

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; 30°, 60°
- > 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 @ 20mA IV (mcd)		
			Min.	Typ.	Max.
L5B-E3000-W2Y1-1	Blue, 470nm	30	1400.00	2240.00	3550.00
L5B-E3000-YZ2-1	Blue, 470nm	30	2850.00	4500.00	7150.00
L5B-E60E0-T2U-1	Blue, 470nm	60	355.00	530.00	715.00
L5T-E3000-ACE-1	True Green, 530nm	30	11250.00	18000.00	22400.00
● L5T-E3000-AAC-1	True Green, 530nm	30	7150.00	11250.00	14000.00
L5T-E60E0-WX2-1	True Green, 530nm	60	1125.00	1800.00	2850.00

● Not for new design

NOTE

1. Luminous intensity is measured with an accuracy of $\pm 15\%$.
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			Vr @ Ir = 10uA
	Min. (V)	Typ. (V)	Max. (V)	Min. (V)
L5x-Exx	2.8	3.2	3.8	5

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

Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	25	mA
Peak pulse current; ($t_p \leq 100\mu s$, Duty cycle = 0.10)	100	mA
Reverse voltage ; Ir (max) = 10μA.	5	V
ESD threshold (HBM)	500	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)
T2	355.0...450.0
U1	450.0...560.0
U2	560.0...715.0
W1	1125.0...1400.0
W2	1400.0...1800.0
X1	1800.0...2240.0
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

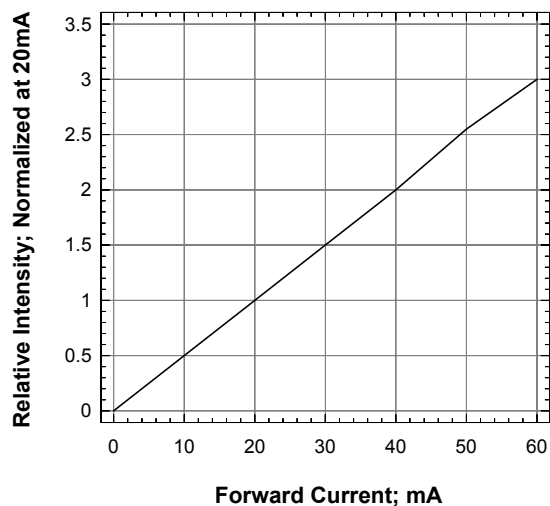
Luminous intensity is measured with an accuracy of $\pm 15\%$.

Vf Binning (Optional)

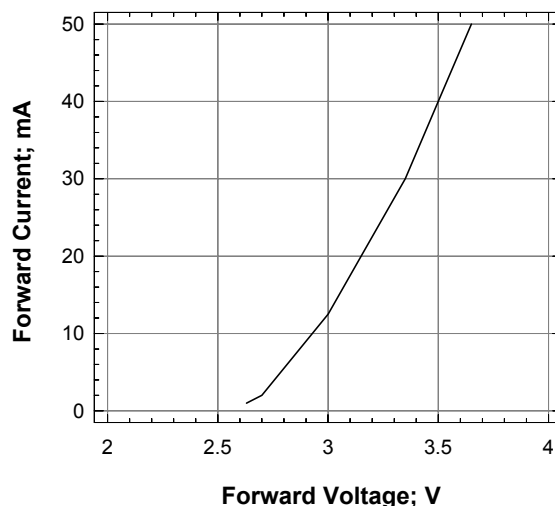
Vf Bin @ 20mA	Forward Voltage (V)
V7	2.80 ... 3.00
V8	3.00 ... 3.20
V9	3.20 ... 3.40
V10	3.40 ... 3.60
V11	3.60 ... 3.80

