

Lamp Type LED - 4mm Oval

Synonymous with function and performance, the 4mm Oval 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.
- > 100° x 50° viewing angle
- > 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.
L4R-RA5CS-VW2-1	Red, 625nm	100/50	715.0	950.0	1800.0
L4Y-RA5CS-VW2-1	Yellow, 588nm	100/50	715.0	950.0	1800.0

NOTE

- Luminous intensity is measured with an accuracy of ± 15%.
- 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)
L4x-RA5	1.8	2.2	2.6	12

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	50	mA
Peak pulse current; (tp ≤ 10µs, Duty cycle = 0.10)	200	mA
Reverse voltage ; Ir (max) = 10µA.	12	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)	130	mW

Wavelength Grouping at Tj=25°C

Color	Group	Wavelength distribution (nm)
L4R; Red	Full	620 - 630
L4Y; Yellow	Full	582 - 594
	W	582 - 585
	X	585 - 588
	Y	588 - 591
	Z	591 - 594

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

Luminous Intensity Group at Tj=25°C

Brightness Group	Luminous Intensity @ IV (mcd)
V1	715.0...900.0
V2	900.0...1125.0
W1	1125.0...1400.0
W2	1400.0...1800.0

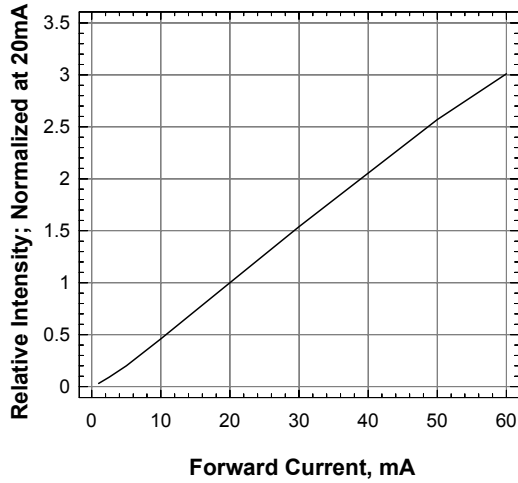
Luminous intensity is measured with an accuracy of ± 15%.

Vf Binning (Optional)

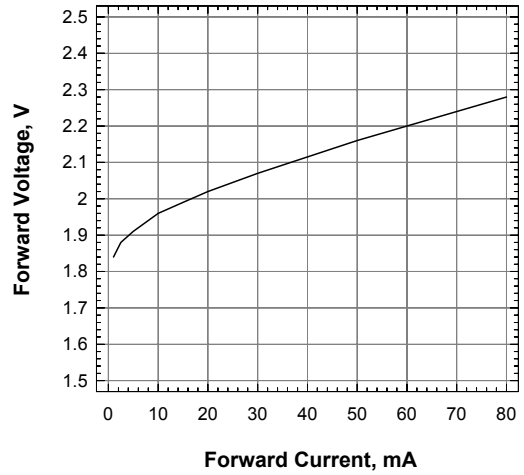
Vf Bin @ 20mA	Forward Voltage (V)
V2	1.80 ... 2.00
V3	2.00 ... 2.20
V4	2.20 ... 2.40
V5	2.40 ... 2.60

Forward voltage, Vf is measured with an accuracy of ± 0.1 V. Parts with the Vf binning option will be defined as L4x-RA5CS-xxxx-x-V. Please consult sales and marketing for special part number to incorporate Vf binning.

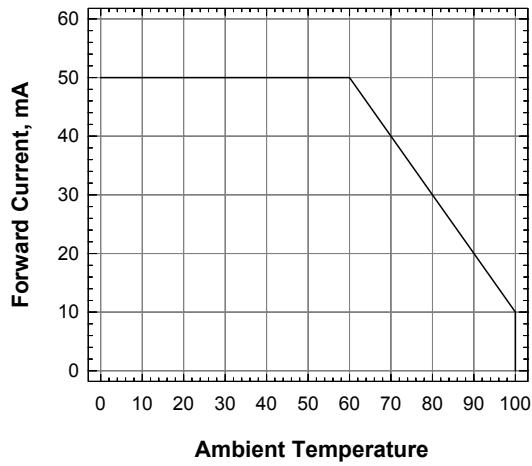
Relative Luminous Intensity Vs Forward Current



