

Lamp Type LED - 3mm

This 3mm LED offer superior light output for excellent readability in sunlight. These lamps are offering stable light output over long period of time and high-moisture-resistance performance in lighting and illumination applications due to the optical-grade epoxy.

Features:

- > High brightness LED lamp.
- > Superior resistance to moisture
- > Suitable for TTW soldering.



Applications:

- > Indicators
- > Outdoor displays/signs

Optical Characteristics at Tj=25°C

Part Ordering Number	Color	Viewing Angle°	Luminous Intensity @ 20mA IV (mcd)		
			Min.	Typ.	Max.
L3W-N4500-Z1AB-1	White	45	4500.00	7150.00	11250.00
L3W-N4500-Z2AC-1	White	45	5600.00	9000.00	14000.00

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)
L3W	2.8	3.2	3.8	5

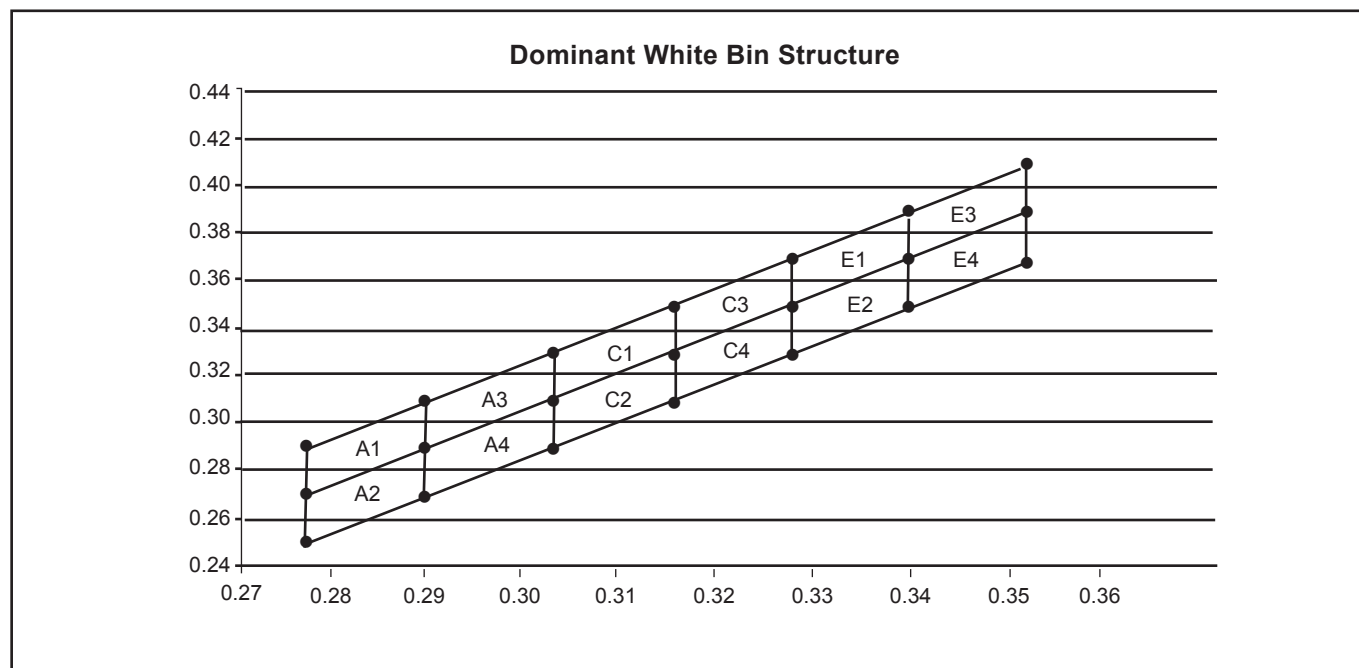
Forward voltages are measure using a current pulse of 1 ms and with an accuracy of $\pm 0.1V$.

Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	25	mA
Peak pulse current; (tp $\leq$ 100 μ s, Duty cycle = 0.10)	100	mA
Reverse voltage ; Ir (max) = 10 μ A.	5	V
ESD threshold (HBM)	2000	V
LED junction temperature	120	°C
Operating temperature	-40 ... +85	°C
Storage temperature	-40 ... +85	°C
Power dissipation (at room temperature)	95	mW

InGaN wavelength is very sensitive to drive current. Operating at lower current is not recommended and may yield unpredictable performance. Current pulsing should be used for dimming purposes.

