

SPNovaLED[™]

Featuring a staggering brilliance and significant flux output, the SPNovaLED[™] 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 75 lumens.
- > 135° 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; rated at 350 mA.
- > Low thermal resistance; $R_{th(jc)} = 10 \text{ K/W}$.
- > Qualified according to JEDEC moisture sensitivity Level 2.
- > Compatible to IR reflow soldering.
- > Environmental friendly; RoHS compliance.



Applications:

- > Lighting: garden light, architecture lighting, general lighting. etc
- > Backlighting (TFT LCD display), flash light, architectural lighting.



Optical Characteristics at Tj=25°C

Part Ordering Number	Color	Viewing Angle°	Luminous Flux @ IF = 350mA (lm)		
			Min.	Typ.	Max.
NPF-RSZ-T-1	Warm White	135	67.2	75.0	87.4

NOTE

1. Luminous flux is measured with an accuracy of ± 11%.
2. Luminous flux is measured with a 25 ms pulse.
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 Tj=25°C

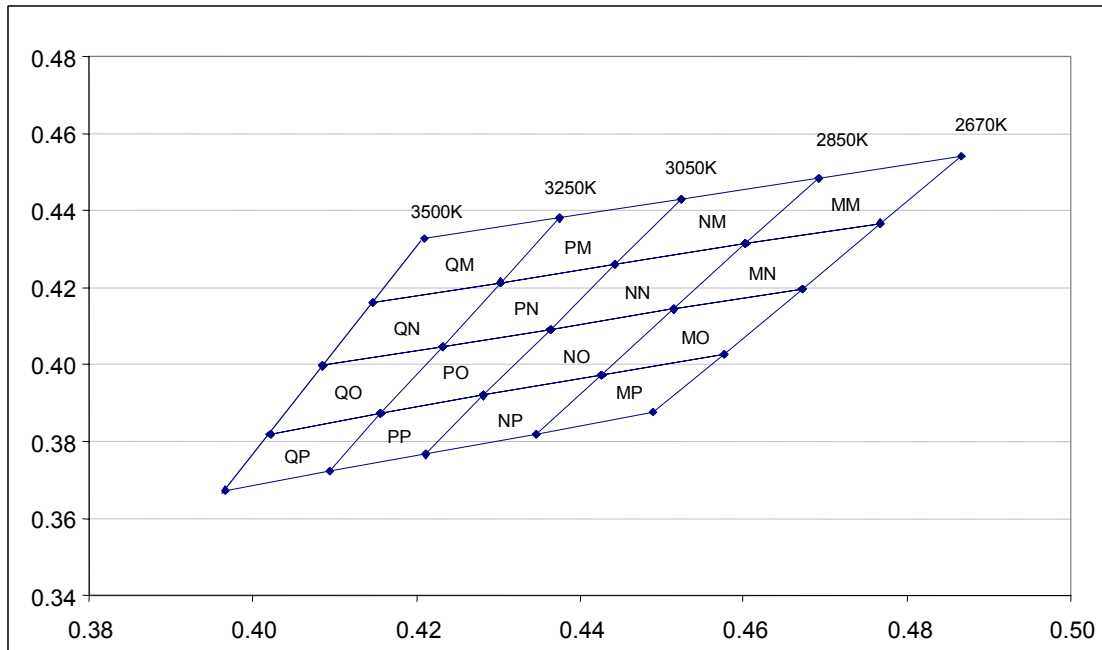
Part Number	Vf @ If = 350mA		
	Min. (V)	Typ. (V)	Max. (V)
NPF-RSZ	3.0	3.5	4.0

Forward voltage 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	350	mA
Peak pulse current	500	mA
Reverse Voltage	Not designed for reverse bias	V
ESD threshold (HBM)	2000	V
LED junction temperature	150	°C
Operating temperature	-40 ... +100	°C
Storage temperature	-40 ... +100	°C