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

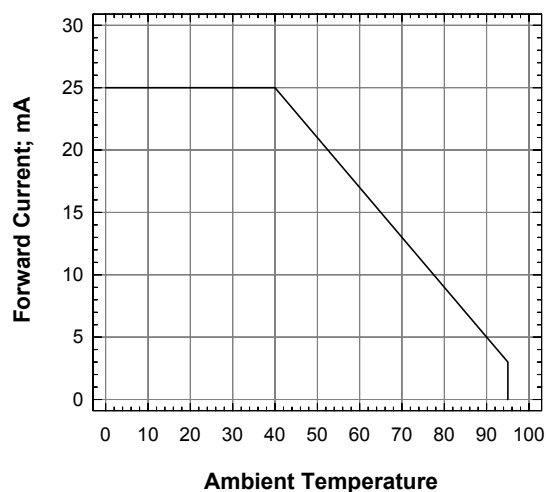
Relative Intensity vs Forward Current



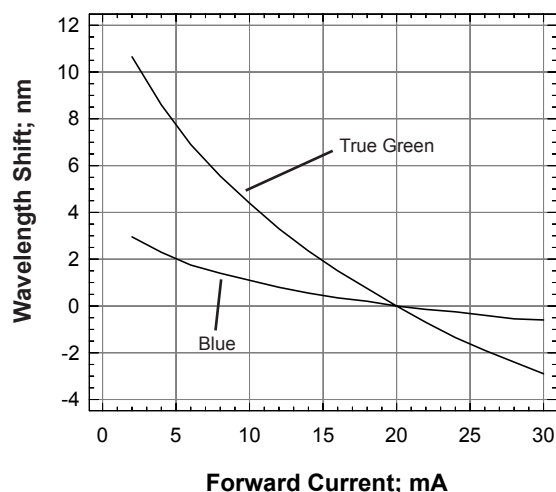
Forward Current Vs Forward Voltage



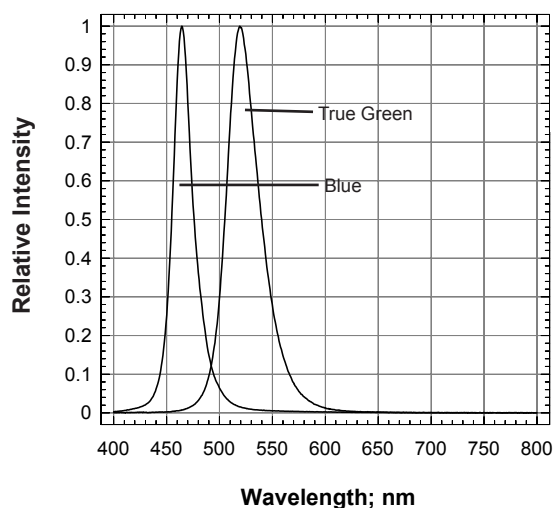
