

### **SPNovaLED**<sup>™</sup>

Featuring a staggering brilliance and significant flux output, the SPNovaLED<sup>™</sup> 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.
- > 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 50 mA.
- > 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:**

- > Automotive: exterior applications, eg: Center High Mounted Stop Light (CHMSL), Rear Combination Lights (RCLs), Signal lighting, Fog-lamp, etc.
- > Communication: indicator and backlight in mobilephone.
- > 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 = 50mA (mcd)
<b>N2B-CSS-TU1-1</b>	InGaN	<b>120</b>	<b>285.0 - 560.0</b>
• N2B-CSS-T1	Blue, 470nm		285.0 - 355.0
• N2B-CSS-T2			355.0 - 450.0
• N2B-CSS-U1			450.0 - 560.0
<b>N2T-CSS-WX1-1</b>	InGaN	<b>120</b>	<b>1125.0 - 2240.0</b>
• N2T-CSS-W1	True Green, 525nm		1125.0 - 1400.0
• N2T-CSS-W2			1400.0 - 1800.0
• N2T-CSS-X1			1800.0 - 2240.0

NOTE

- Luminous intensity is measured with an accuracy of ± 11%.
- Wavelength binning is carried for all units as per the wavelength-binning table. Only one wavelength group is allowed for each reel.

### Wavelength Grouping

Color	Group	Wavelength distribution (nm)
N2B; Blue	Full	464 - 476
	W	464 - 468
	X	468 - 472
	Y	472 - 476
N2T; True Green	Full	520 - 536
	W	520 - 524
	X	524 - 528
	Y	528 - 532
	Z	532 - 536

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

### Electrical Characteristics at Ta=25°C

Part Number	Vf @ If = 50 mA		Vr @ Ir = 10 µA
	Typ. (V)	Max. (V)	Min. (V)
N2B-CSS	3.8	4.2	5
N2T-CSS	3.9	4.2	5

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

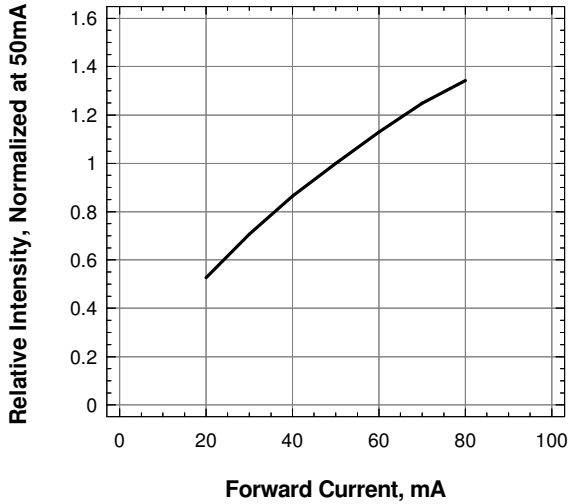
### Optical Characteristics at Ta=25°C, if=50mA, Rja=100K/W

Part Number	Total Flux @ If=50mA		Intensity @ If=50mA(mcd)	
	Min. (mlm)	Typ. (mlm)	Min.	Typ.
N2B-CSS-TU1-1	800	900	285	360
N2T-CSS-WX1-1	3700	4600	1125	1400

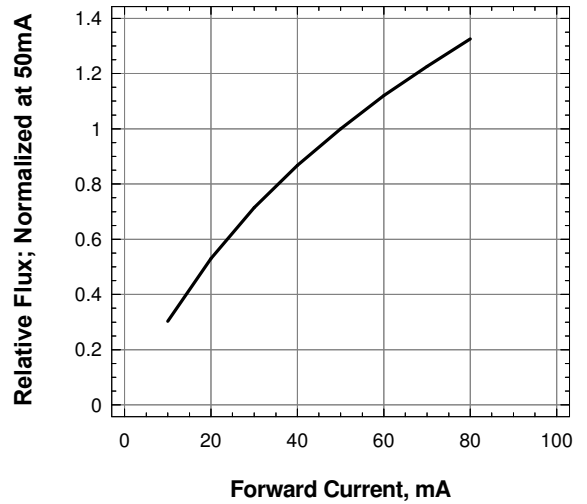
## Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	50	mA
Peak pulse current; (tp ≤ 10µs, Duty cycle = 0.005)	200	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	250	mW