Color Bin - Warm White



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

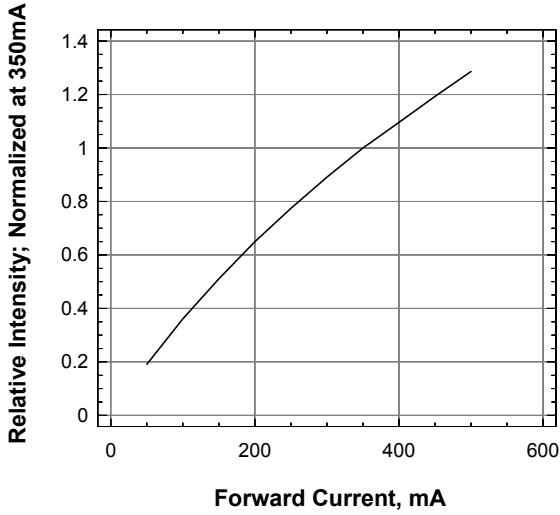
Bin		1	2	3	4
QM	Cx	0.421	0.437	0.430	0.415
	Cy	0.433	0.438	0.421	0.416
QN	Cx	0.415	0.430	0.423	0.409
	Cy	0.416	0.421	0.405	0.400
QO	Cx	0.409	0.423	0.416	0.402
	Cy	0.400	0.405	0.387	0.382
QP	Cx	0.402	0.416	0.409	0.397
	Cy	0.382	0.387	0.372	0.367
PM	Cx	0.437	0.452	0.444	0.430
	Cy	0.438	0.443	0.426	0.421
PN	Cx	0.430	0.444	0.436	0.423
	Cy	0.421	0.426	0.409	0.405
PO	Cx	0.423	0.436	0.428	0.416
	Cy	0.405	0.409	0.392	0.387
PP	Cx	0.416	0.428	0.421	0.409
	Cy	0.387	0.392	0.377	0.372
NM	Cx	0.452	0.469	0.460	0.444
	Cy	0.443	0.448	0.431	0.426
NN	Cx	0.444	0.460	0.451	0.436
	Cy	0.426	0.431	0.414	0.409
NO	Cx	0.436	0.451	0.443	0.428
	Cy	0.409	0.414	0.397	0.392
NP	Cx	0.428	0.443	0.435	0.421
	Cy	0.392	0.397	0.382	0.377

Bin		1	2	3	4
MM	Cx	0.469	0.487	0.477	0.460
	Cy	0.448	0.454	0.437	0.431
MN	Cx	0.460	0.477	0.467	0.451
	Cy	0.431	0.437	0.420	0.414
MO	Cx	0.451	0.467	0.458	0.443
	Cy	0.414	0.420	0.403	0.397
MP	Cx	0.443	0.458	0.449	0.435
	Cy	0.397	0.403	0.388	0.382