Maximum Current Vs Ambient Temperature



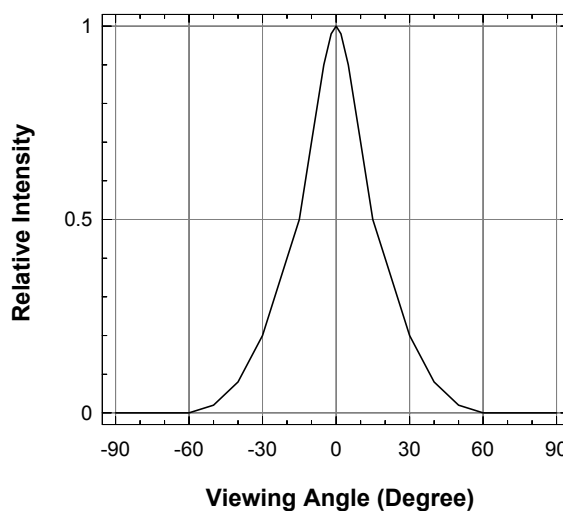
Wavelength Shift vs Forward Current

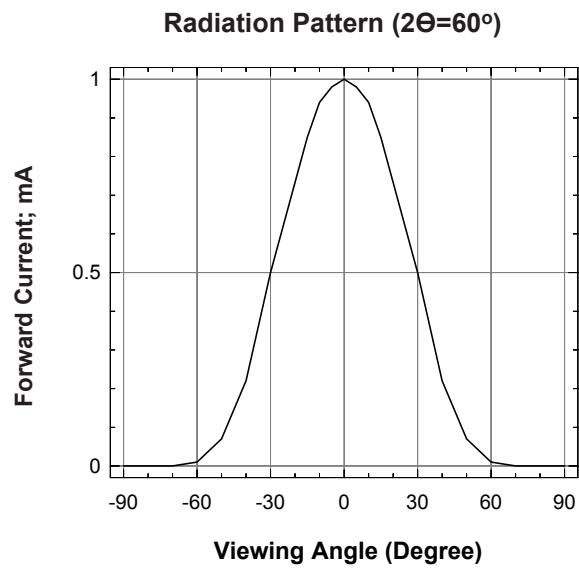


Relative Intensity Vs Wavelength

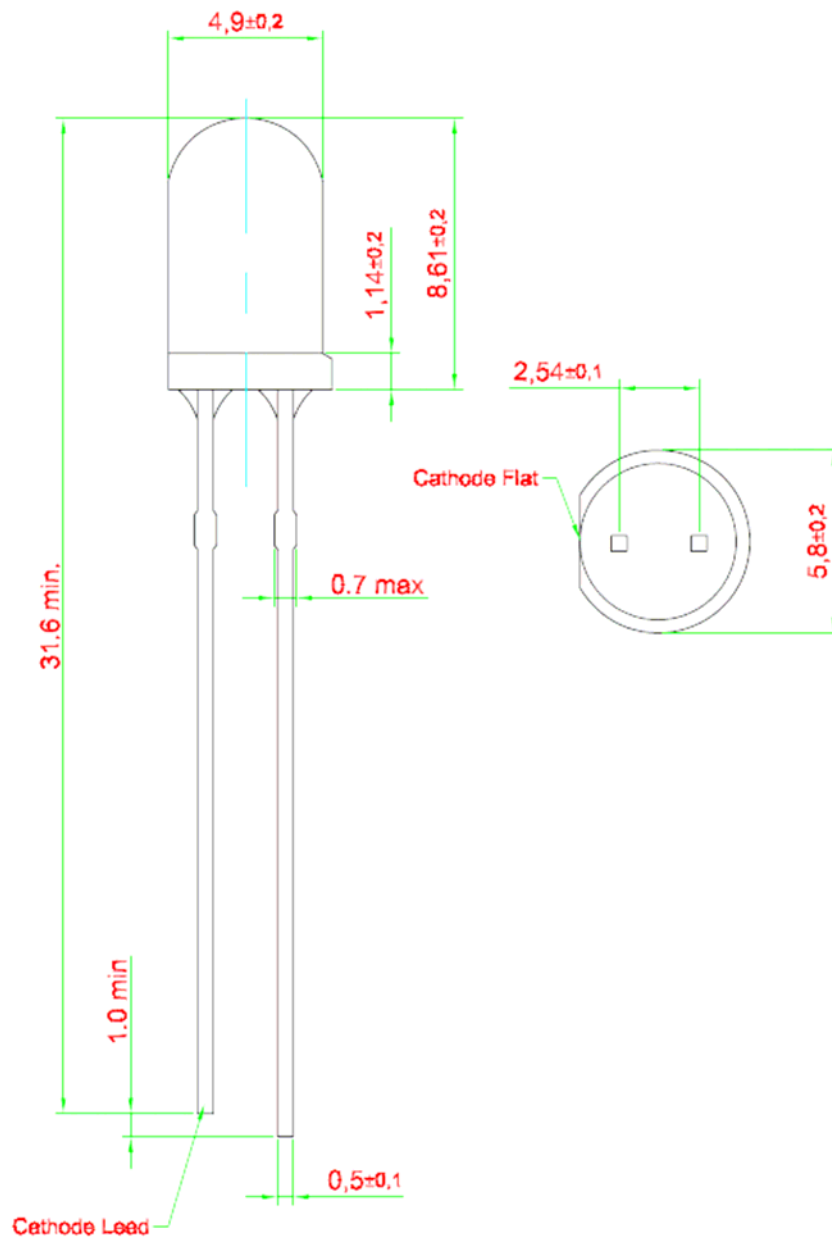


Radiation Pattern ($2\theta=30^\circ$)



