DOMINANT™
Opto Technologies
Innovating Illumination

DATA SHEET:

5mm Lamp
InGaN : L5x-Nxxxx

Lamp Type LED - 5mm Round

Synonymous with function and performance, the 5mm Round LED has superior performance in outdoor applications due to its well-defined radiation pattern and wide viewing angle. These lamps are made with an advanced optical grade epoxy, offering superior high temperature and high moisture resistance performance in outdoor signal and sign applications

Features:

> High brightness LED lamp.
> Narrow viewing angle; 15^{o} and 30^{o}
> Superior resistance to moisture.
> Suitable for TTW soldering.

Applications:

> Full color signs
> Outdoor displays/signs

Optical Characteristics at Tj=25˚C

Part Ordering Number	Color	Viewing Angle˚	Luminous Intensity @ IF = 20mA IV (mcd) Min.	Typ.	Max.
L5B-N1500-Z1AB-1	Blue, 470nm	15	4500.00	7150.00	11250.00
L5B-N3000-X2Z1-1	Blue, 470nm	30	2240.00	3550.00	5600.00
L5T-N1500-ADG-1	True Green, 530nm	15	14000.00	22400.00	35500.00
L5T-N3000-Z2AC-1	True Green, 530nm	30	5600.00	9000.00	14000.00

NOTE
1. Luminous intensity is measured with an accuracy of ± 15%.
2. Wavelength binning is carried for all units as per the wavelength-binning table. Only one wavelength group is allowed for each pack.

Electrical Characteristics at Tj=25˚C

Part Number	Vf @ If = 20mA Min. (V)	Typ. (V)	Max. (V)	V_r @ I_r = 10uA Min. (V)
L5B-Nxx00	2.7	3.2	3.8	5
L5T-Nxx00	2.9	3.4	4.0	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	25	mA
Peak pulse current; (tp ≤ 10μs, Duty cycle = 0.10)	100	mA
Reverse voltage ; Ir (max) = 10μA.	5	V
ESD threshold (HBM)	2000	V
LED junction temperature	120	˚C
Operating temperature	-40 … +100	˚C
Storage temperature	-40 … +100	˚C
Power dissipation (at room temperature)	95	mW

Wavelength Grouping at Tj=25˚C

Color	Group	Wavelength distribution (nm)
L5B; Blue	Full	464 - 476
	W	464 - 468
	X	468 - 472
	Y	472 - 476
L5T; 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.

Luminous Intensity Group at Tj=25˚C

Brightness Group	Luminous Intensity IV (mcd)
X2	2240.0 ... 2850.0
Y1	2850.0 ... 3550.0
Y2	3550.0 ... 4500.0
Z1	4500.0 .. 5600.0
Z2	5600.0 ... 7150.0
AA	7150.0 ... 9000.0
AB	9000.0 ... 11250.0
AC	11250.0 ... 14000.0
AD	14000.0 ... 18000.0
AE	18000.0 ... 22400.0
AF	22400.0 ... 28500.0
AG	28500.0 ... 35500.0

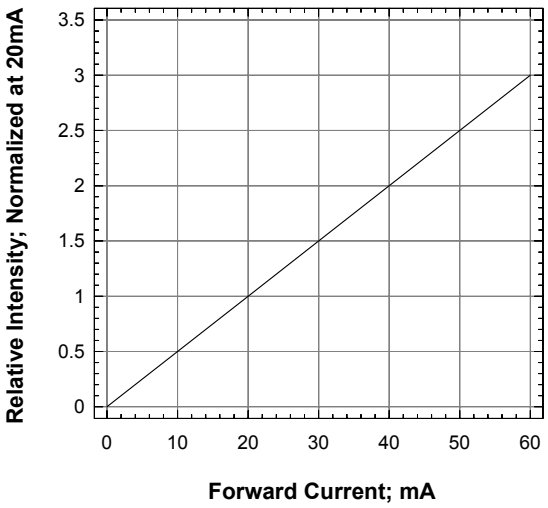
Luminous intensity is measured with an accuracy of ± 15%.

Vf Binning (Optional)

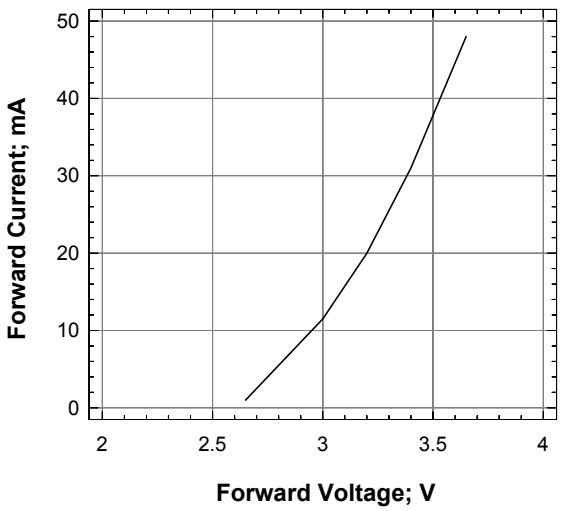
Vf Bin @ 20mA	Forward Voltage (V)
V6	2.60 ... 2.80
V7	2.80 ... 3.00
V8	3.00 ... 3.20
V9	3.20 ... 3.40
V10	3.40 ... 3.60
V11	3.60 ... 3.80
V12	3.80 ... 4.00

Forward voltage, Vf is measured with an accuracy of ± 0.1 V. Parts with the Vf binning option will be defined as L5x-Nxxxx-xxxx-x-Vx. Please consult sales and marketing for special part number to incorporate Vf binning.