White Color Grouping



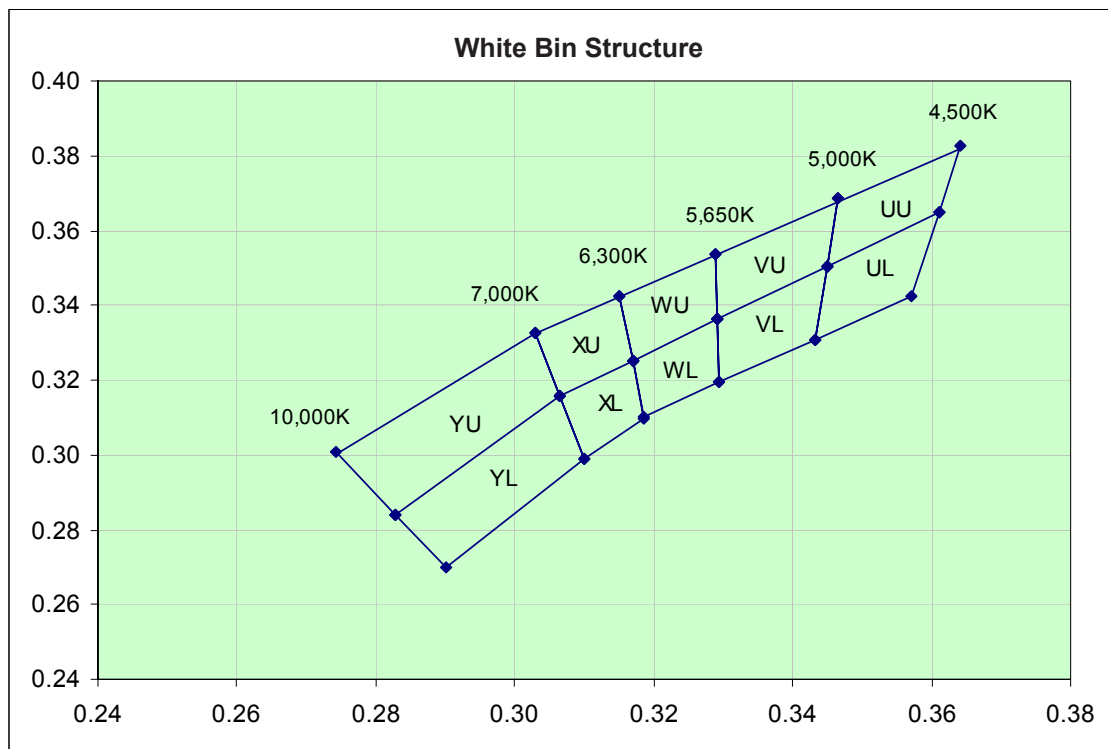
Chromaticity coordinate groups are measured with an accuracy of ± 0.01 .

Bin					
A1	Cx	0.2775	0.2900	0.2900	0.2775
	Cy	0.2732	0.2939	0.3114	0.2907
A2	Cx	0.2775	0.2900	0.2900	0.2775
	Cy	0.2557	0.2764	0.2939	0.2732
A3	Cx	0.2900	0.3025	0.3025	0.2900
	Cy	0.2939	0.3146	0.3321	0.3114
A4	Cx	0.2900	0.3025	0.3025	0.2900
	Cy	0.2764	0.2971	0.3146	0.2939
C1	Cx	0.3025	0.3150	0.3150	0.3025
	Cy	0.3146	0.3354	0.3529	0.3321
C2	Cx	0.3025	0.3150	0.3150	0.3025
	Cy	0.2971	0.3179	0.3354	0.3146
C3	Cx	0.3150	0.3275	0.3275	0.3150
	Cy	0.3354	0.3561	0.3736	0.3529
C4	Cx	0.3150	0.3275	0.3275	0.3150
	Cy	0.3179	0.3386	0.3561	0.3354

Bin					
E1	Cx	0.3275	0.3400	0.3400	0.3275
	Cy	0.3561	0.3768	0.3943	0.3736
E2	Cx	0.3275	0.3400	0.3400	0.3275
	Cy	0.3386	0.3593	0.3768	0.3561
E3	Cx	0.3400	0.3525	0.3525	0.3400
	Cy	0.3768	0.3975	0.4150	0.3943
E4	Cx	0.3400	0.3525	0.3525	0.3400
	Cy	0.3593	0.3800	0.3975	0.3768

Dominant color coordinate is measured with an accuracy of ± 0.01 .

White Color Grouping



Bin		1	2	3	4
YU	Cx	0.274	0.283	0.307	0.303
	Cy	0.301	0.284	0.316	0.333
YL	Cx	0.283	0.290	0.310	0.307
	Cy	0.284	0.270	0.299	0.316
XU	Cx	0.303	0.307	0.317	0.315
	Cy	0.333	0.316	0.325	0.343
XL	Cx	0.307	0.310	0.319	0.317
	Cy	0.316	0.299	0.310	0.325
WU	Cx	0.315	0.317	0.329	0.329
	Cy	0.343	0.325	0.336	0.354
WL	Cx	0.317	0.319	0.329	0.329
	Cy	0.325	0.310	0.319	0.336
VU	Cx	0.329	0.329	0.345	0.347
	Cy	0.354	0.336	0.350	0.368
VL	Cx	0.329	0.329	0.343	0.345
	Cy	0.336	0.319	0.331	0.350
UU	Cx	0.347	0.345	0.361	0.364
	Cy	0.368	0.350	0.365	0.383
UL	Cx	0.345	0.343	0.357	0.361
	Cy	0.350	0.331	0.343	0.365

Dominant color coordinate is measured with an accuracy of ± 0.01 .