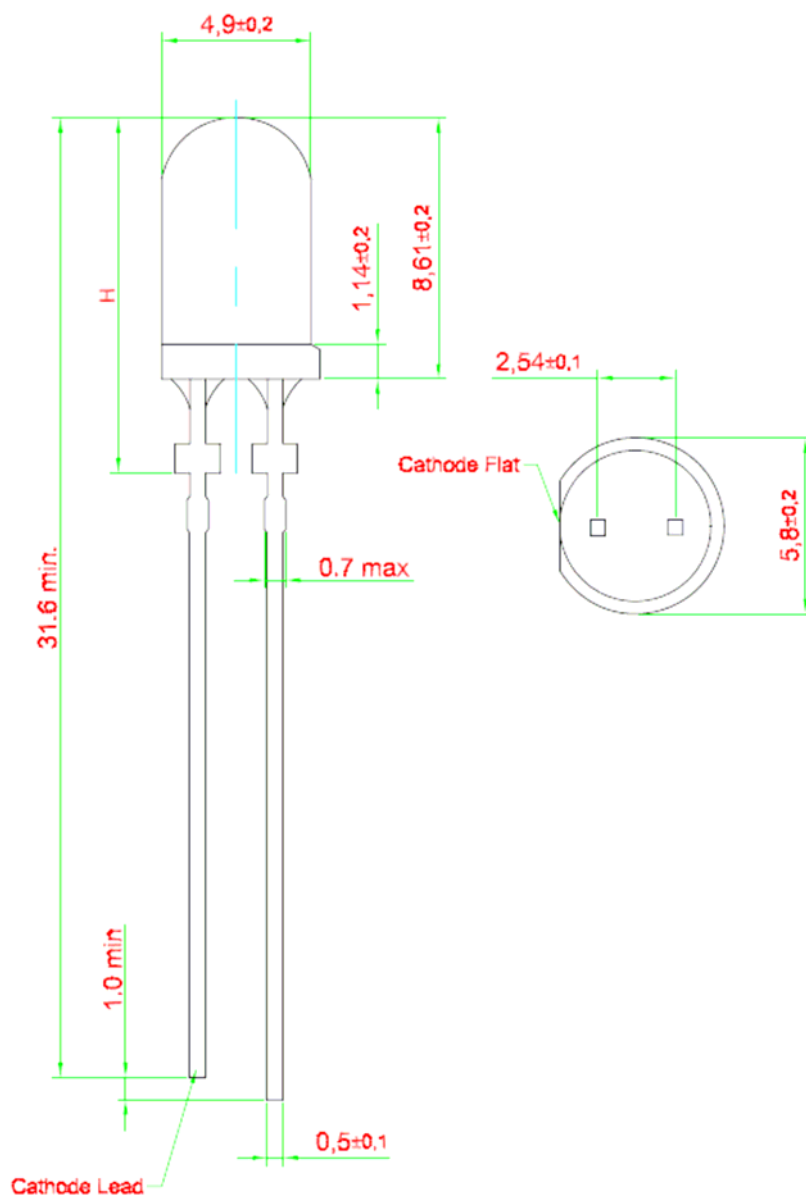


5mm Lamp • InGaN : High Brightness: L5x-Exx Package Outlines



Epoxy meniscus may extend 1.5mm max. down the LED

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Epoxy meniscus may extend 1.5mm max. down the

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

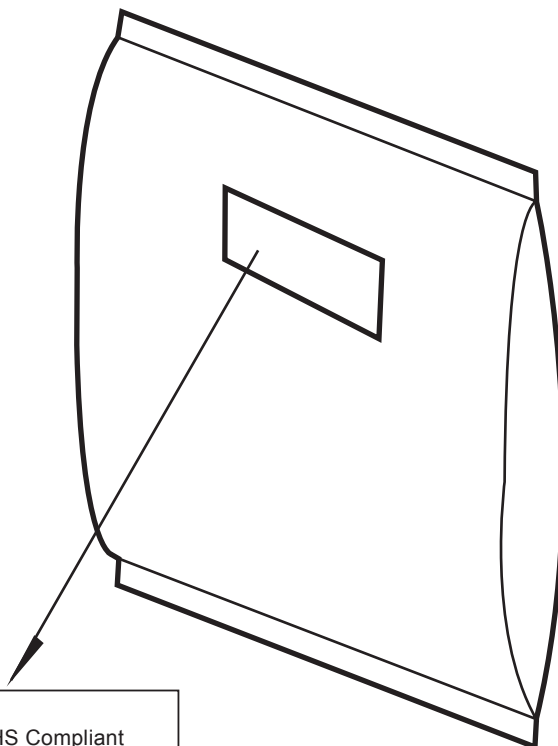
Option with stand-off - Parts with 30° viewing angle; $H = 12,0\text{mm} \pm 0,5\text{mm}$