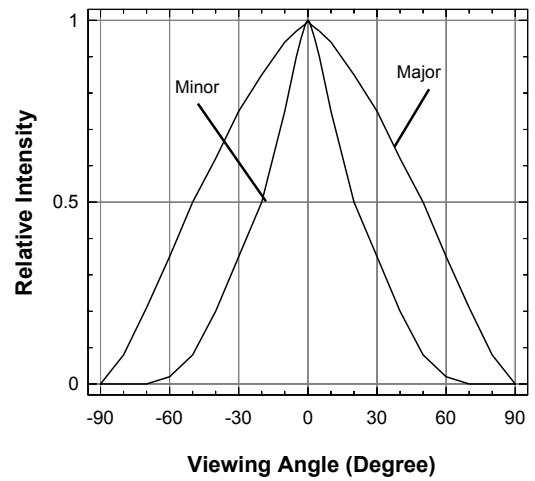
Forward Current Vs Forward Voltage



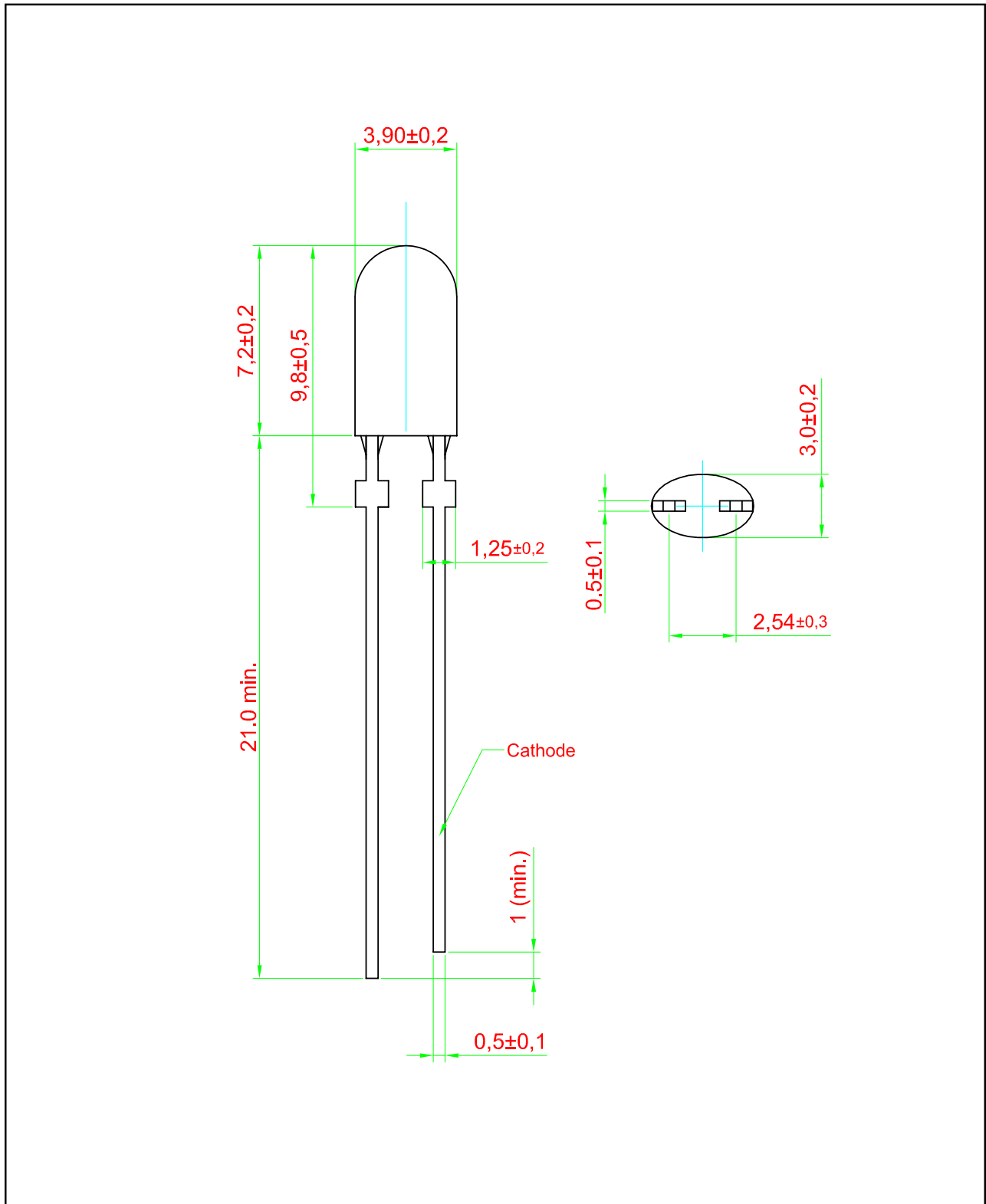
Maximum Current Vs Temperature



Radiation Pattern



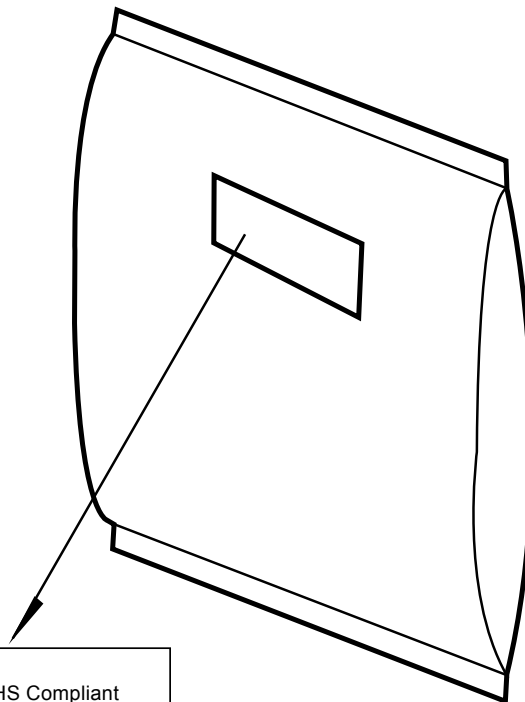
4mm Oval Lamp • HB AlInGaP : Package Outlines