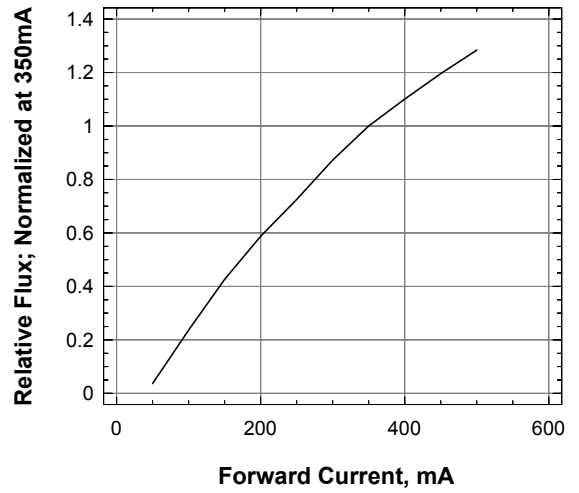
Luminous Flux Group at Tj=25°C

Brightness Group	Luminous Flux @ (lm)
T2	67.2...76.5
T3	76.5...87.4

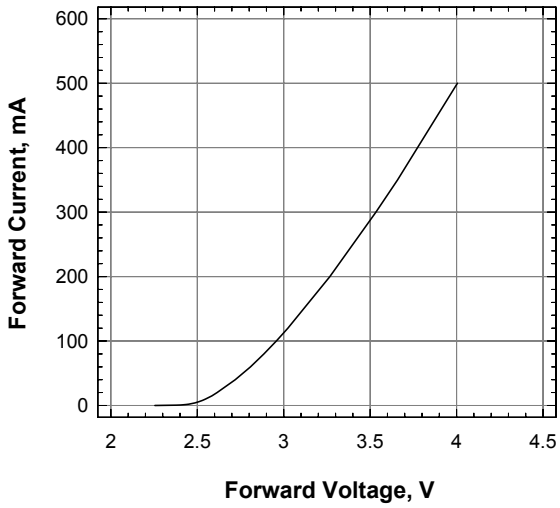
Relative Intensity Vs Forward Current



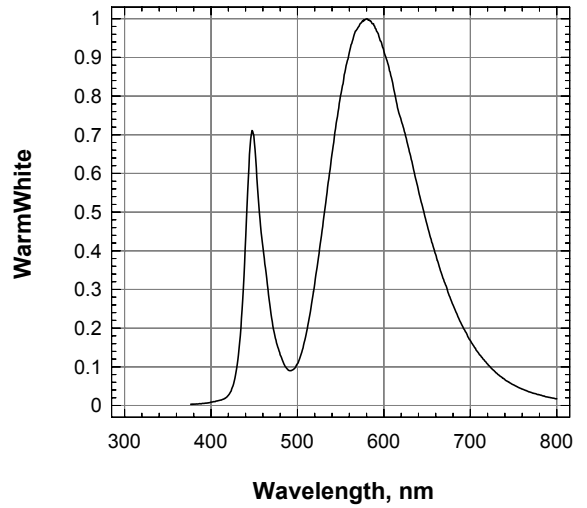
Relative Flux Vs Forward Current



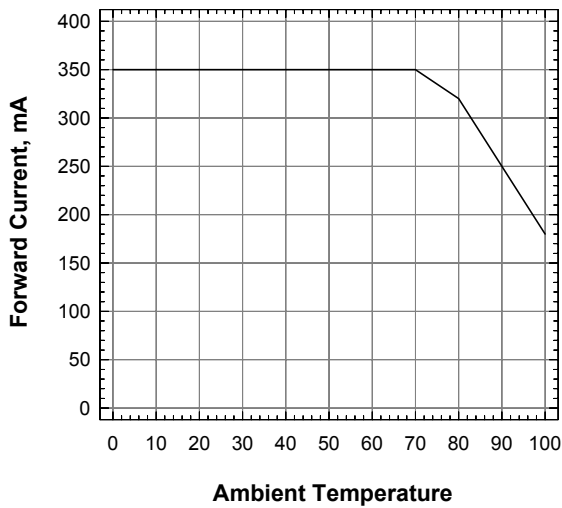
Forward Current Vs Forward Voltage



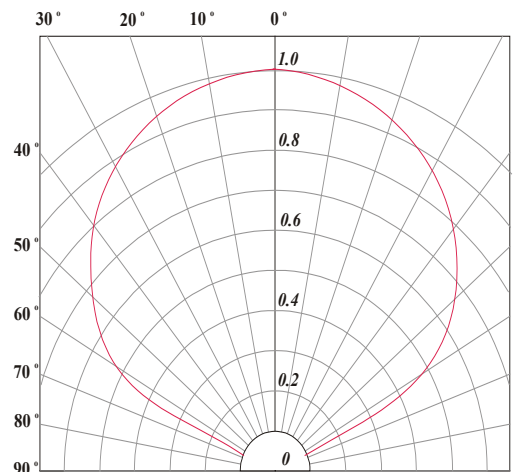
Relative Spectral Emission



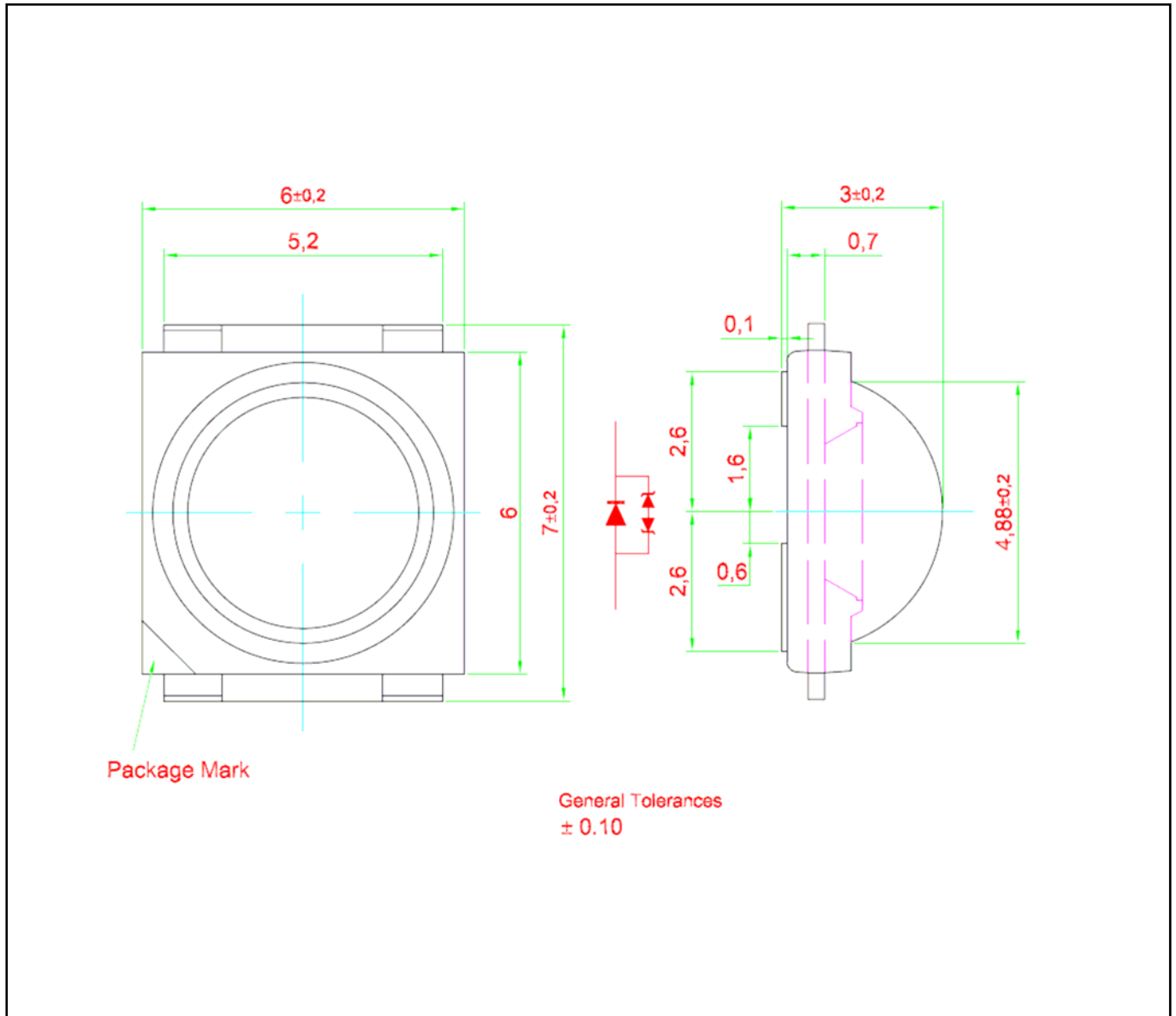
Forward Current Vs Ambient Temperature (Rja=40K/W)