- Parts with 60° viewing angle; $H = 12,5\text{mm} \pm 0,5\text{mm}$




Packaging Specification

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

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

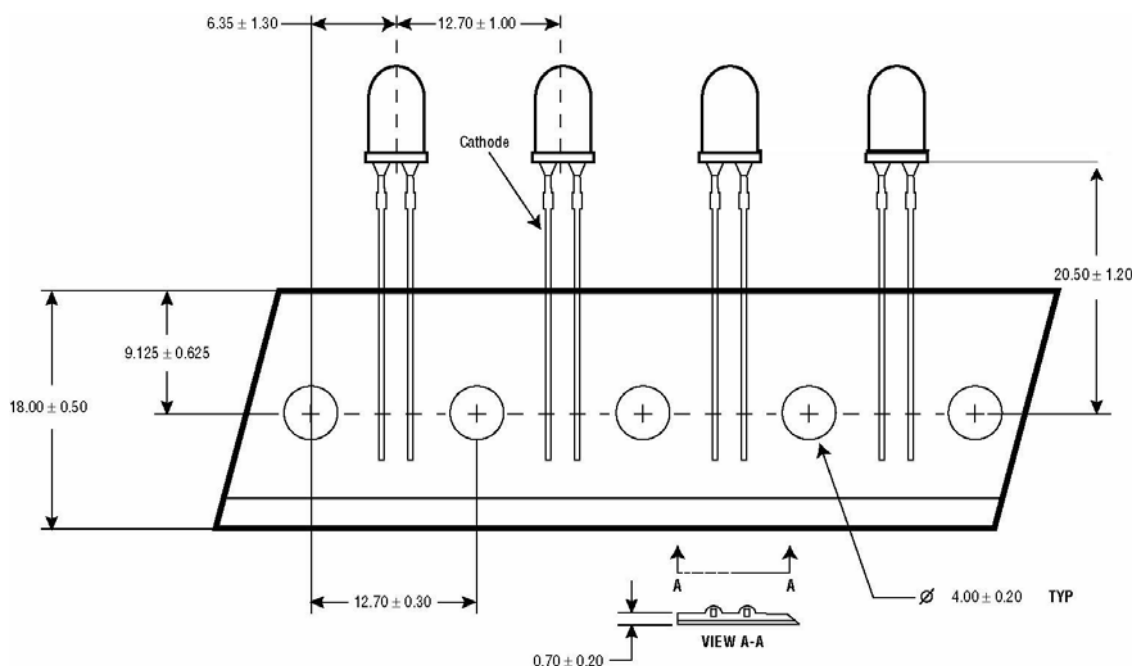


Barcode label

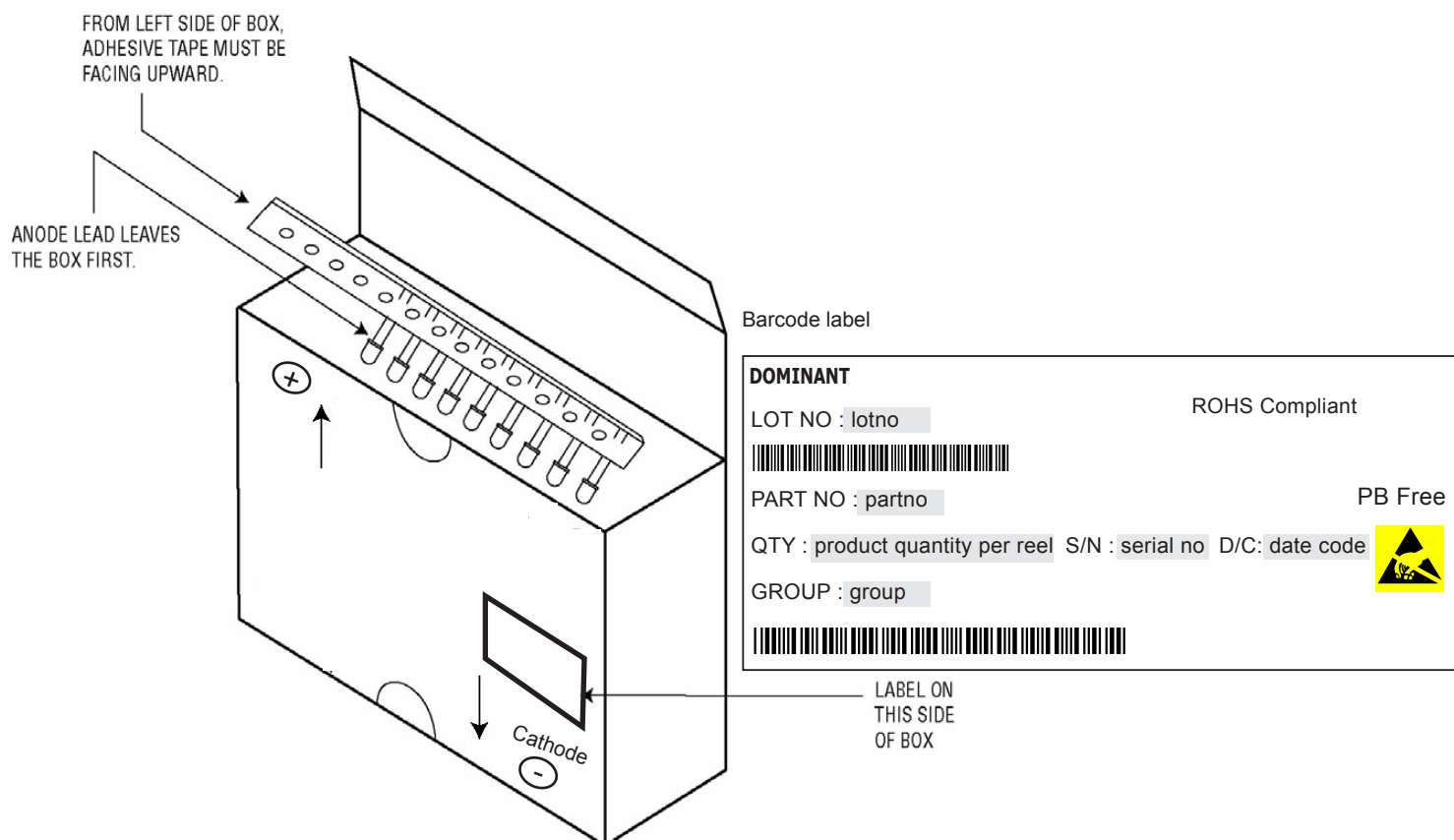
DOMINANT		ROHS Compliant
LOT NO : lotno		
		
PART NO : partno	PB Free	