Packaging Specification

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

	Average 1pc 4mm Lamp	1 completed pack (500pcs)
Weight (gram)	0.29	155 ± 10

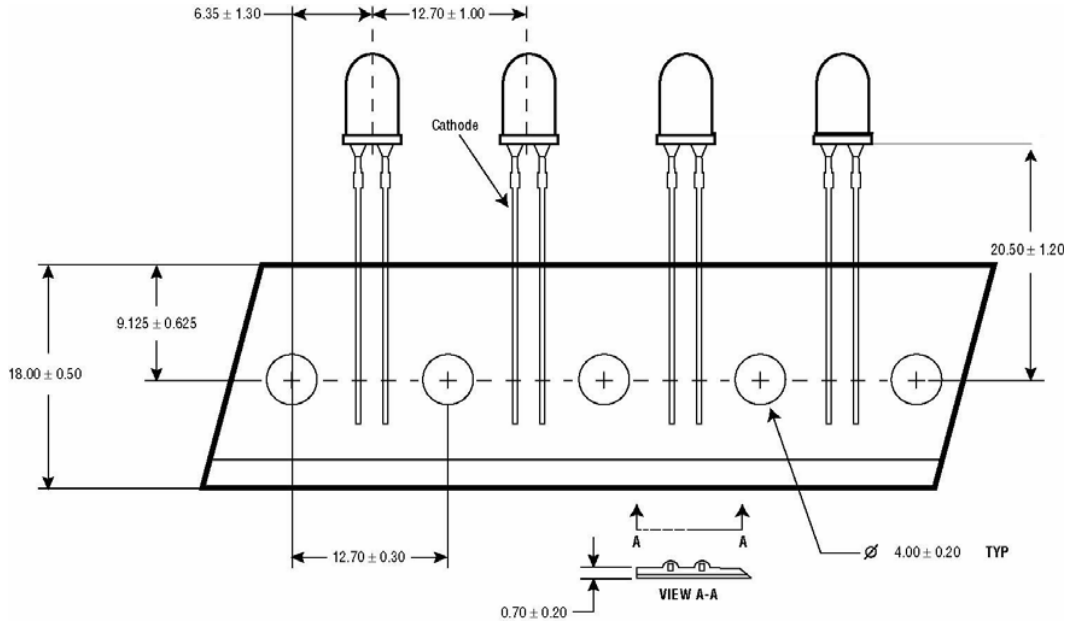