Luminous Intensity Group at Tj=25°C

Brightness Group	Luminous Intensity IV (mcd)
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

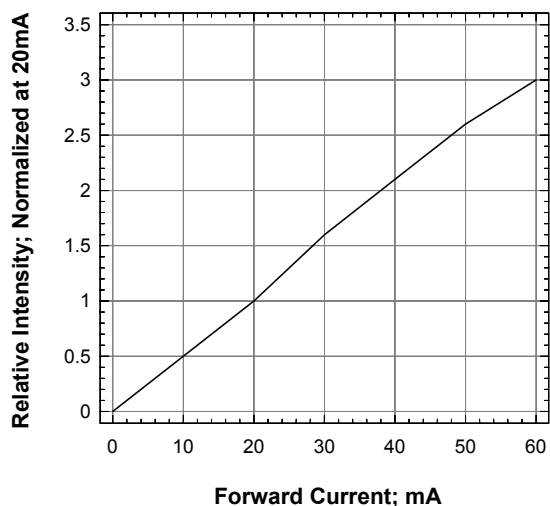
Luminous intensity is measured with an accuracy of $\pm 15\%$.

Vf Binning (Optional)

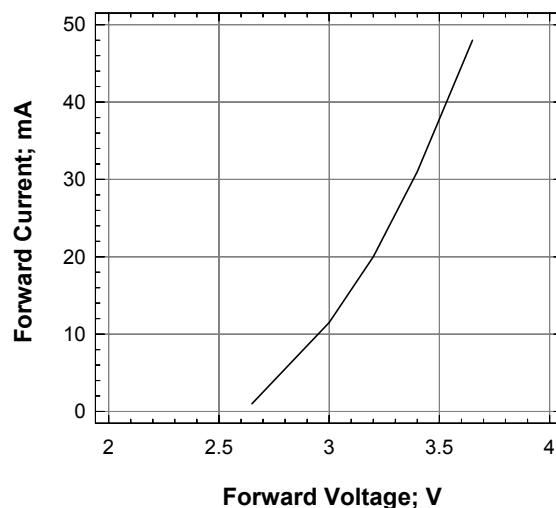
Vf Bin @ 20mA	Forward Voltage (V)
V7	2.80 ... 3.00
V8	3.00 ... 3.20
V9	3.20 ... 3.40
V10	3.40 ... 3.60
V11	3.60 ... 3.80

Forward voltage, Vf is measured with an accuracy of ± 0.1 V. Parts with the Vf binning option will be defined as L3W-Nxxxx-xxxx-x-Vx. Please consult sales and marketing for special part number to incorporate Vf binning.