QTY : product quantity per reel	S/N : serial no	D/C: date code
GROUP : group		
		

Packaging Specification

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

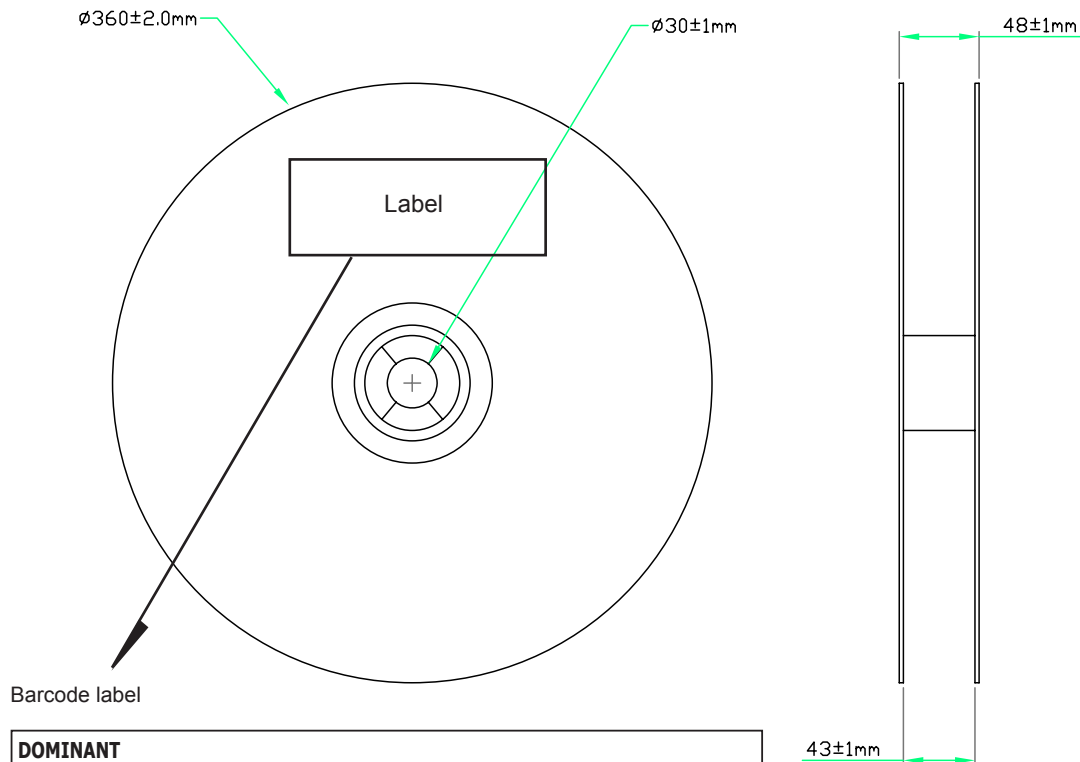


Average 1pc 5mm Lamp (g)	Box Dimensions (mm)	Empty Box Weight (kg)	Quantity / Box (pcs)	1 Completed Box With Units (kg)
0.29	335 x 235 x 48	0.14	2,000	0.95 ± 10