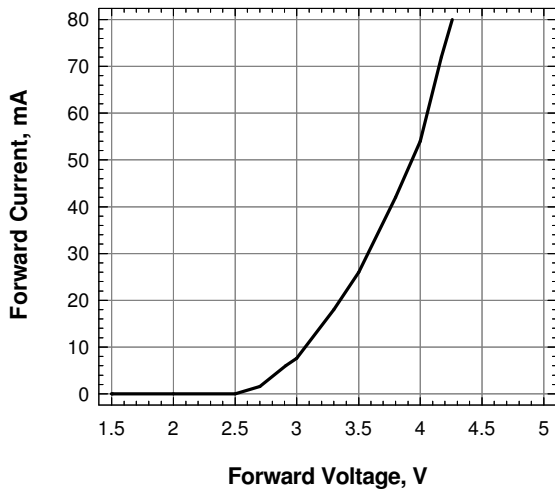
**Relative Luminous Intensity Vs Forward Current**



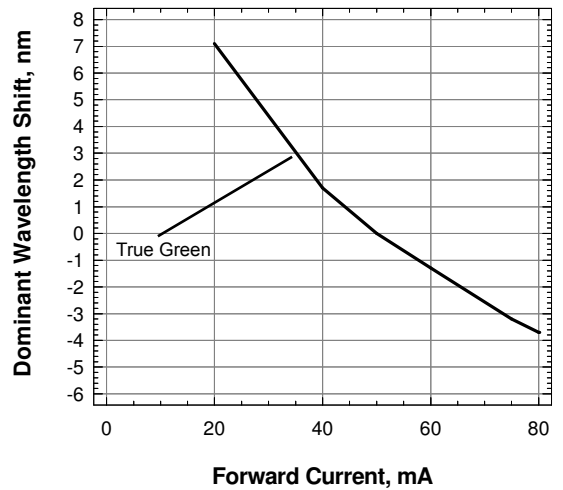
**Relative Luminous Flux Vs Forward Current**



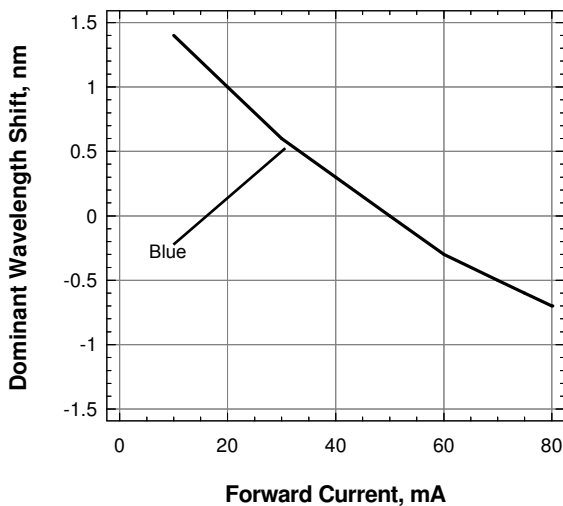
**Forward Current Vs Forward Voltage**



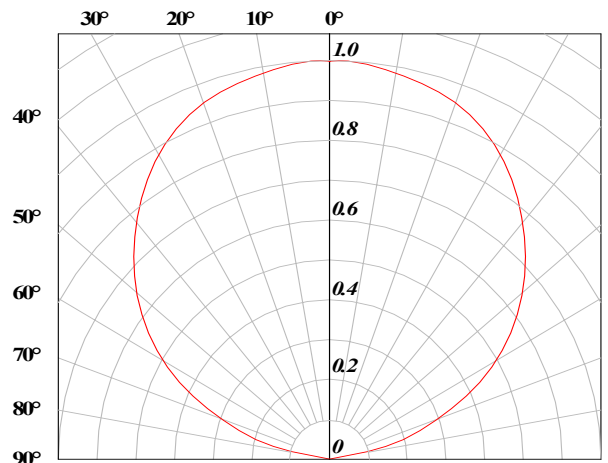
**Dominant Wavelength Shift Vs Forward Current**