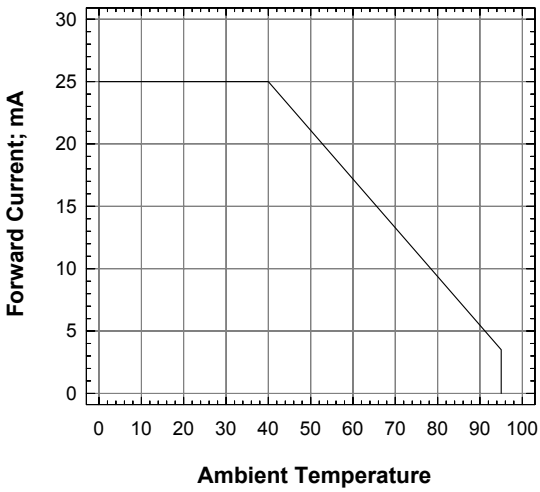
Relative Intensity Vs Forward Current



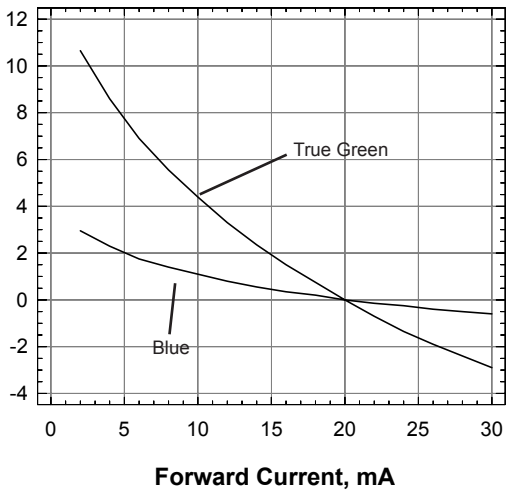
Forward Current Vs Forward Voltage



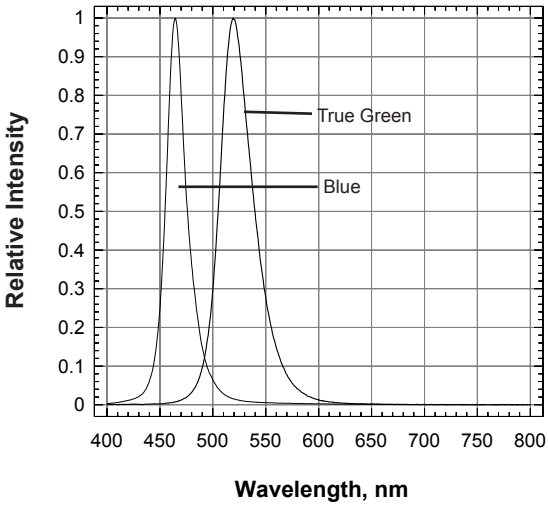
Maximum Current Vs Ambient Temperature



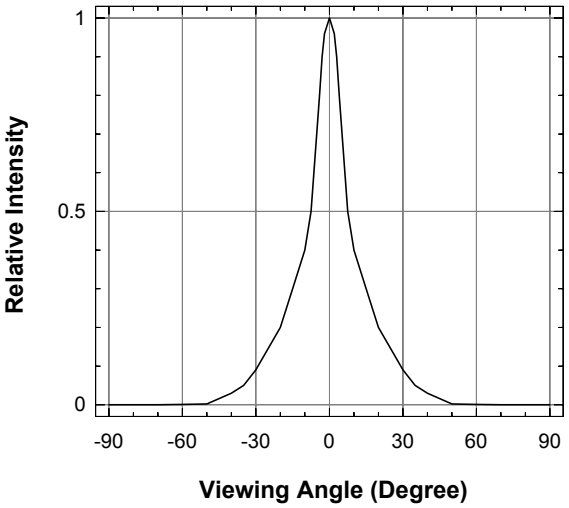
Dominant Wavelength Shift Vs Forward Current