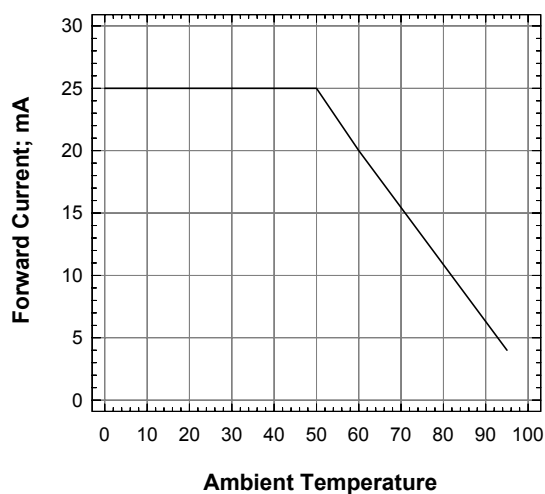
Relative Intensity Vs Forward Current



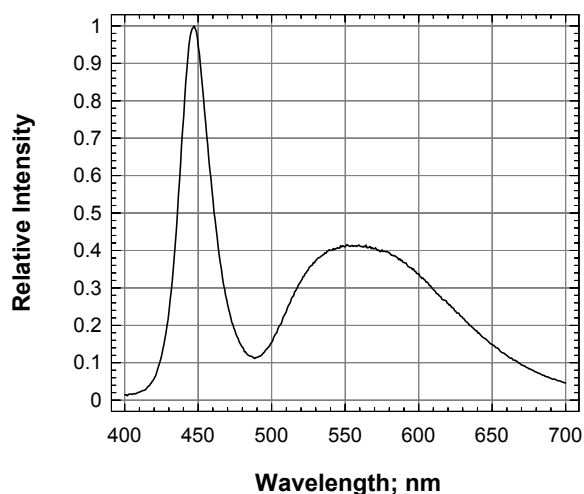
Forward Current Vs Forward Voltage



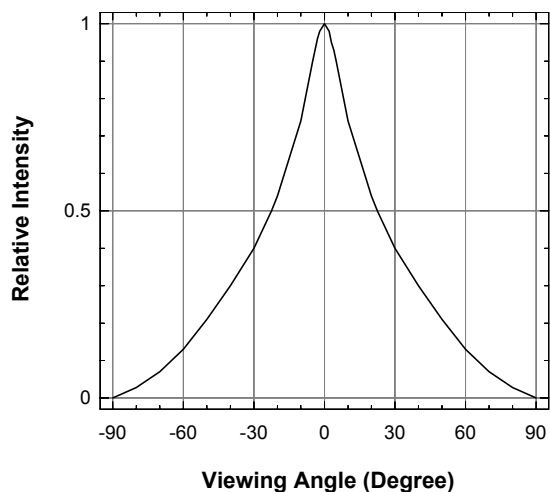
Forward Current Vs Ambient Temperature



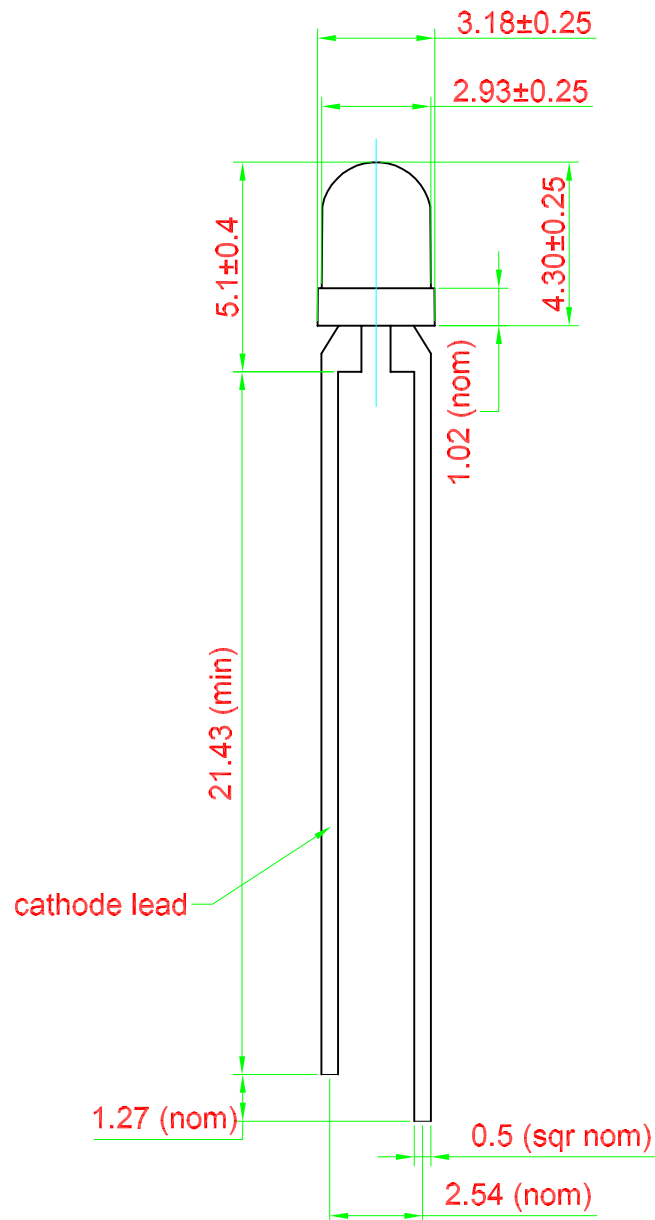
Relative Intensity Vs Wavelength



Radiation Pattern (2Θ=45°)



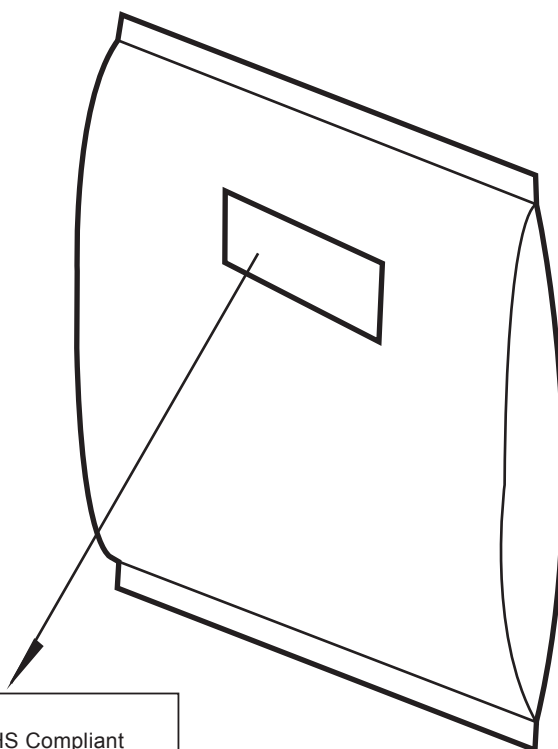
3mm Lamp • InGaN White: High Brightness Package Outlines