Radiation Pattern



SPNovaLED™ • InGaN Warm White : NPF-RSZ Package Outlines

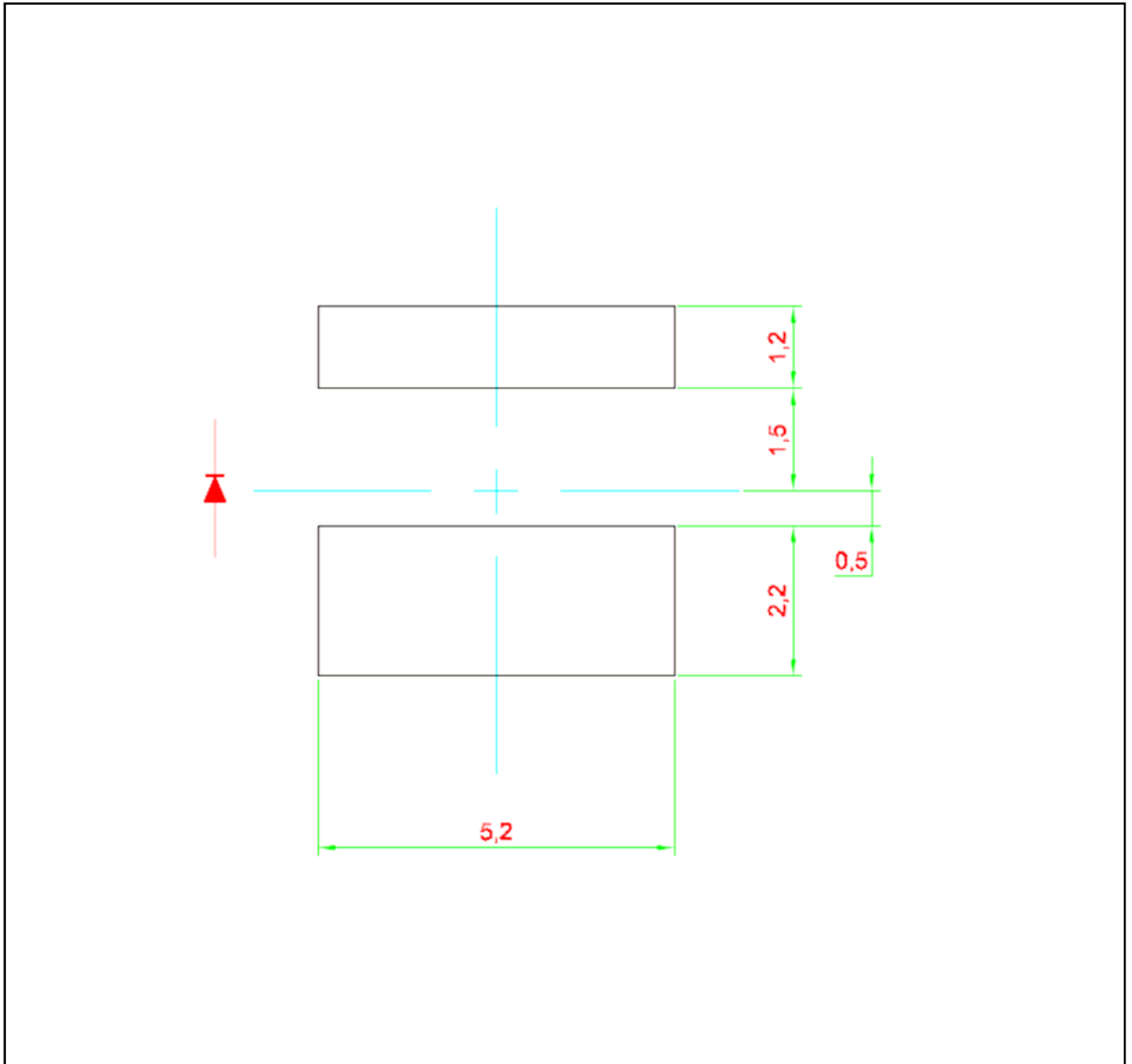


Material

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