Barcode label

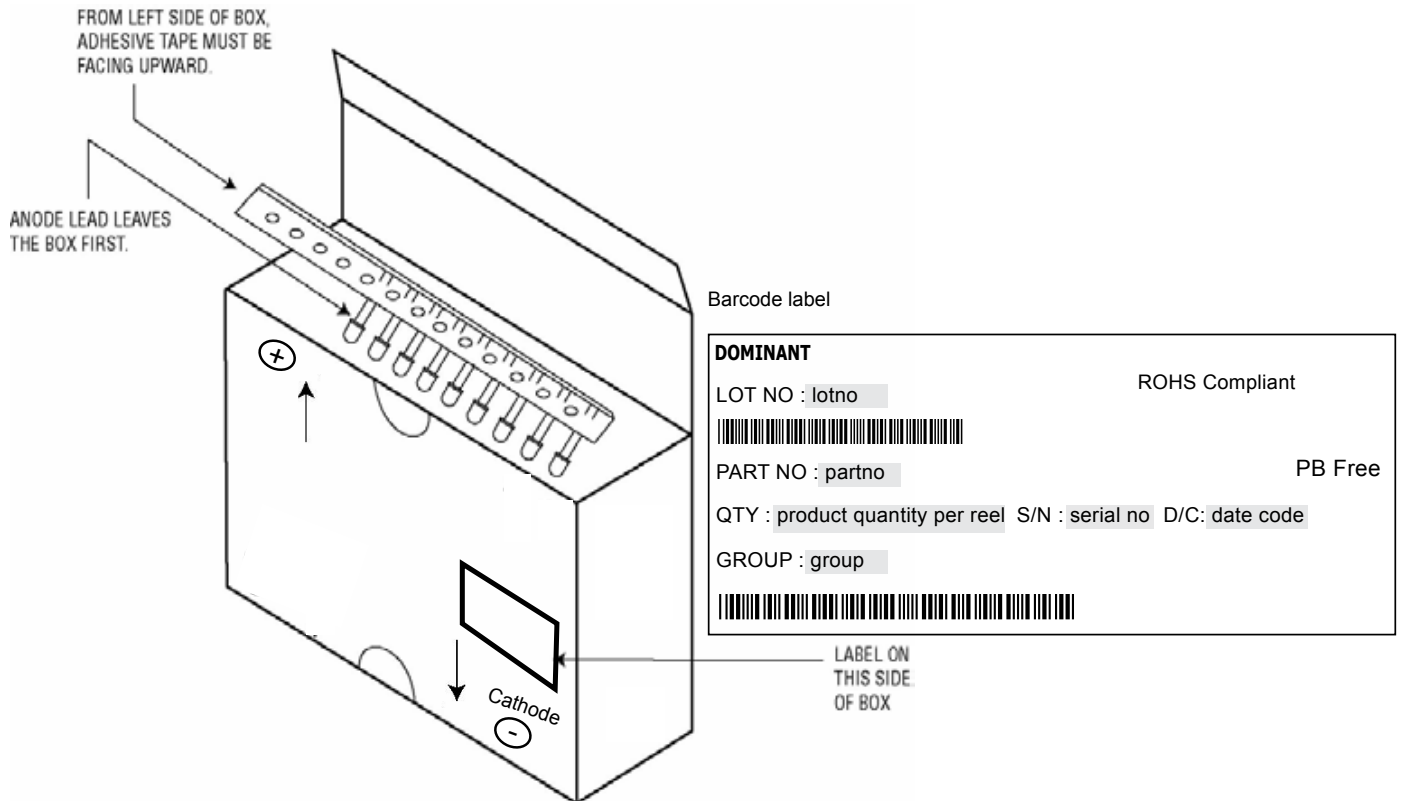
DOMINANT		ROHS Compliant
LOT NO : lotno		
		
PART NO : partno		PB Free
QTY : product quantity per reel	S/N : serial no	D/C: date code
GROUP : group		
		