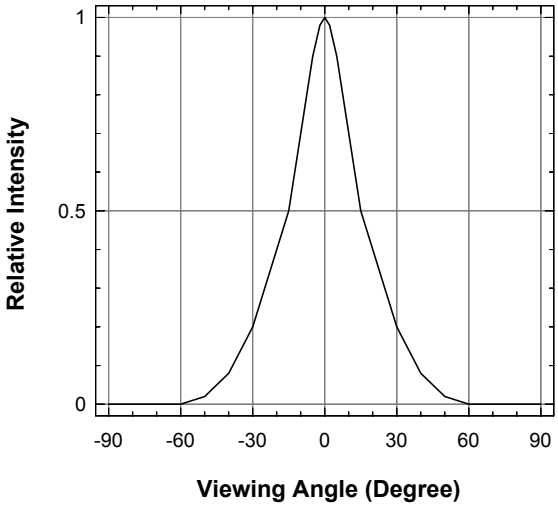
Relative Intensity Vs Wavelength



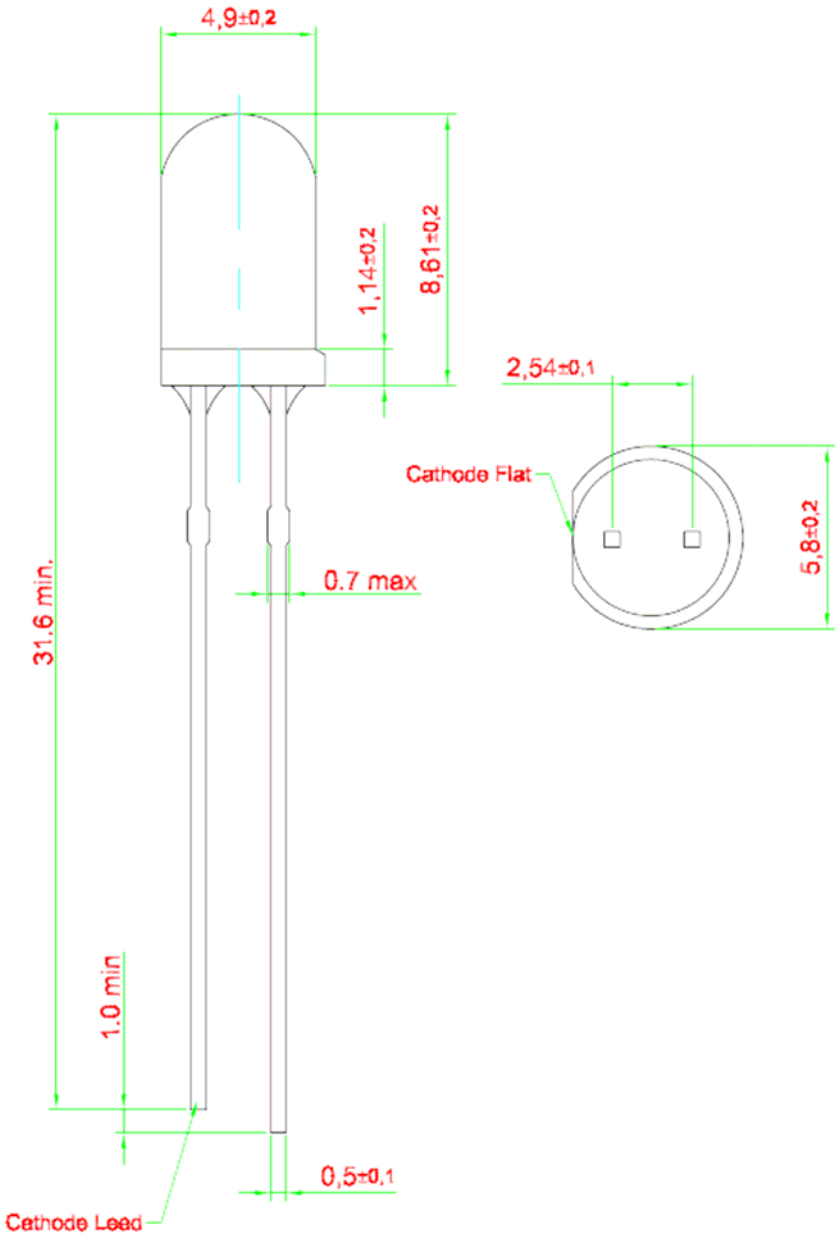
Radiation Pattern (2Θ=15°)



Radiation Pattern (2Θ=30°)