Packaging Specification

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

	Average 1pc 3mm Lamp	1 completed pack (500pcs)
Weight (gram)	0.29	70 ± 10

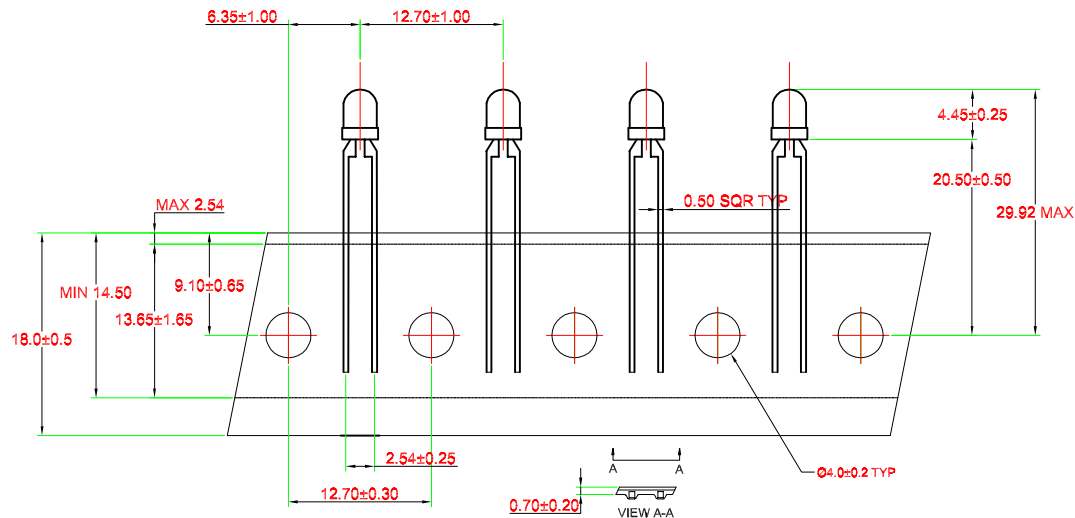


Barcode label

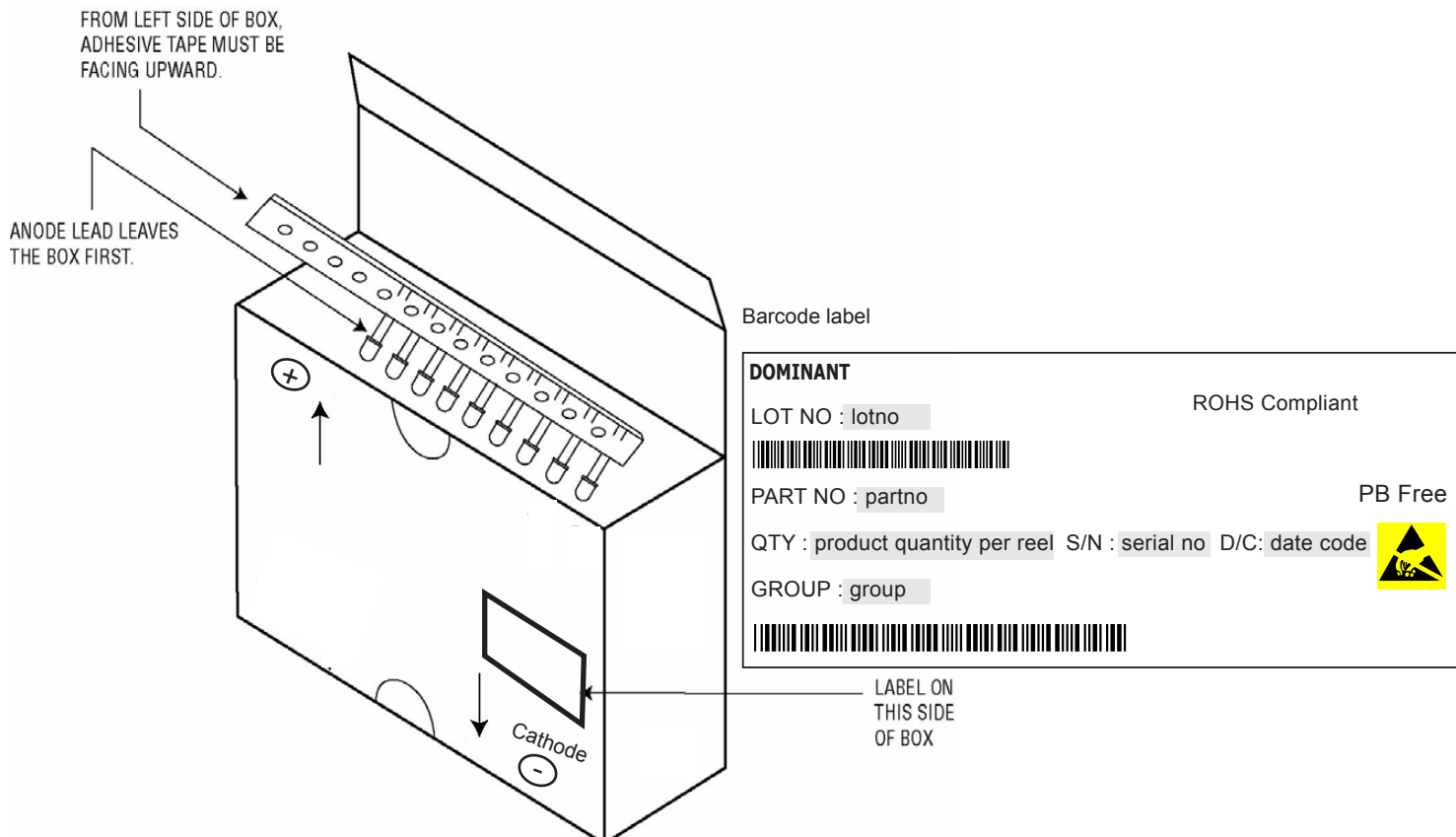
DOMINANT		ROHS Compliant
LOT NO : lotno		
		
PART NO : partno	PB Free	