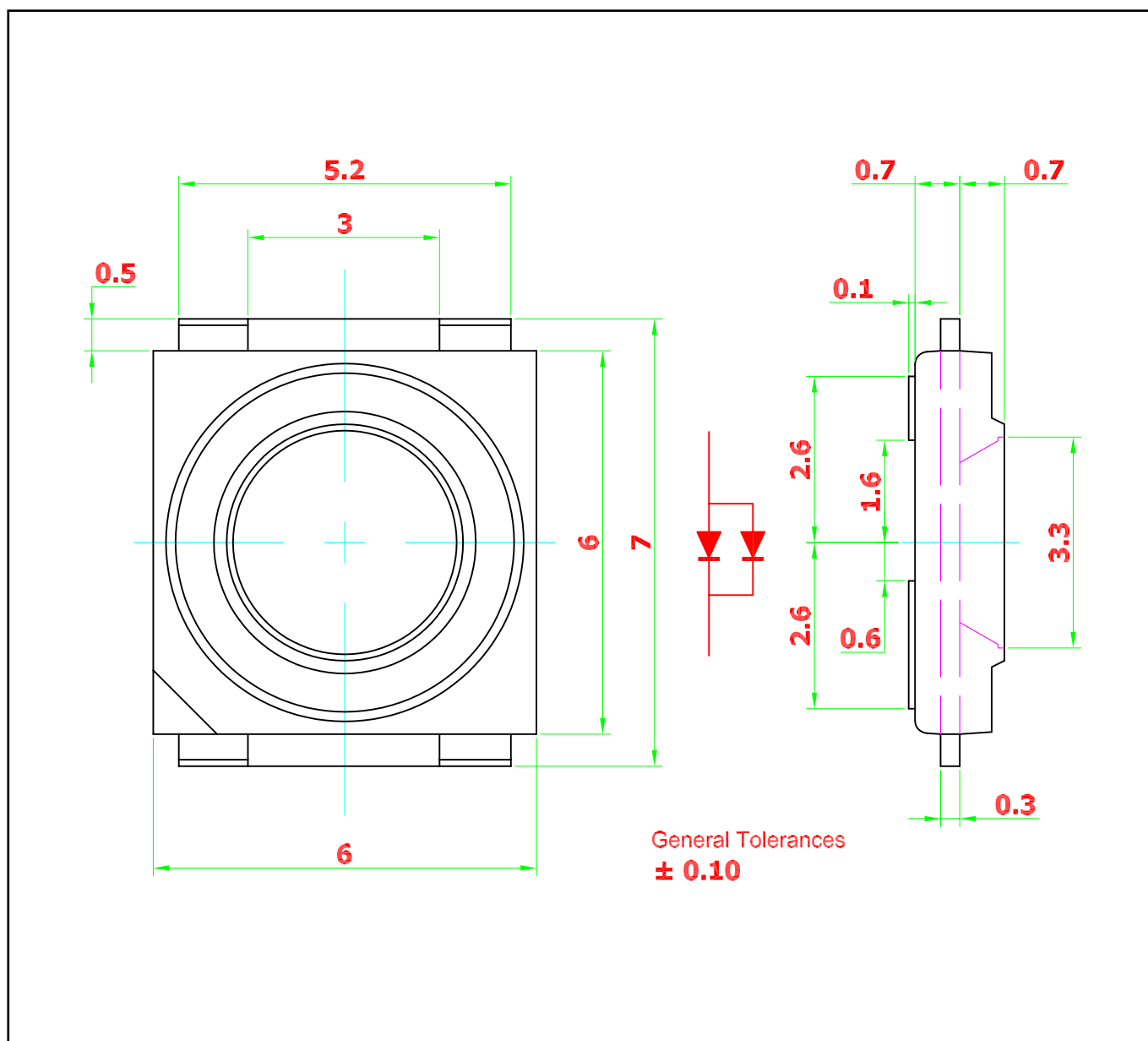
**Dominant Wavelength Shift Vs Forward Current**