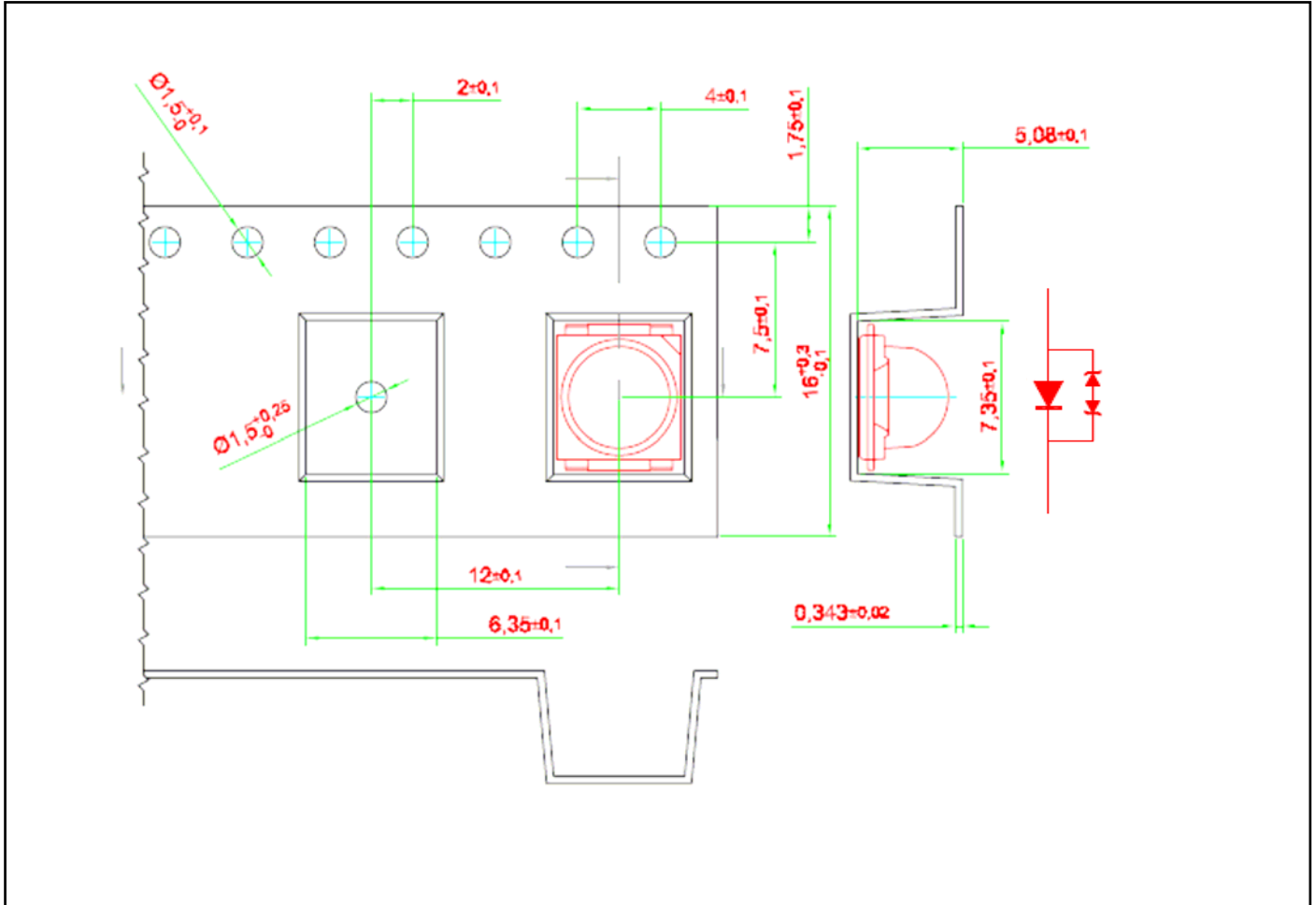
Solder Pad Design

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