Packaging Specification

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

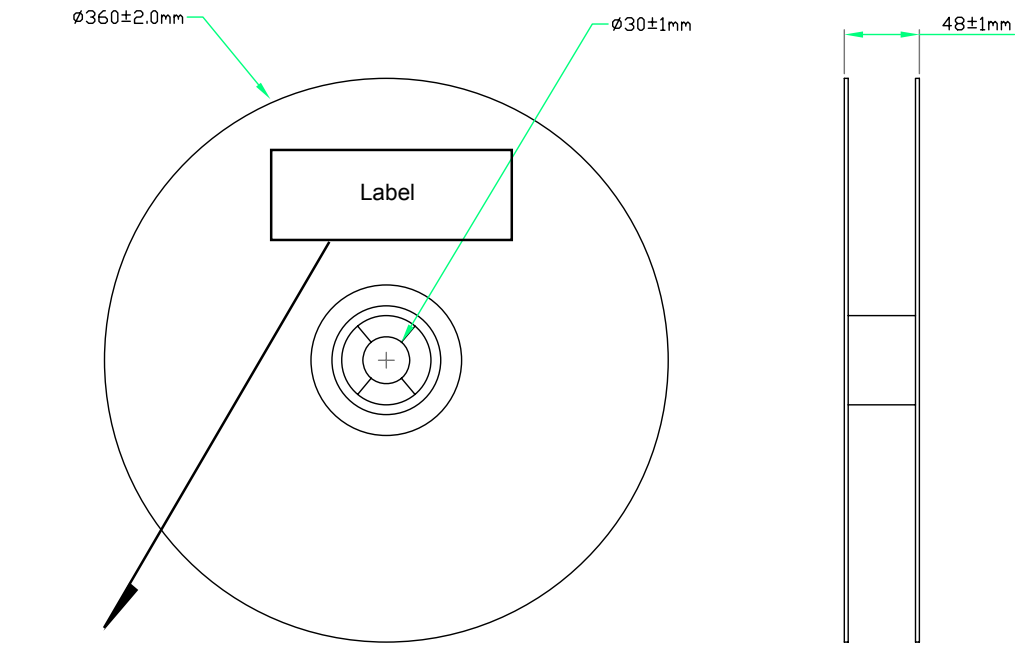


Average 1pc 4mm Lamp (g)	Box Dimensions (mm)	Empty Box Weight (kg)	Quantity / Box (pcs)	1 Completed Box With Units (kg)
0.29	335 x 235 x 48	0.14	2,000	0.95 ± 10