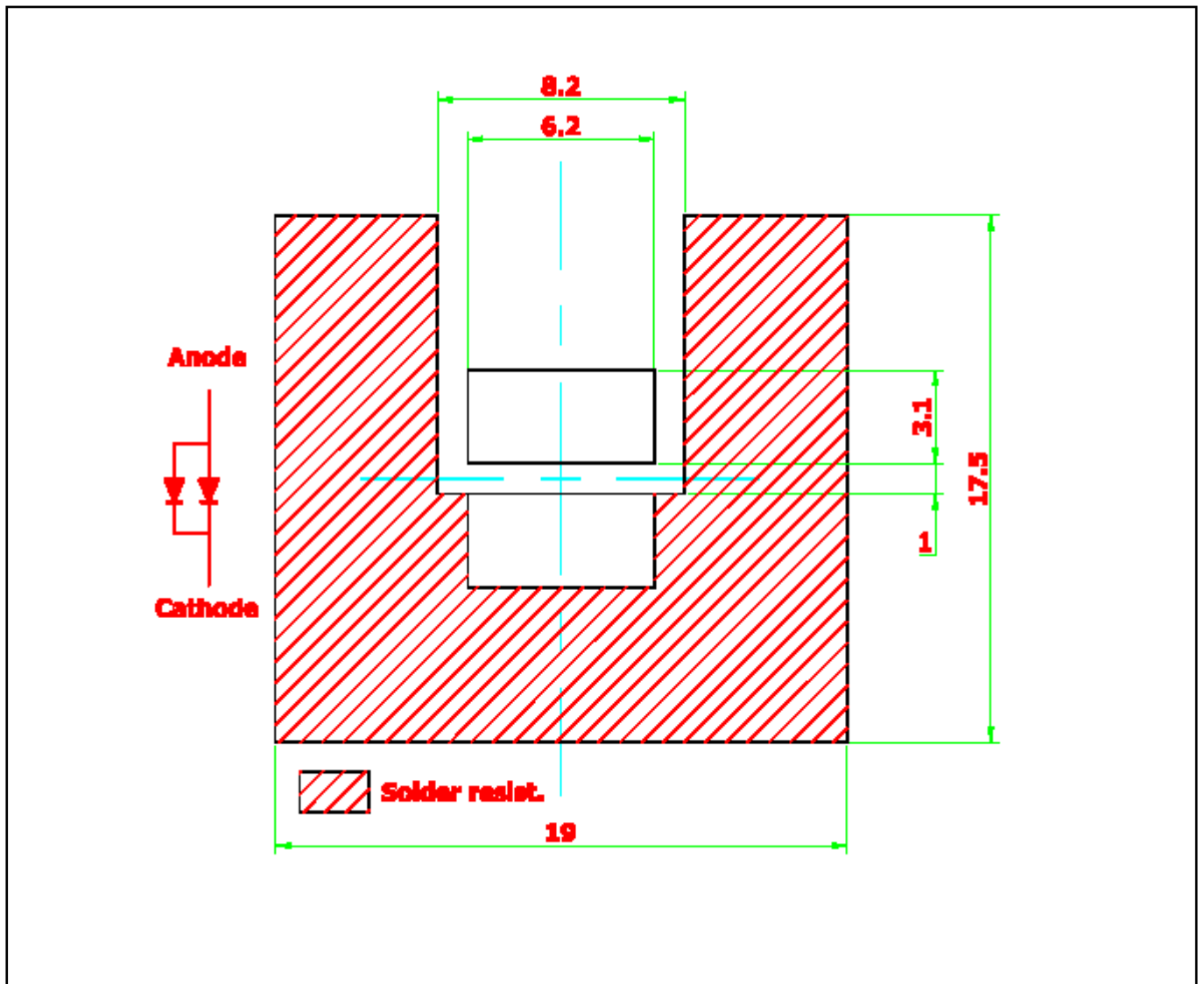
**Radiation Pattern**



**SPNovaLED™ • InGaN : 50mA Package Outlines**

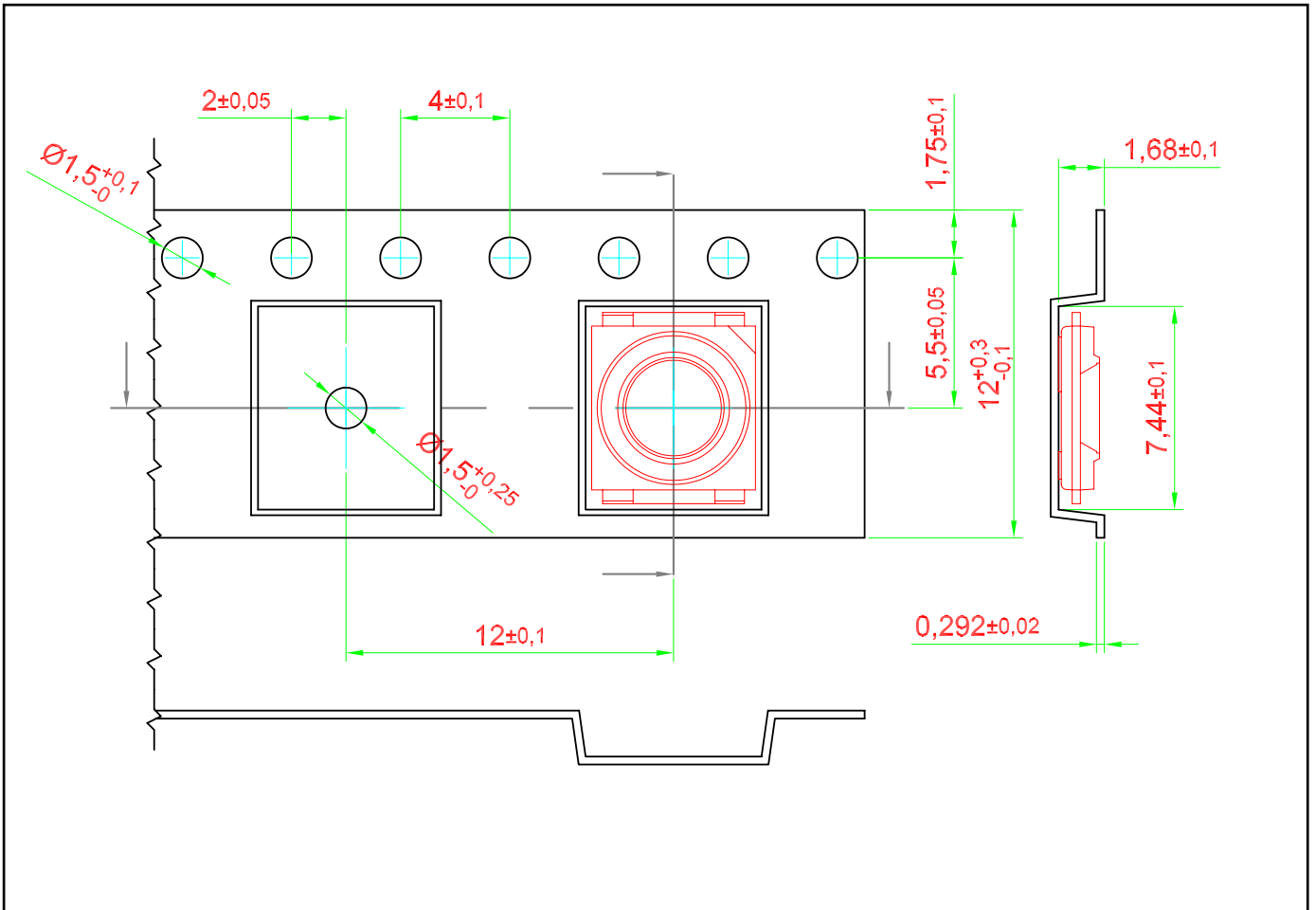