5mm Lamp • InGaN : High Brightness Package Outlines



Epoxy meniscus may extend 1.5mm max. down the LED

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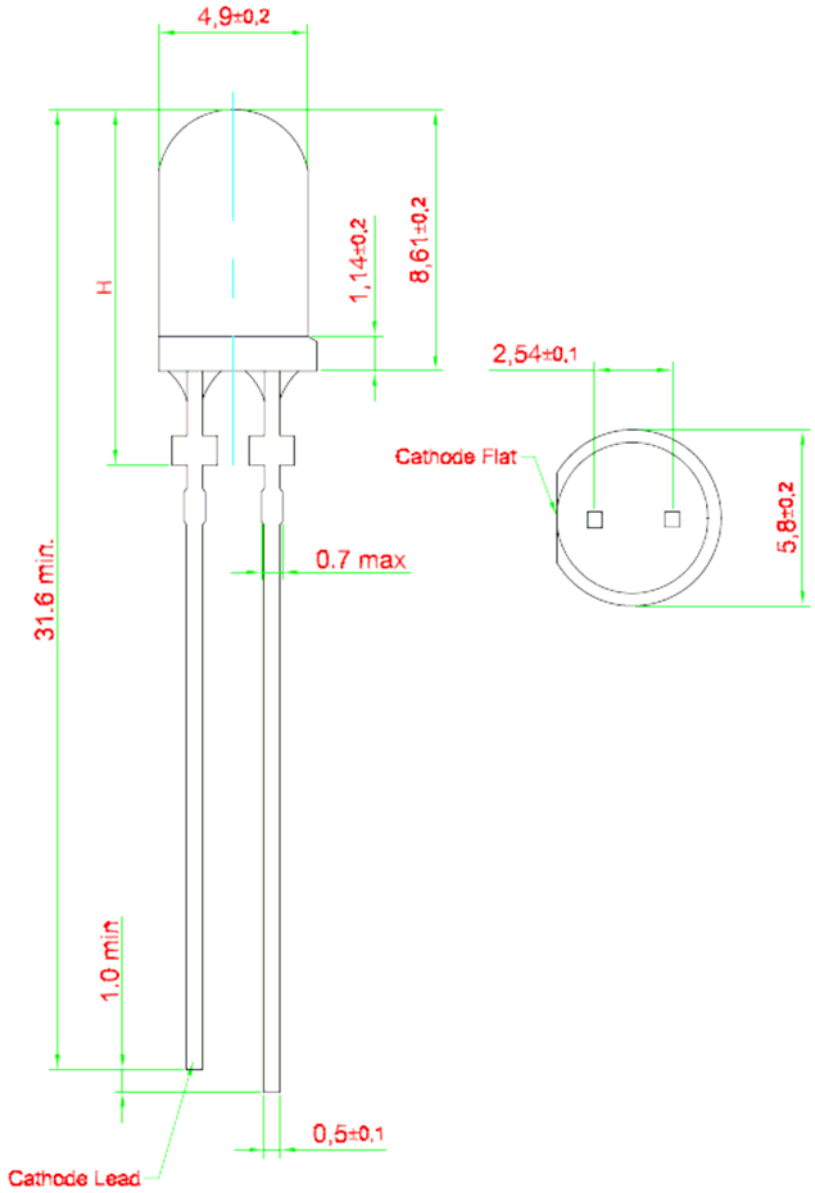


Epoxy meniscus may extend 1.5mm max. down the l

Parts with the stand-off option will be defined as L5x-NxxxS-xxxx-1

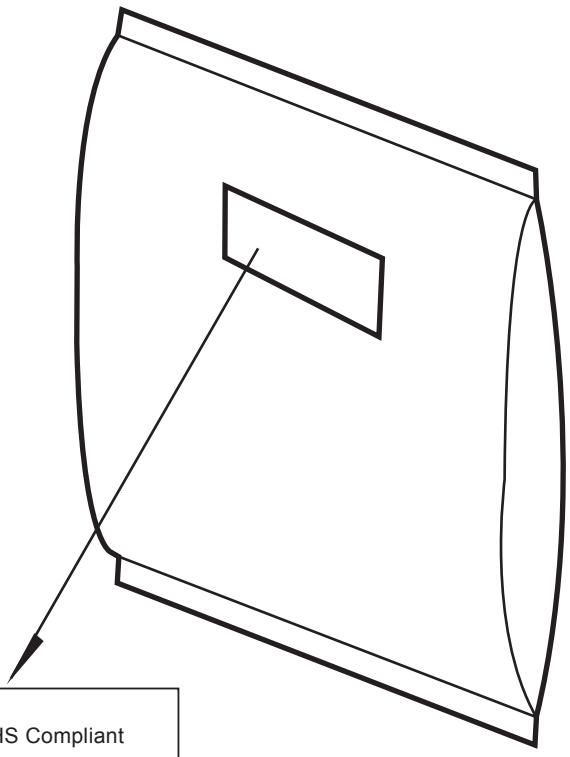
Option with stand-off - Parts with 15^{o} viewing angle; H = 12.6mm ± 0.5mm

Parts with 30^{o} viewing angle; H = 12.0mm ± 0.5mm

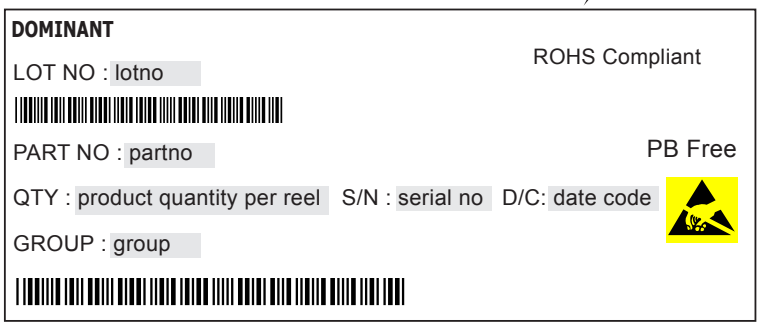
Packaging Specification

1. Loose pack of 500pcs/pack: Lxx-xxxxx-xxxx-x-x-0

	Average 1pc 5mm Lamp	1 completed pack (500pcs)
Weight (gram)	**0.29**	**150 ± 10**