Packaging Specification

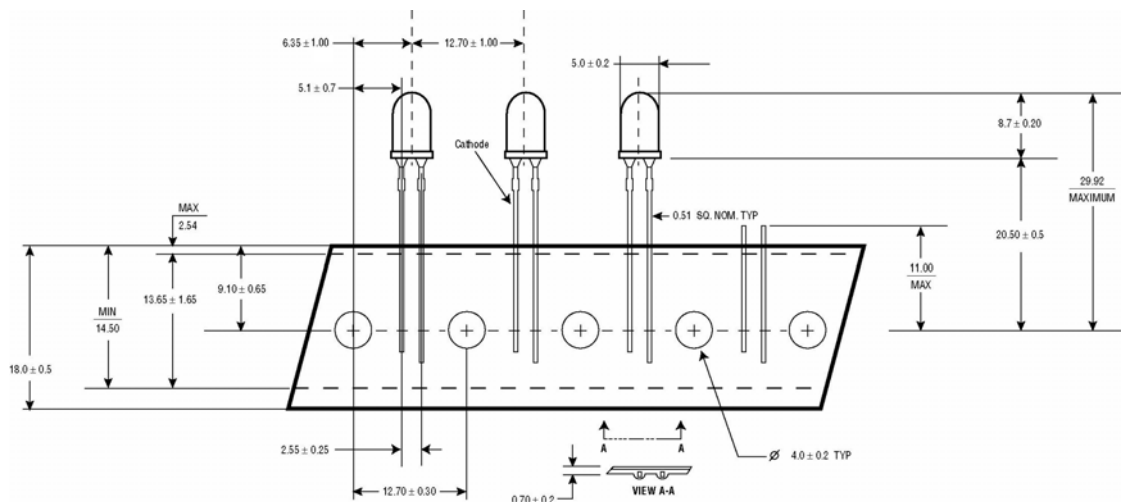
3. Reel: L5x-xxxxx-xxxx-x-x-T



Barcode label

DOMINANT		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



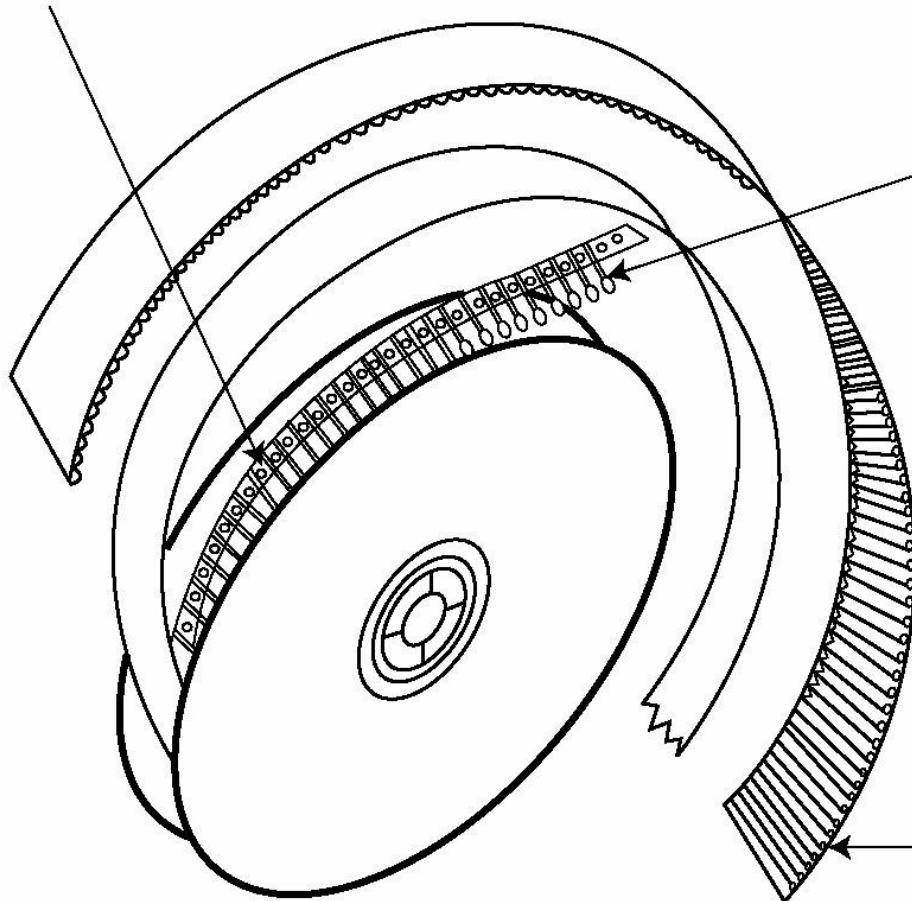
Packaging Specification

Adhesive Tape Must
Be Facing Towards
The Outside Of The Reel

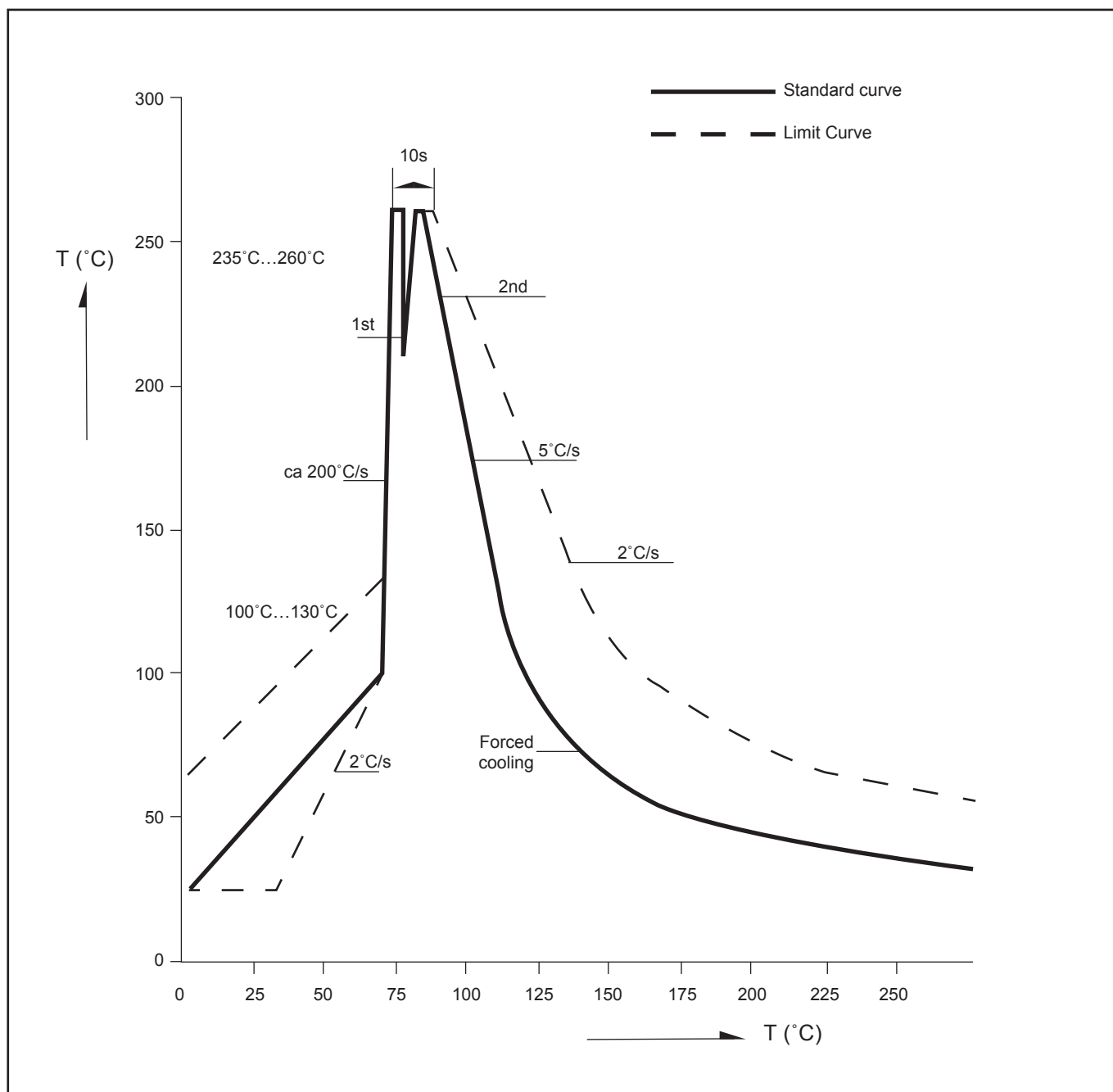
Reeling Orientation
Clockwise

Anode Lead
Leaves The
Reel First

Protective
Cardboard



Recommended TTW Soldering Profile (acc. to CECC 00802)



Revision History

Page	Subjects	Date of Modification
-	Initial Release	15 Jun 2009
-	Update company name	01 Jul 2010
2	Add new partno: L5B-E60E0-T2U-1, L5T-E60E0-WX2-1	17 Jan 2011
2	Add new partno: L5B-E3000-YZ2-1	27 Apr 2012
2, 4	Add new partno: L5T-E3000-ACE-1 Not for new design: L5T-E3000-AAC-1	12 Jun 2013

NOTE

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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

