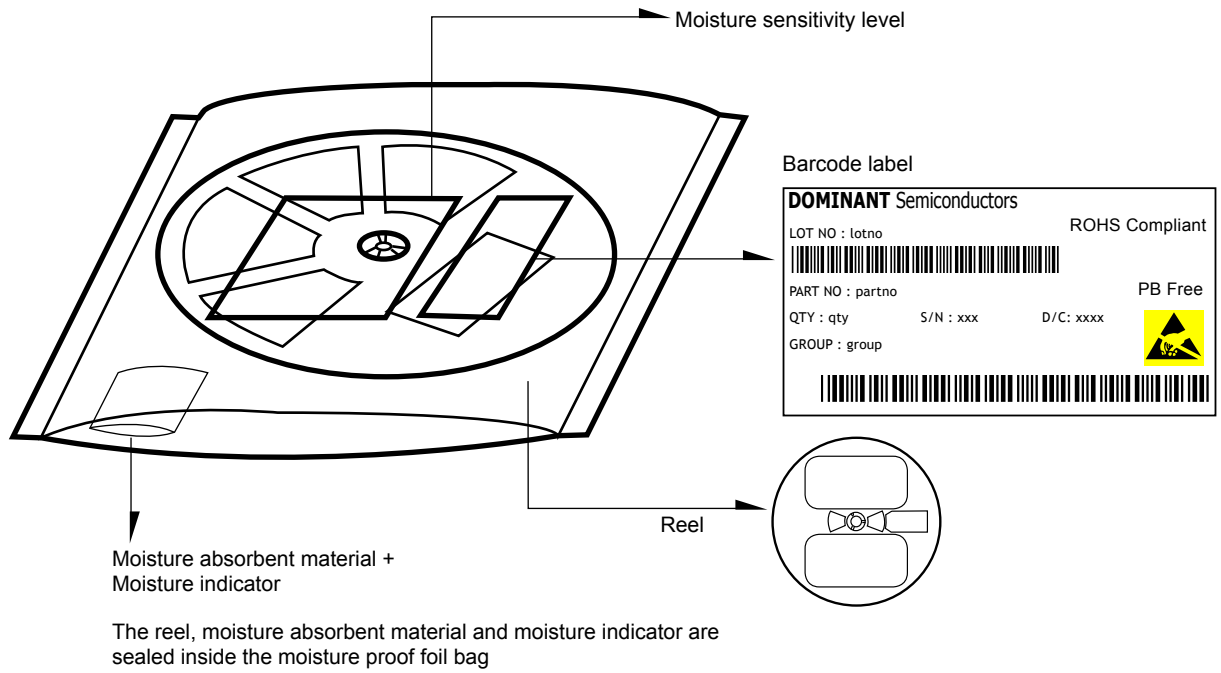
- Reels come in quantity of 2000 units.
- Reel diameter is 330 mm.