QTY : product quantity per reel	S/N : serial no	D/C: date code
GROUP : group		
		

Packaging Specification

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

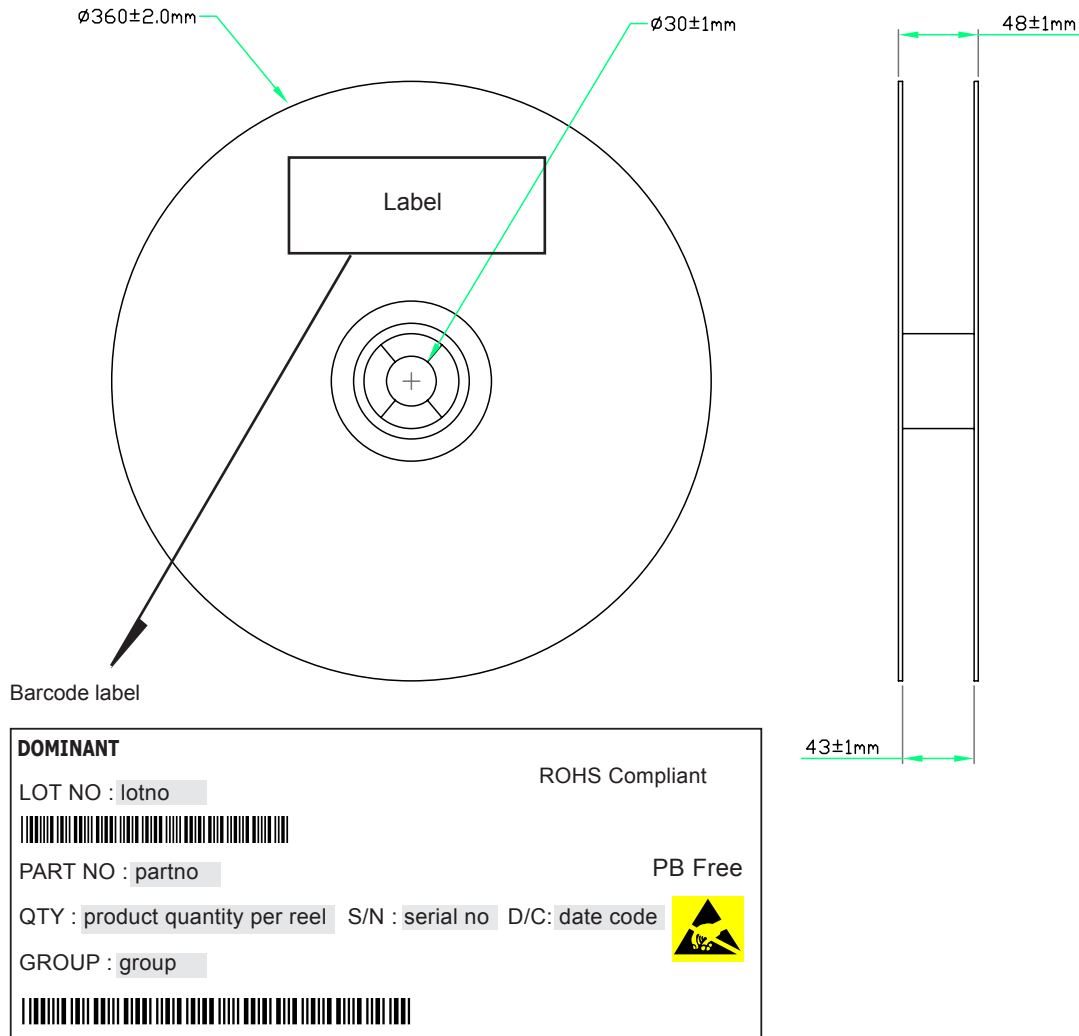


Average 1pc 3mm Lamp (g)	Box Dimensions (mm)	Empty Box Weight (kg)	Quantity / Box (pcs)	1 Completed Box With Units (kg)
0.12	345 x 275 x 48	0.16	5,000	0.85 ± 0.1