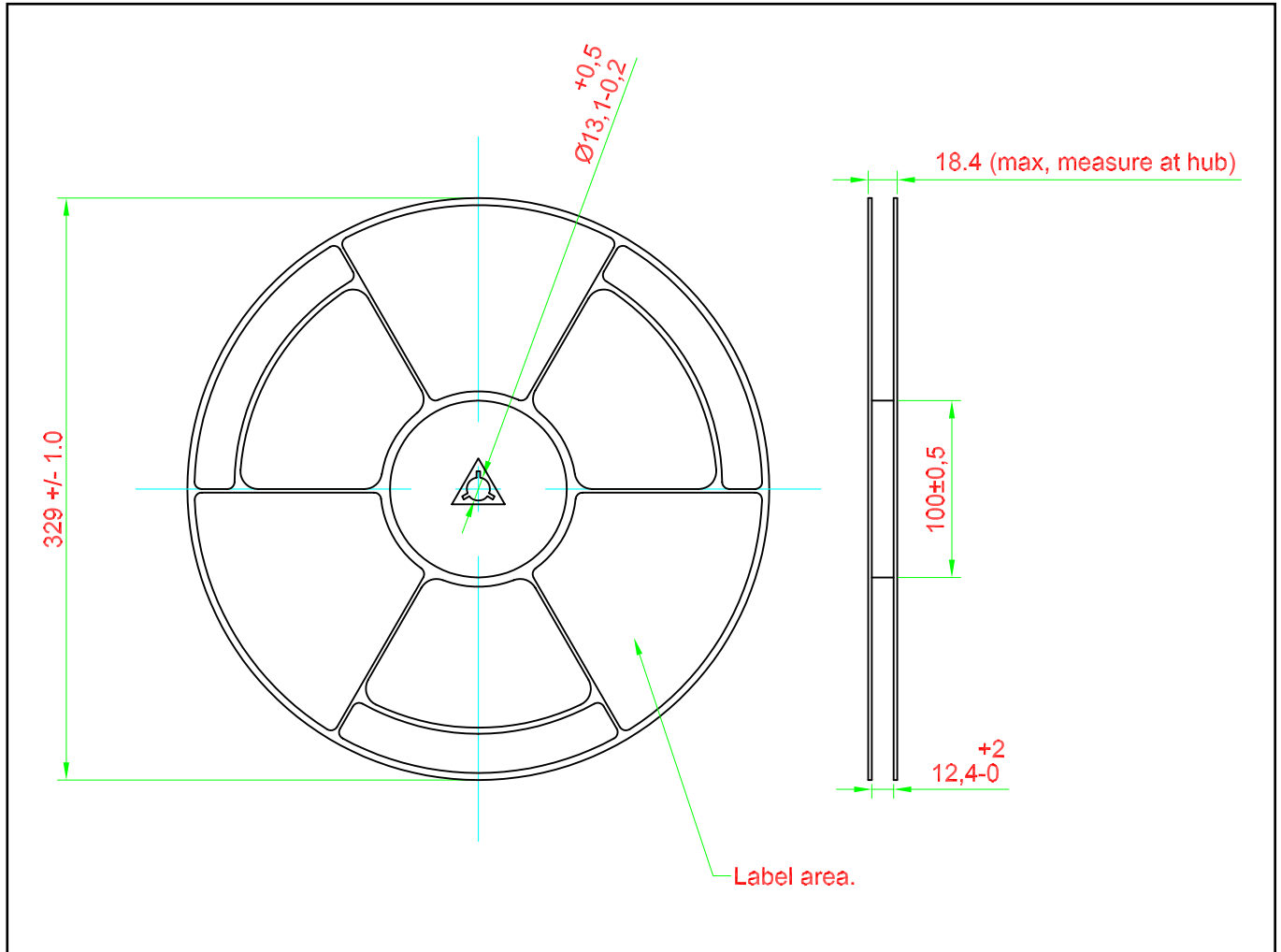


Taping and orientation

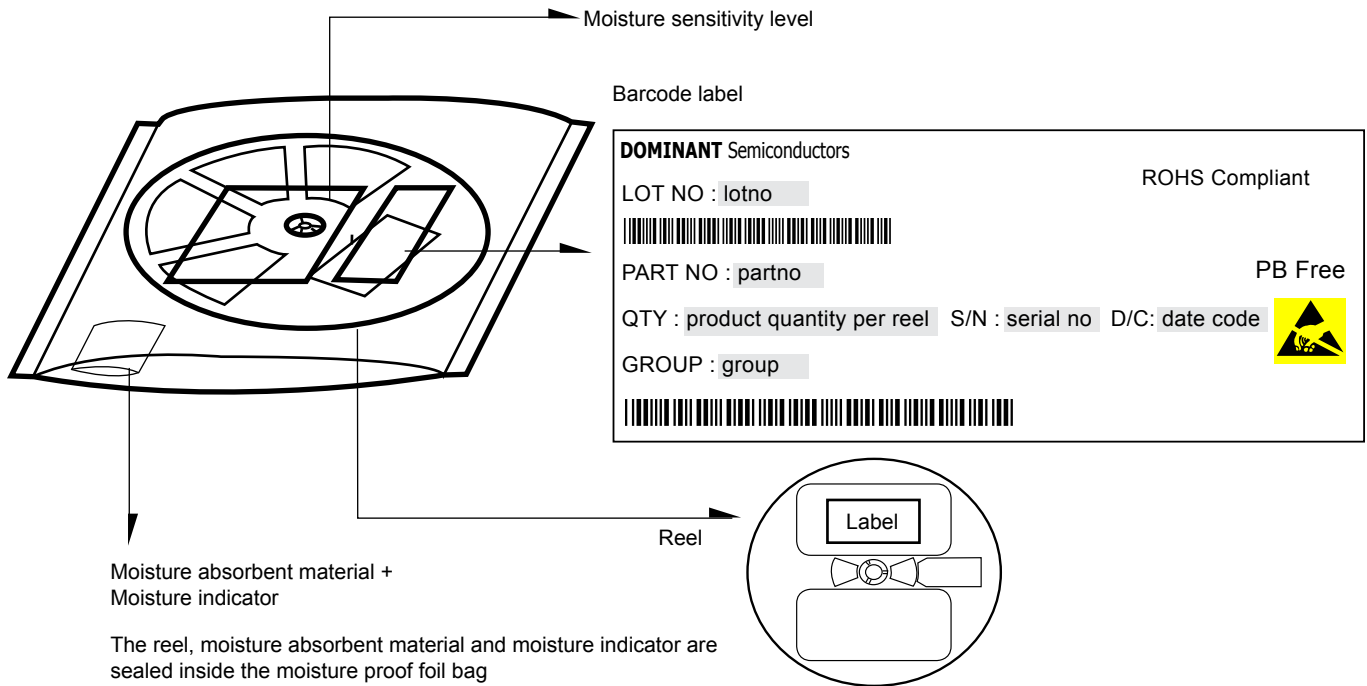
- Reels come in quantity of 2000 units.
- Reel diameter is 330 mm.