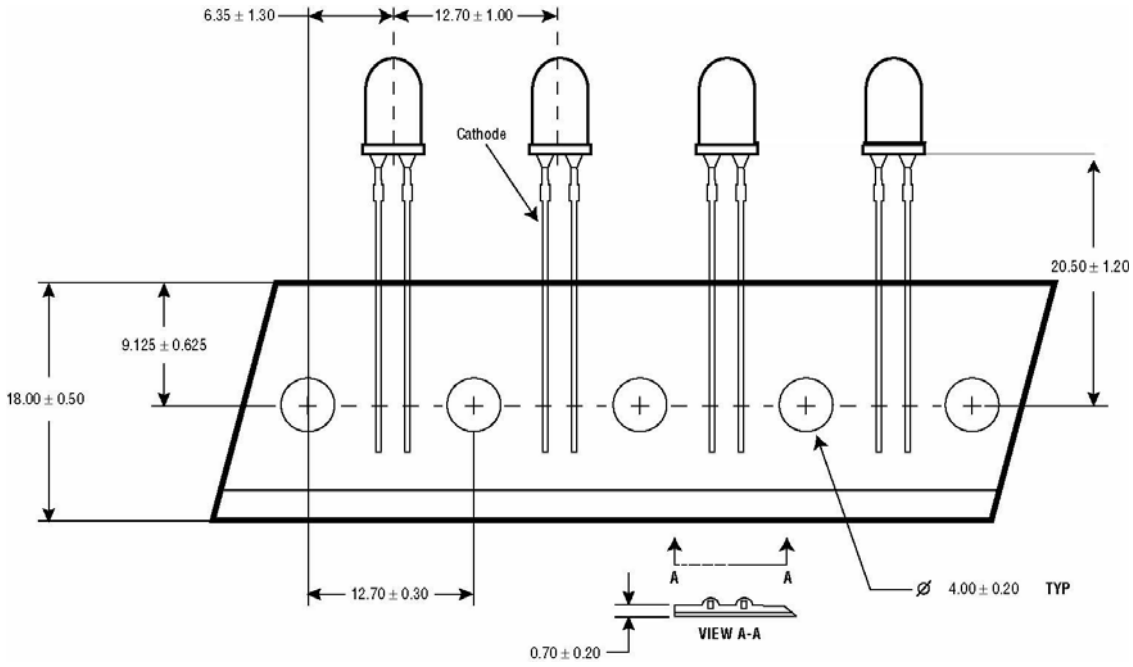


Barcode label

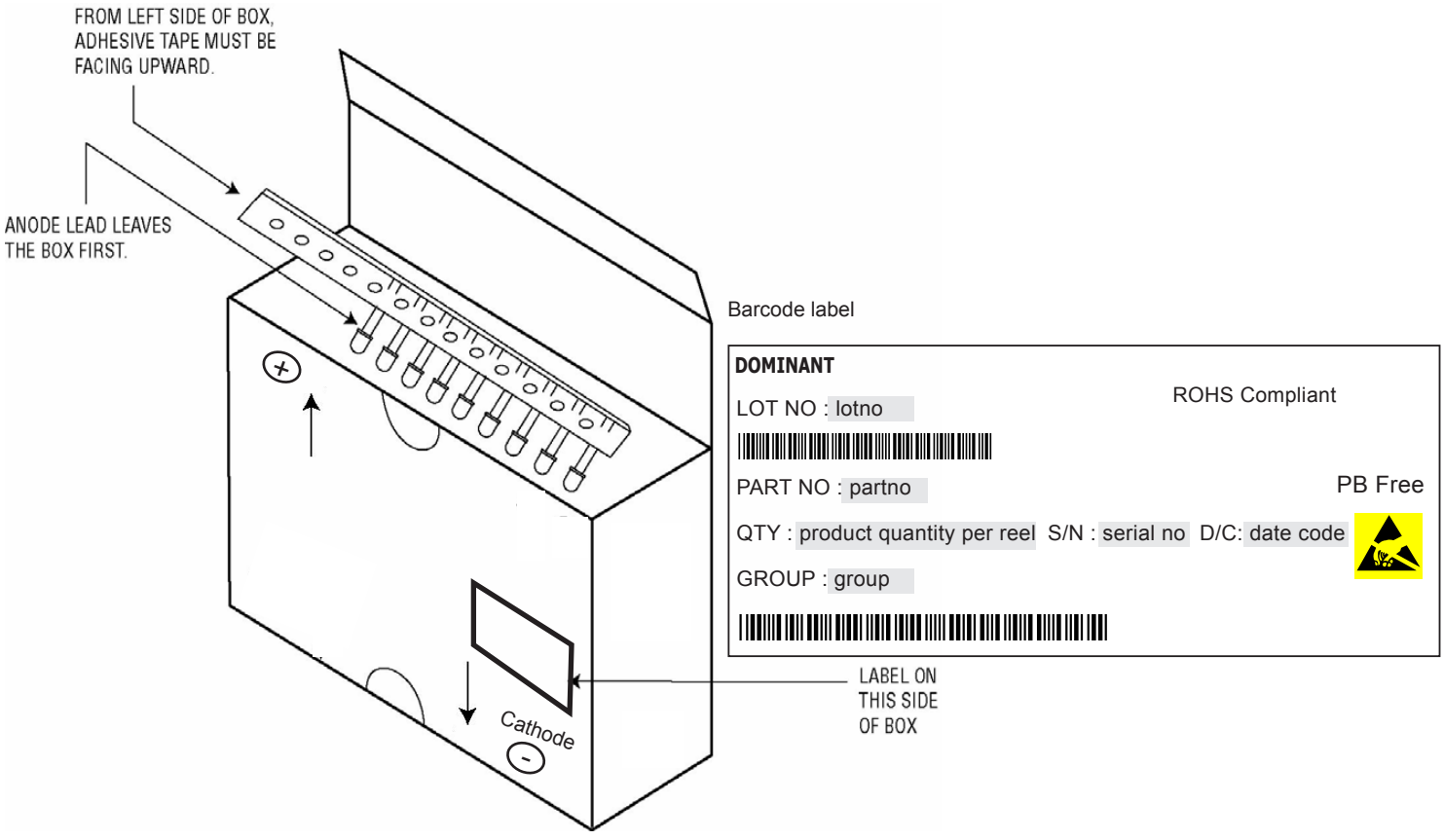


Packaging Specification

2. Ammopack: Lxx-xxxxx-xxxx-x-x-A

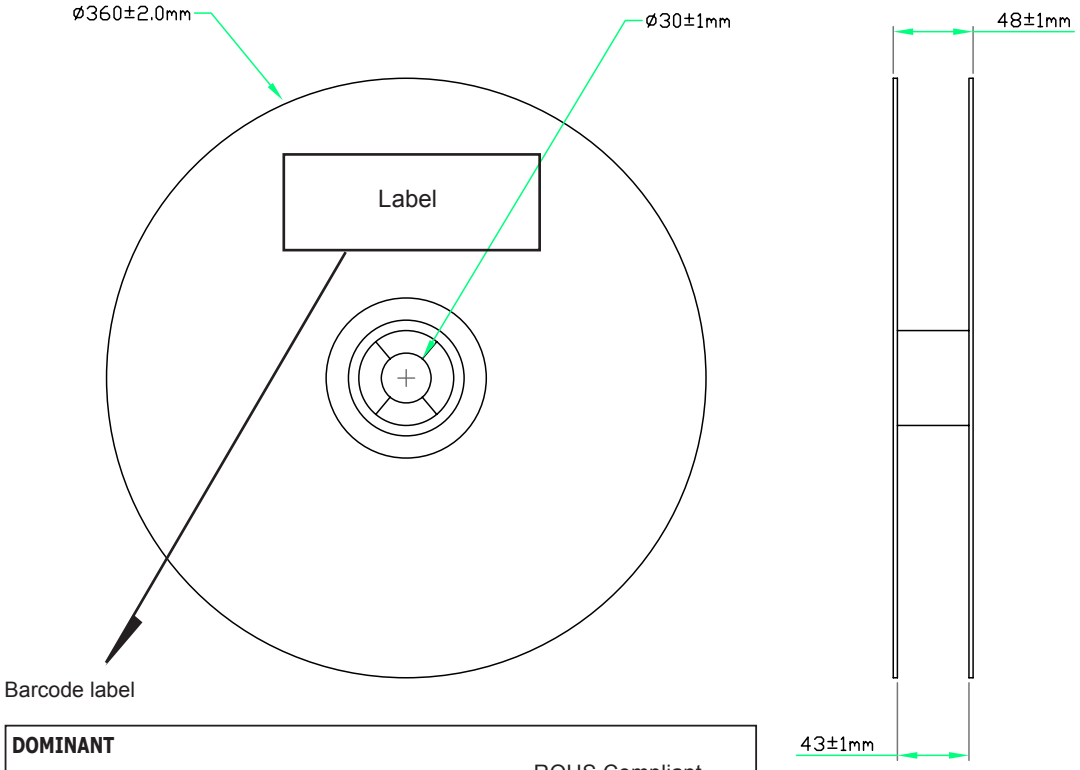


Average 1pc 5mm Lamp (g)	Box Dimensions (mm)	Empty Box Weight (kg)	Quantity / Box (pcs)	1 Completed Box With Units (kg)
0.29	335 x 235 x 48	0.14	2,000	0.95 ± 10