**Recommended Solder Pad**

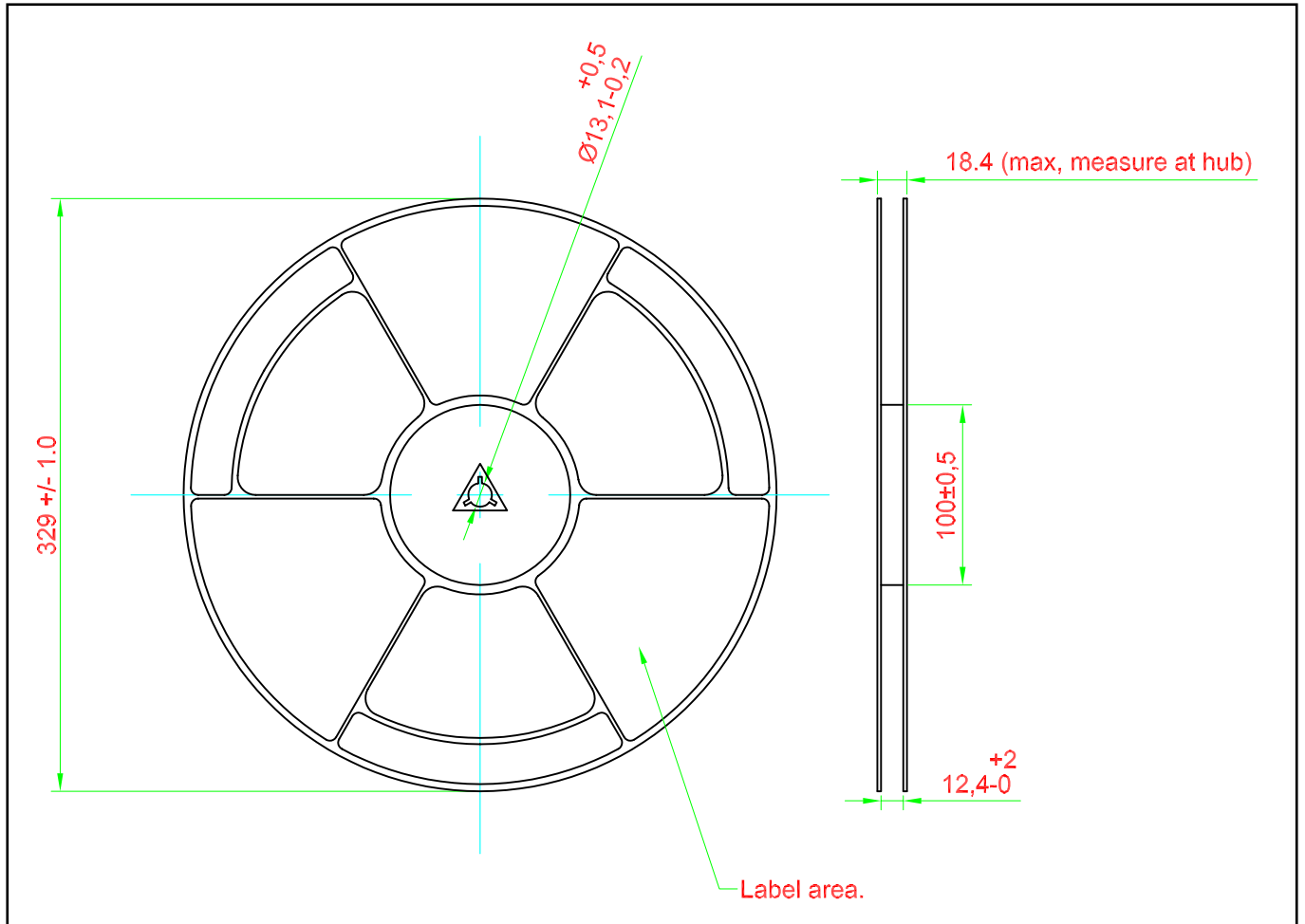


### Taping and orientation

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