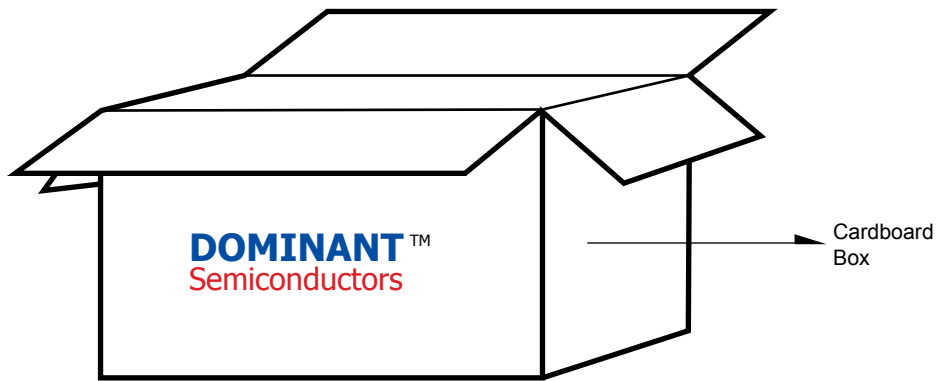
Packaging Specification



Packaging Specification



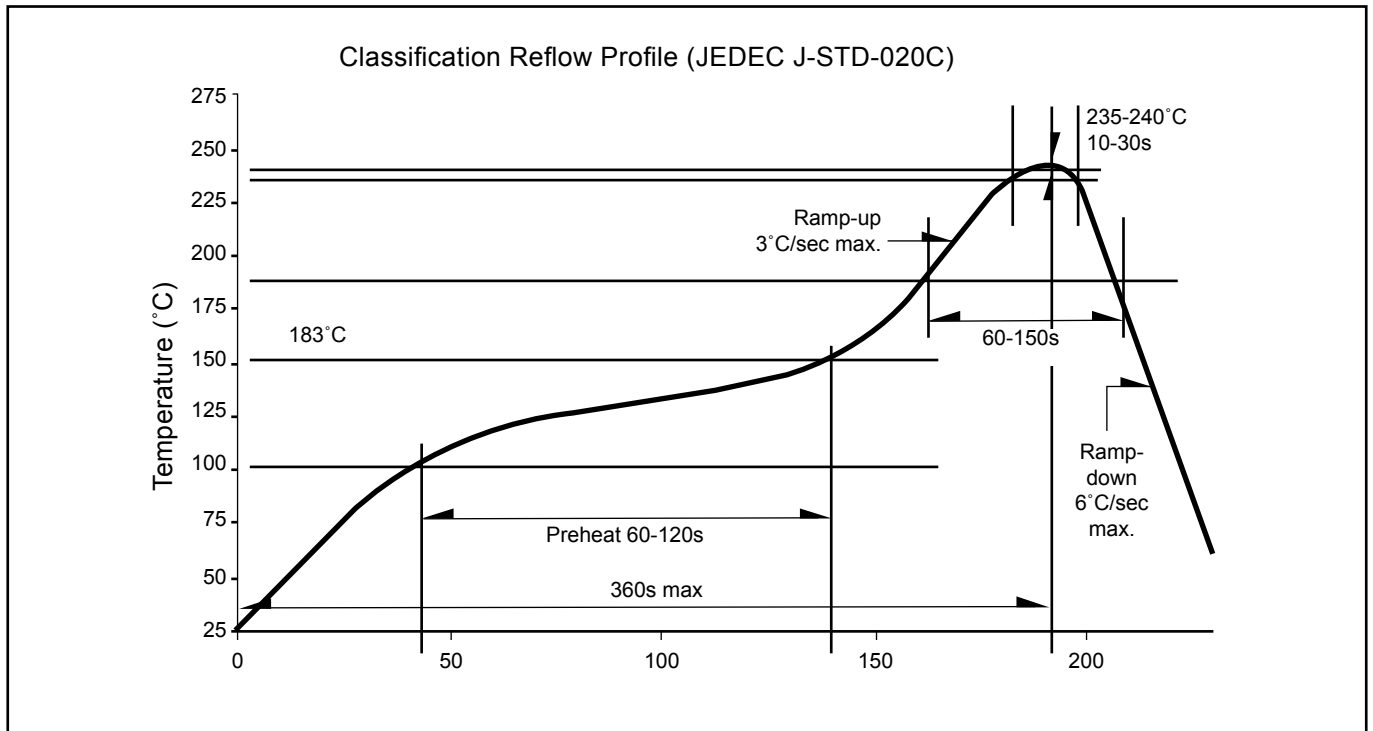
	Average 1pc SPNovaLED	1 completed bag (2000pcs)
Weight (gram)	0.188	800 ± 10