Packaging Specification

3. Reel: Lxx-xxxxx-xxxx-x-x-T



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ROHS Compliant

LOT NO : lotno

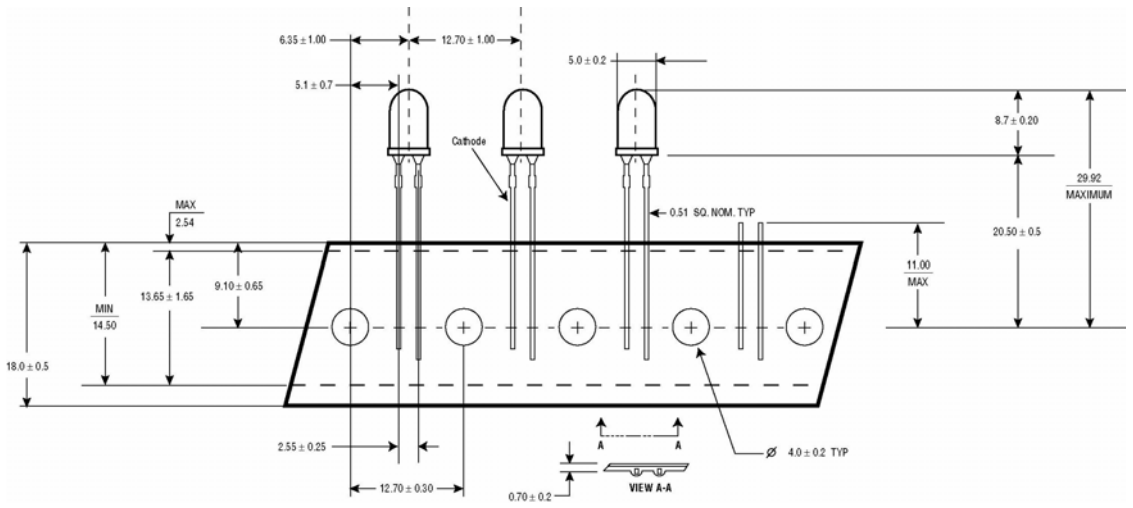
PART NO : partno

PB Free

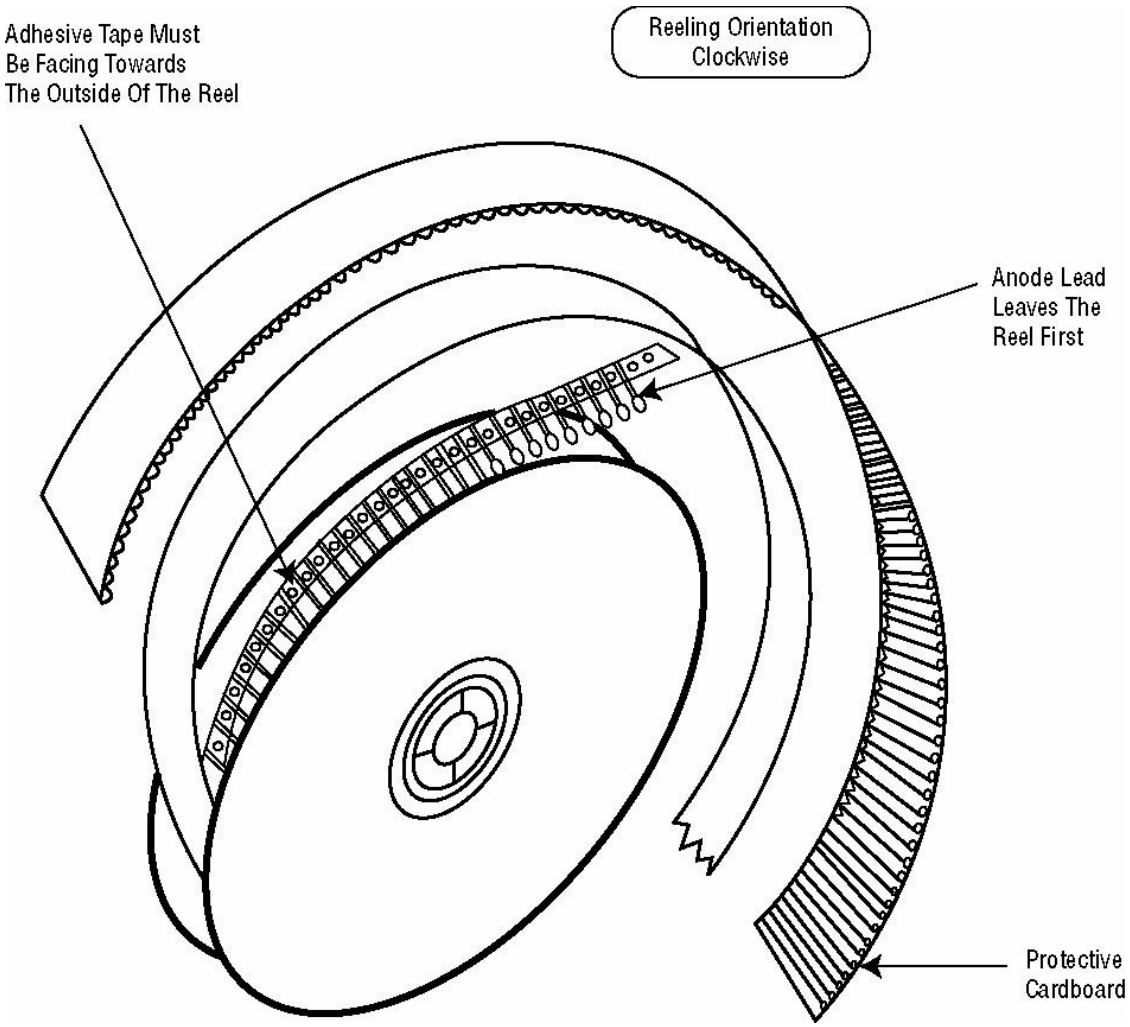
QTY : product quantity per reel S/N : serial no D/C: date code