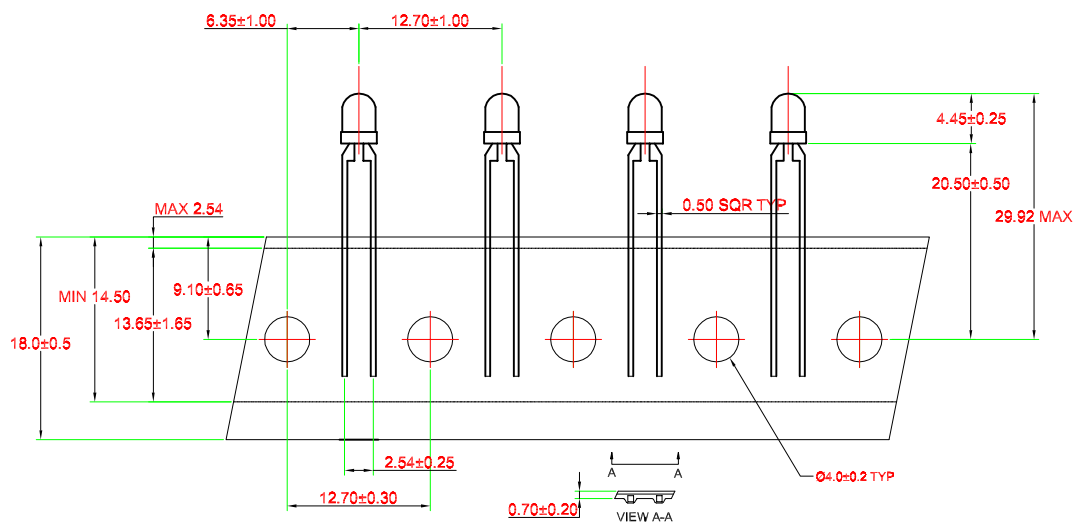


Packaging Specification

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



Average 1pc 3mm Lamp (g)	Empty Reel Weight (kg)	Quantity / Reel (pcs)	1 Completed Reel (kg)
0.12	0.39	1,800	0.75 ± 0.1