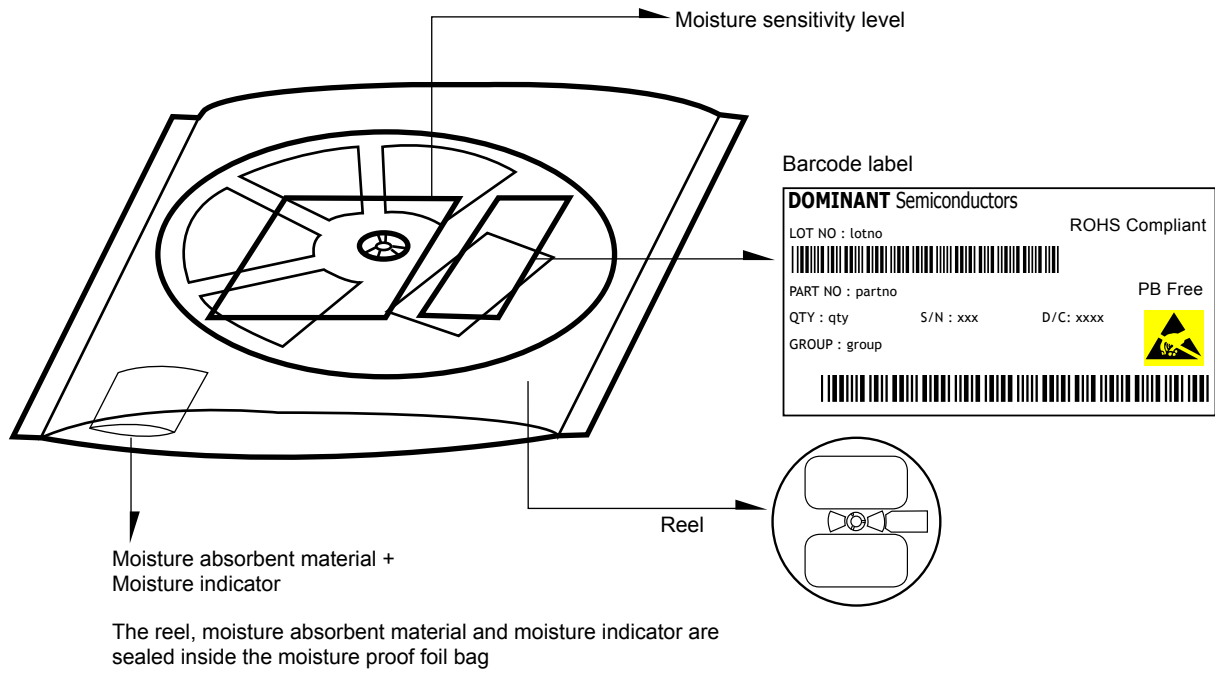


**Packaging Specification**

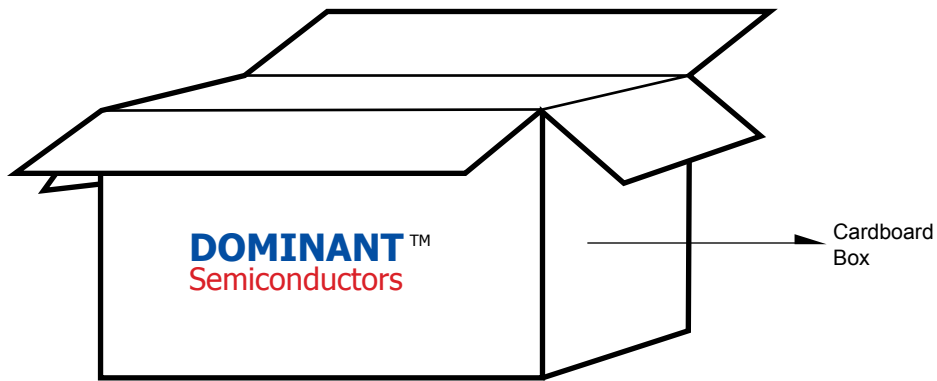