GROUP : group

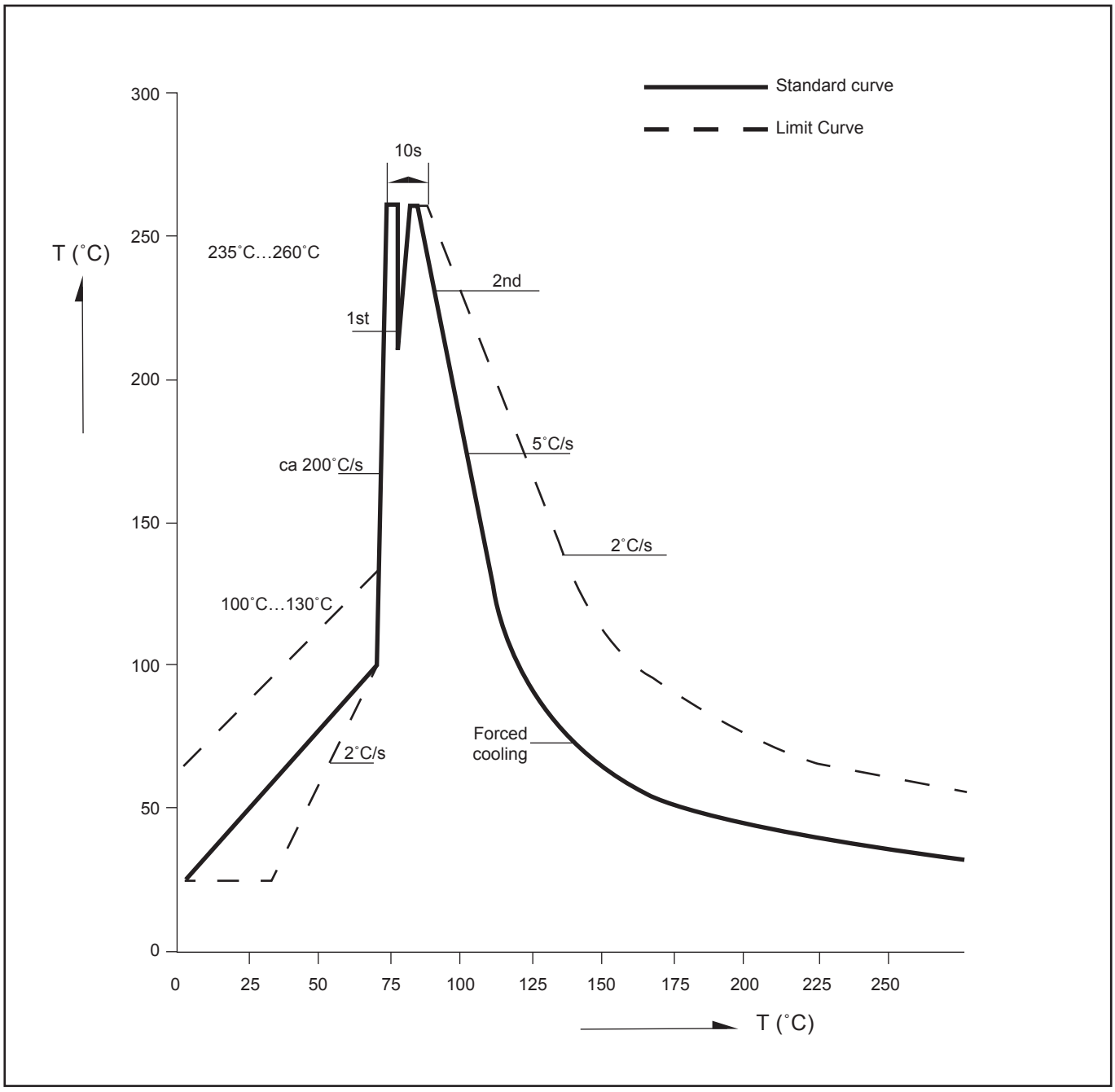
Average 1pc 5mm Lamp (g)	Empty Reel Weight (kg)	Quantity / Reel (pcs)	1 Completed Reel (kg)
0.29	0.39	1,300	**0.95 ± 10**



Packaging Specification



Recommended TTW Soldering Profile (acc. to CECC 00802)



Revision History

Page	Subjects	Date of Modification
-	Initial Release	26 Jun 2009
-	Update company name	01 Jul 2010
3	Typo error on Luminous Intensity	20 Aug 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.

Please contact us for more information:

DOMINANT Opto Technologies Sdn. Bhd.
Lot 6, Batu Berendam, FTZ Phase III, 75350 Melaka, Malaysia
Tel: (606) 283 3566 Fax: (606) 283 0566
E-mail: sales@dominant-semi.com

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