

### **Lamp Type LED - 3mm**

This 3mm LED is widely used in general purpose indicator applications. These lamps are offering superior light output and wide viewing angles due to the optical design.



### **Features:**

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

### **Applications:**

- > Lighted switches
- > Light pipe sources
- > Keyboard indicators

## Optical Characteristics at Tj=25°C

| Part Ordering Number | Color             | Viewing Angle° | Luminous Intensity @ IF = 20mA IV (mcd) |       |       |
|----------------------|-------------------|----------------|-----------------------------------------|-------|-------|
|                      |                   |                | Min.                                    | Typ.  | Max.  |
| L3S-C50EA-S2U1-1     | Super Red, 632nm  | 50             | 224.0                                   | 400.0 | 560.0 |
| L3O-C50EA-TU2-1      | Orange, 605nm     | 50             | 285.0                                   | 450.0 | 715.0 |
| L3Y-C50EA-TU2-1      | Yellow, 588nm     | 50             | 285.0                                   | 450.0 | 715.0 |
| L3P-C50EA-PQ2-1      | Pure Green, 560nm | 50             | 45.0                                    | 71.5  | 112.5 |

### 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)       |
| L3x-C5000   | 1.8            | 2.0      | 2.6      | 12             |

Forward voltage, measured with an accuracy of  $\pm 0.1V$ .

## Absolute Maximum Ratings

|                                                             | Maximum Value | Unit |
|-------------------------------------------------------------|---------------|------|
| DC forward current                                          | 30            | mA   |
| Peak pulse current; (tp $\leq 10\mu s$ , Duty cycle = 0.10) | 500           | mA   |
| Reverse voltage ; Ir (max) = 10 $\mu A$ .                   | 12            | V    |
| ESD threshold (HBM)                                         | 2000          | V    |
| LED junction temperature                                    | 110           | °C   |
| Operating temperature                                       | -40 ... +100  | °C   |
| Storage temperature                                         | -40 ... +100  | °C   |
| Power dissipation (at room temperature)                     | 75            | mW   |

### Wavelength Grouping at Tj=25°C

| Color           | Group | Wavelength distribution (nm) |
|-----------------|-------|------------------------------|
| L3S, Super Red  | Full  | 625 - 640                    |
| L3O, Orange     | Full  | 600 - 612                    |
|                 | W     | 600 - 603                    |
|                 | X     | 603 - 606                    |
|                 | Y     | 606 - 609                    |
|                 | Z     | 609 - 612                    |
| L3Y, Yellow     | Full  | 582 - 594                    |
|                 | W     | 582 - 585                    |
|                 | X     | 585 - 588                    |
|                 | Y     | 588 - 591                    |
|                 | Z     | 591 - 594                    |
| L3P, Pure Green | Full  | 552.5 - 564.5                |
|                 | W     | 552.5 - 555.5                |
|                 | X     | 555.5 - 558.5                |
|                 | Y     | 558.5 - 561.5                |
|                 | Z     | 561.5 - 564.5                |

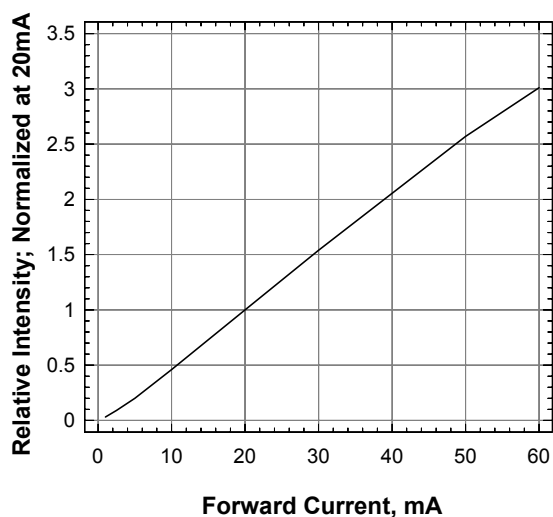
Dominant wavelength is measured with an accuracy of  $\pm 1$  nm.

### Luminous Intensity Group at Tj=25°C

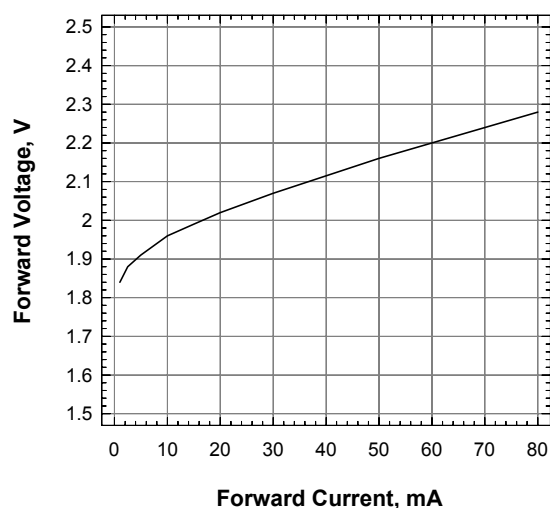
| Brightness Group | Luminous Intensity<br>IV (mcd) |
|------------------|--------------------------------|
| P1               | 45.0 ... 56.0                  |
| P2               | 56.0 ... 71.5                  |
| Q1               | 71.5 ... 90.0                  |
| Q2               | 90.0 ... 112.5                 |
| S2               | 224.0 ... 285.0                |
| T1               | 285.0 ... 355.0                |
| T2               | 355.0 ... 450.0                |
| U1               | 450.0 ... 560.0                |
| U2               | 560.0 ... 715.0                |