**Packaging Specification**



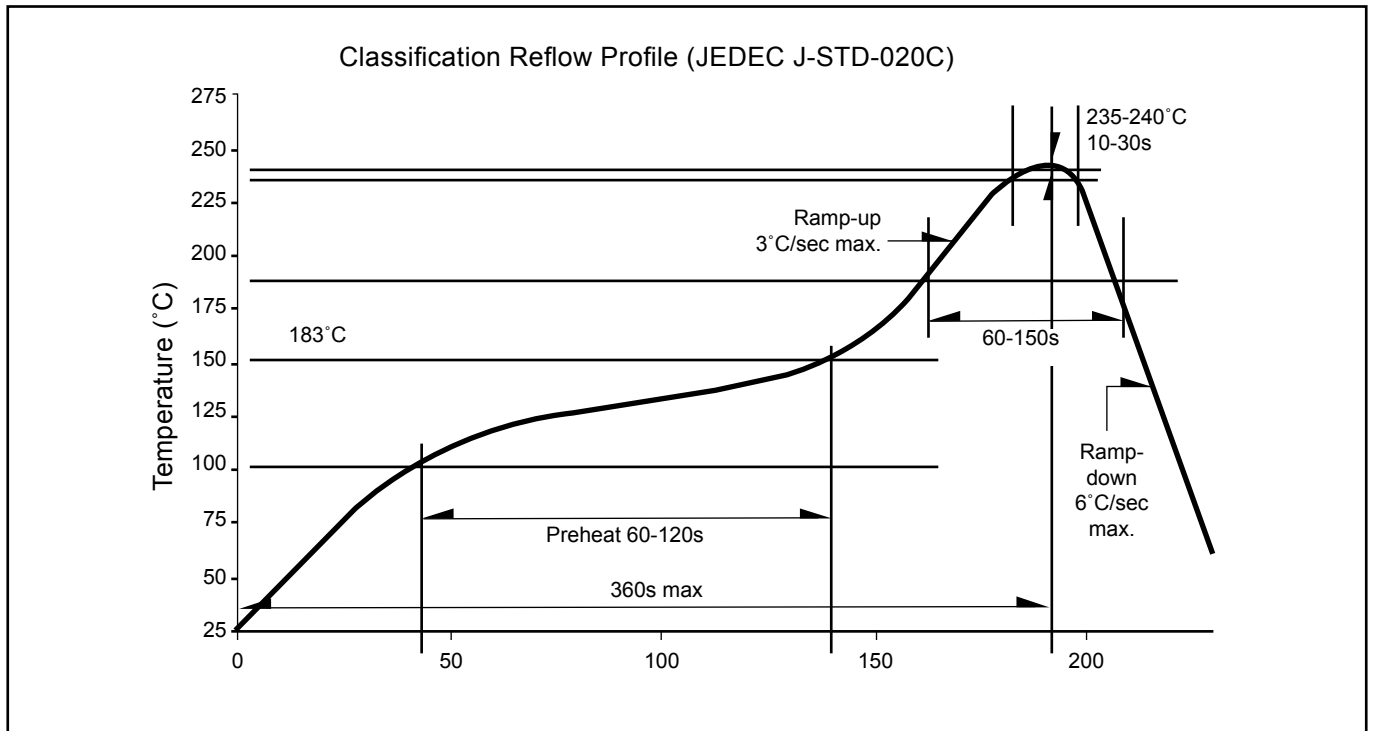
	Average 1pc SPNovaLED	1 completed bag (2000pcs)
Weight (gram)	0.188	800 ± 10