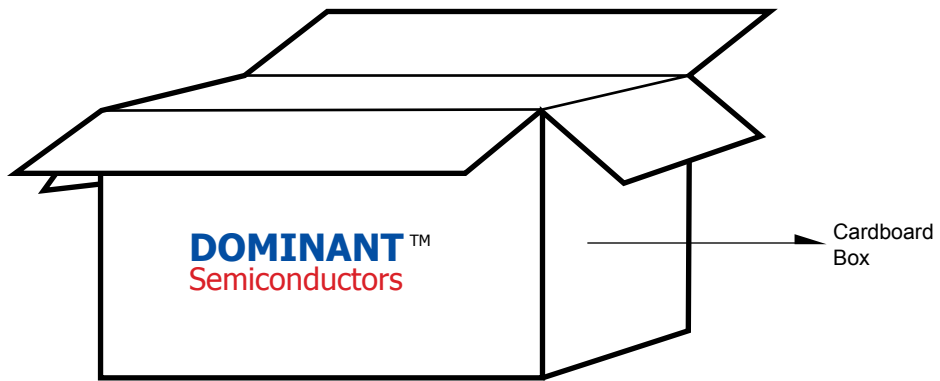
**Packaging Specification**



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

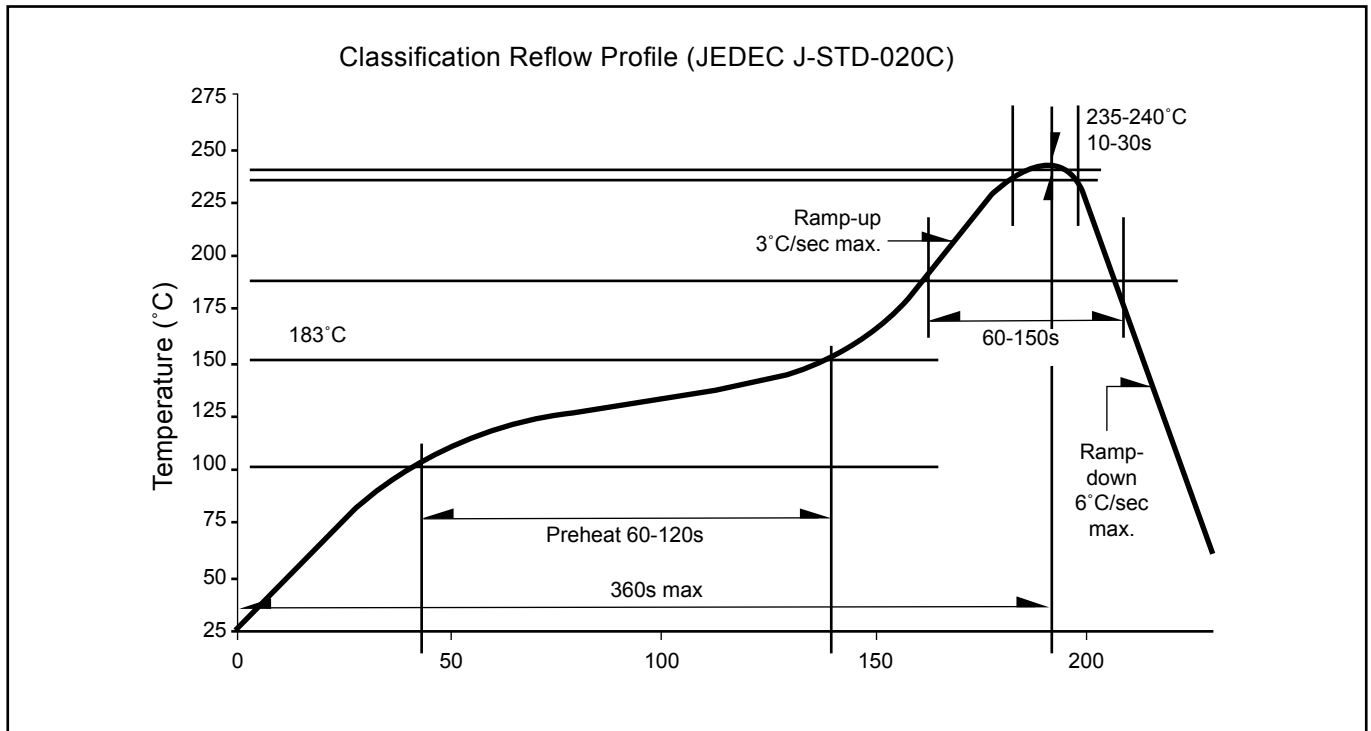


**For SPNovaLED™**

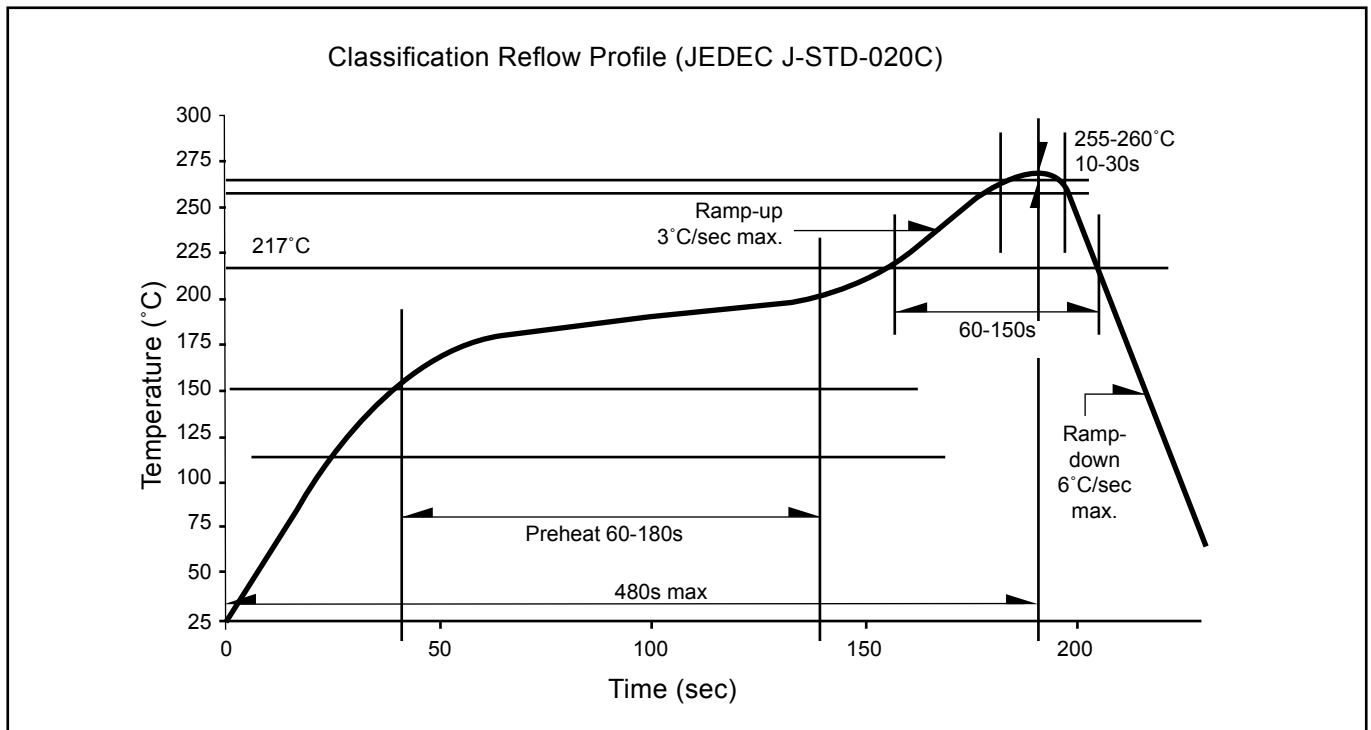
Cardboard Box Size	Dimensions (mm)	Empty Box Weight (kg)	Reel / Box	Quantity / Box (pcs)
Large	416 x 516 x 476	1.74	20 reels MAX	40,000 MAX



**Recommended Sn-Pb IR-Reflow Soldering Profile**



**Recommended Pb-free Soldering Profile**





## 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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