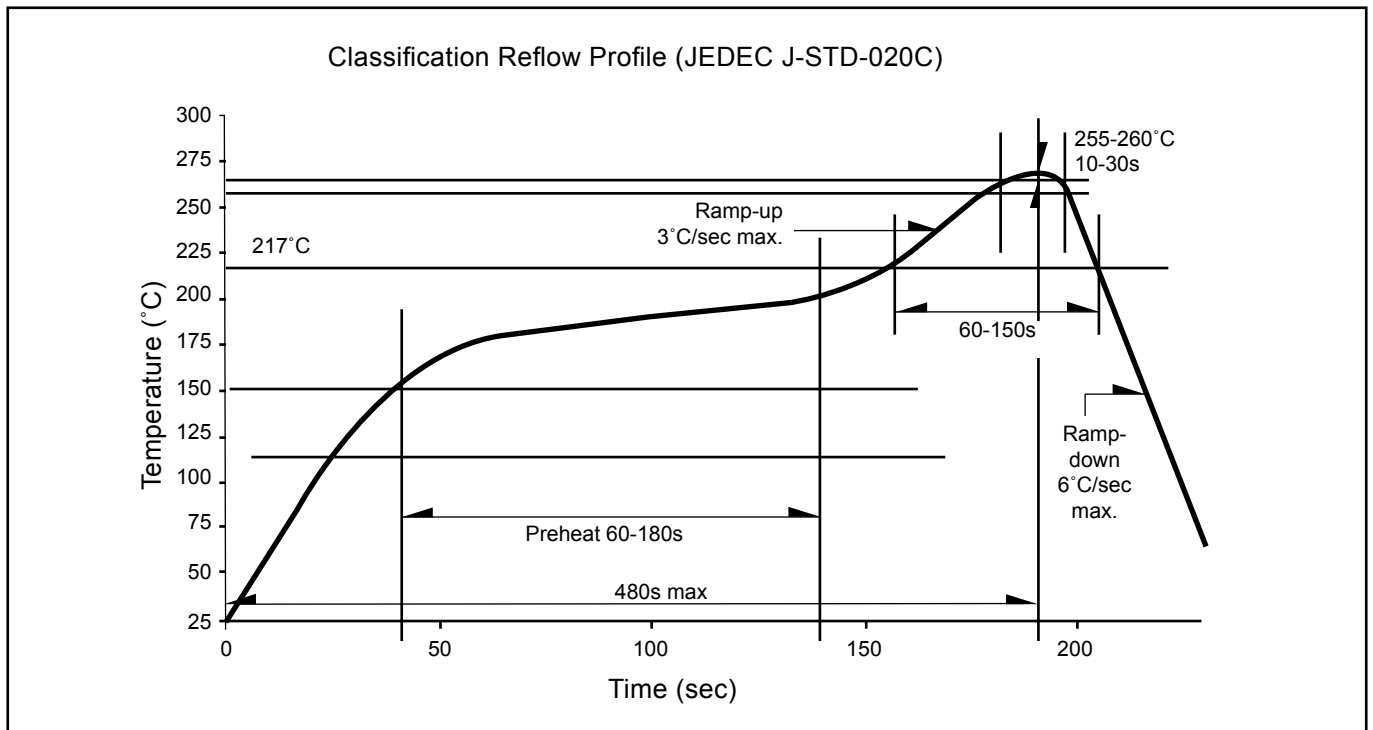
For SPNovaLED™

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	09 Feb 2009

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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