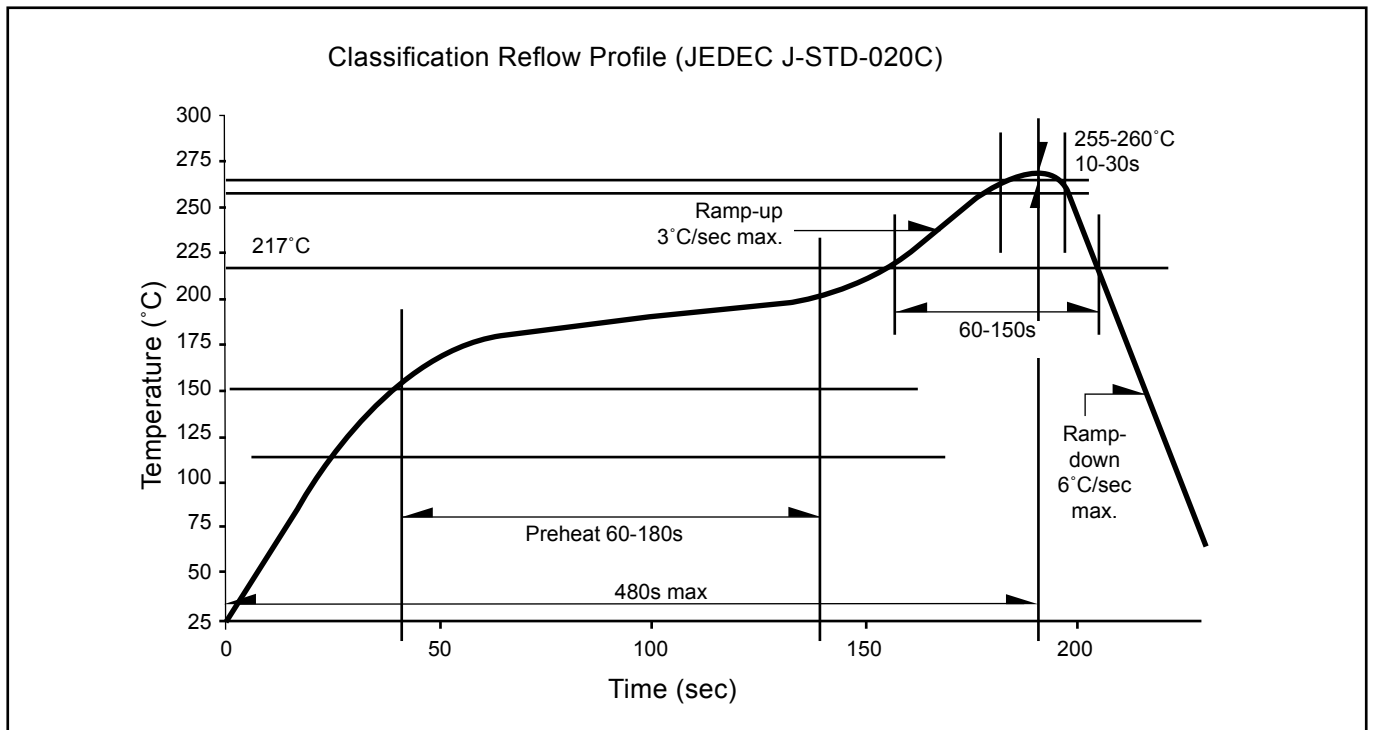
**For SPNovaLED™**

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**





## 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>.

### **Please contact us for more information:**

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