Packaging Specification

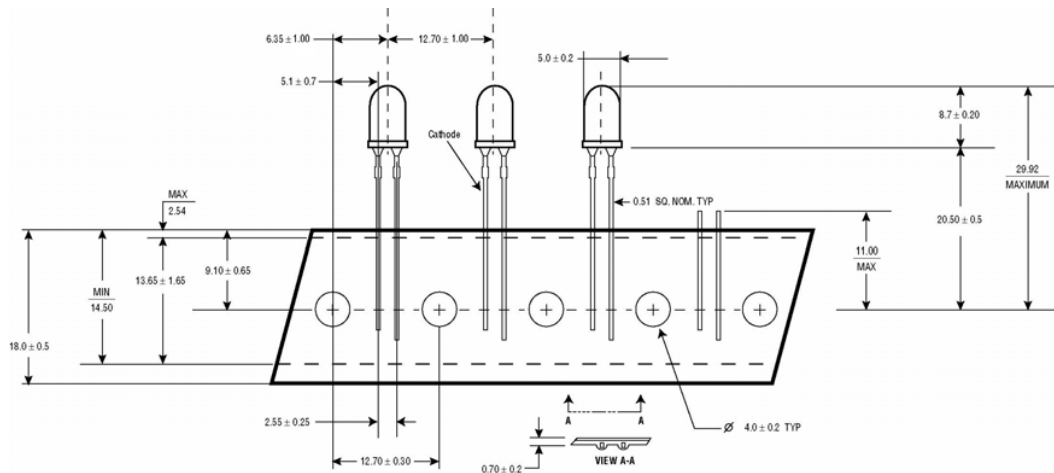
3. Reel: Lxx-xxxxx-xxxx-x-x-T



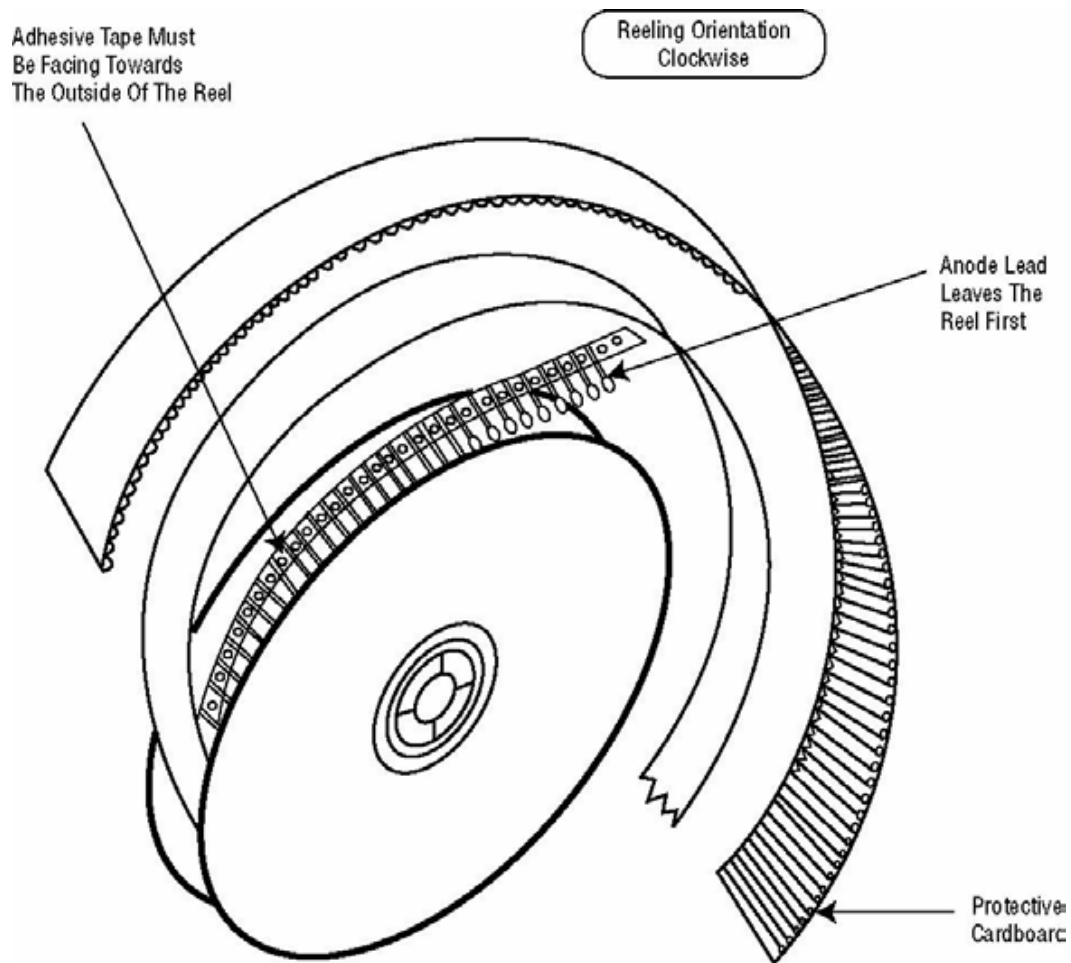
Barcode label

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		

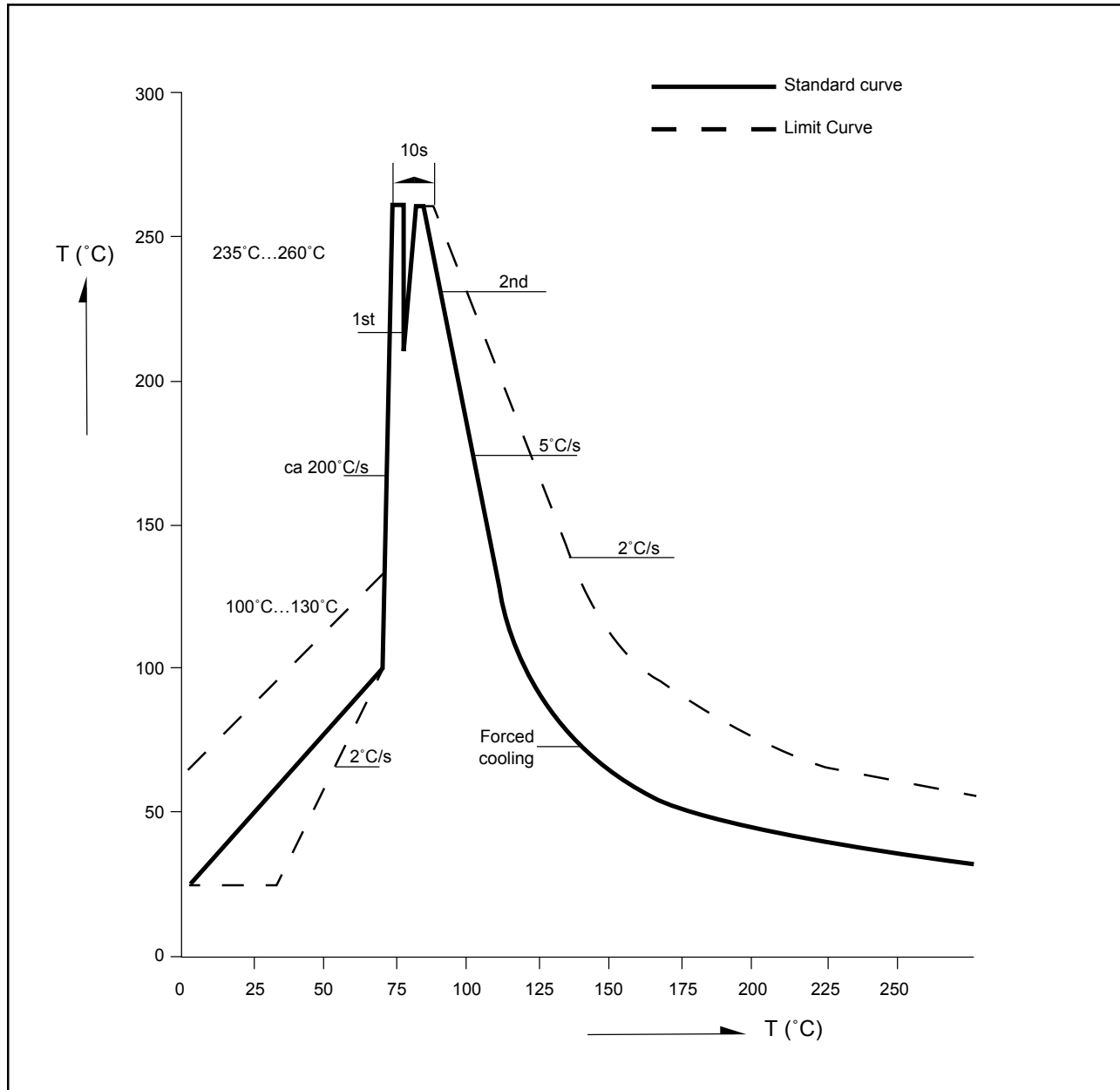
Average 1pc 4mm Lamp (g)	Empty Reel Weight (kg)	Quantity / Reel (pcs)	1 Completed Reel (kg)
0.29	0.39	1,300	0.95 ± 10



Packaging Specification



Recommended TTW Soldering Profile (acc. to CECC 00802)



Revision History

Page	Subjects	Date of Modification
-	Initial Release	24 Mar 2010

NOTE

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