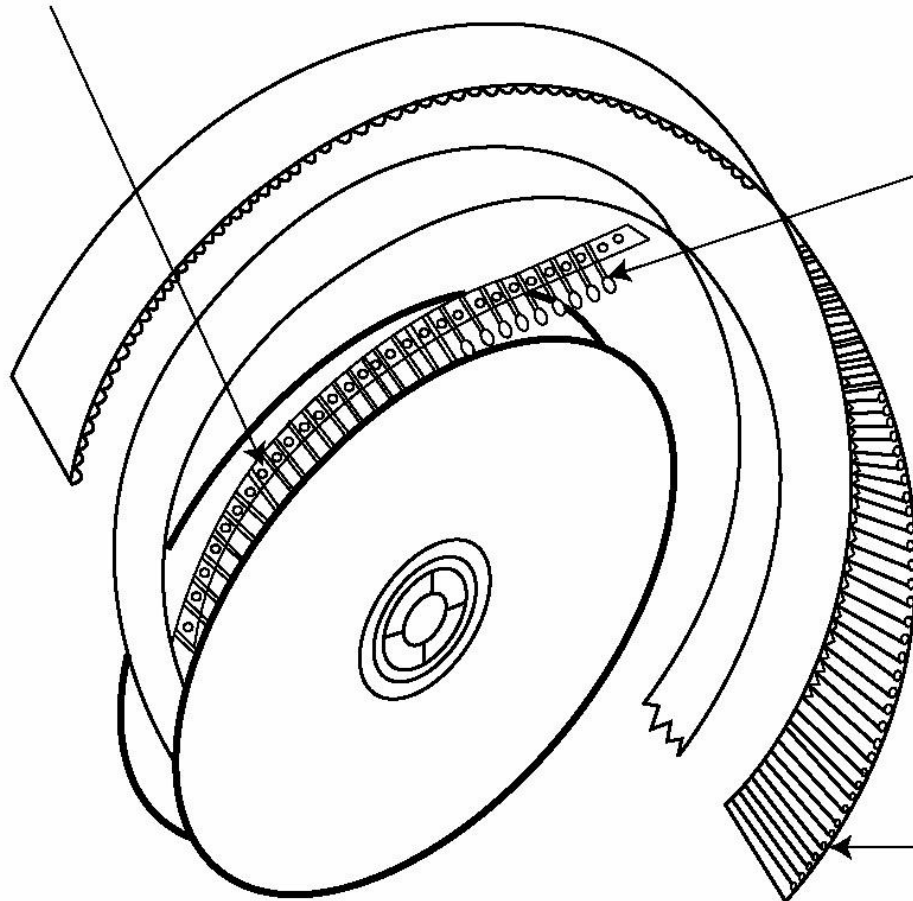
Packaging Specification

Adhesive Tape Must
Be Facing Towards
The Outside Of The Reel

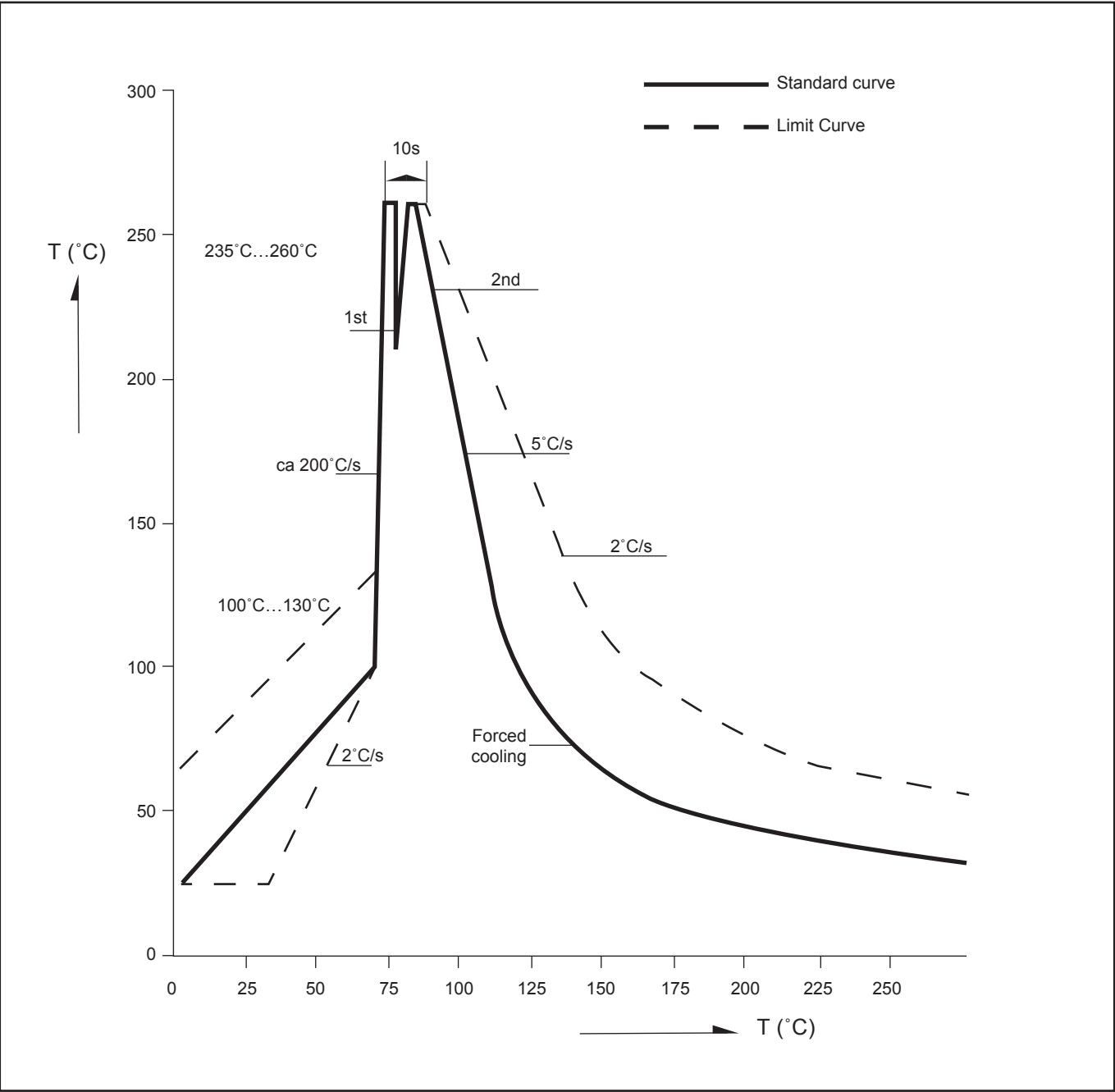
Reeling Orientation
Clockwise

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	29 Jun 2009
-	Update company name	01 Jul 2010
2, 3	- Add new partno: L3W-N4500-Z2AC-1 - Add E color bin	26 Aug 2010
2	Typo error on Operating Temperature and Stroage Temperature	08 Aug 2010
7, 9, 10	Typo error in package outline and taping	13 Dec 2012

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>.

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