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

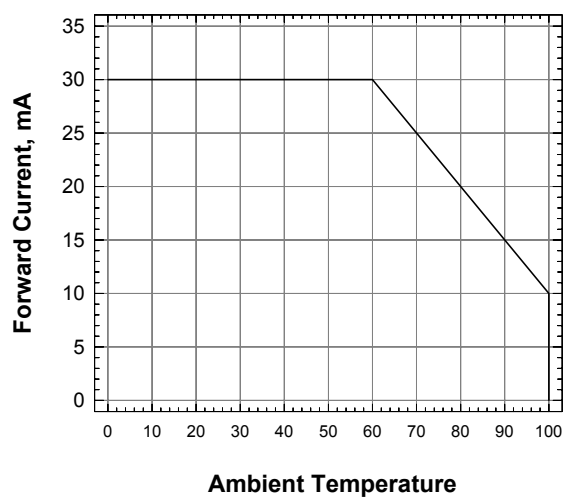
**Relative Luminous Intensity Vs Forward Current**



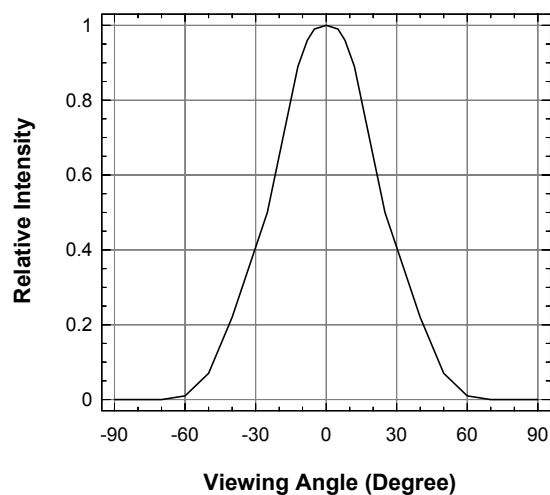
**Forward Current Vs Forward Voltage**



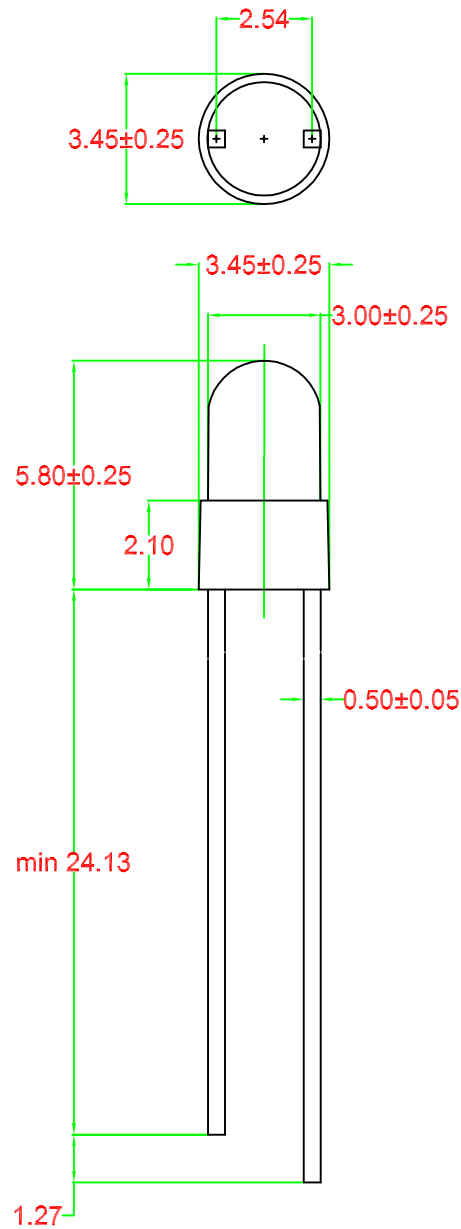
**Maximum Current Vs Temperature**



**Radiation Pattern (2θ=50°)**



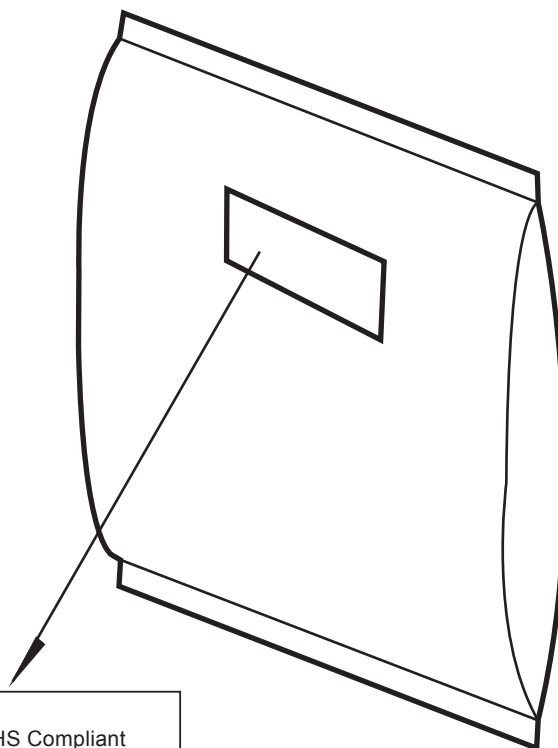
**3mm Thick Flange Lamp • AllnGaP L3x-C50xA : High Brightness Package Outlines**



## Packaging Specification

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

|               | Average 1pc 3mm Lamp | 1 completed pack (500pcs) |
|---------------|----------------------|---------------------------|
| Weight (gram) | 0.12                 | 70 ± 10                   |

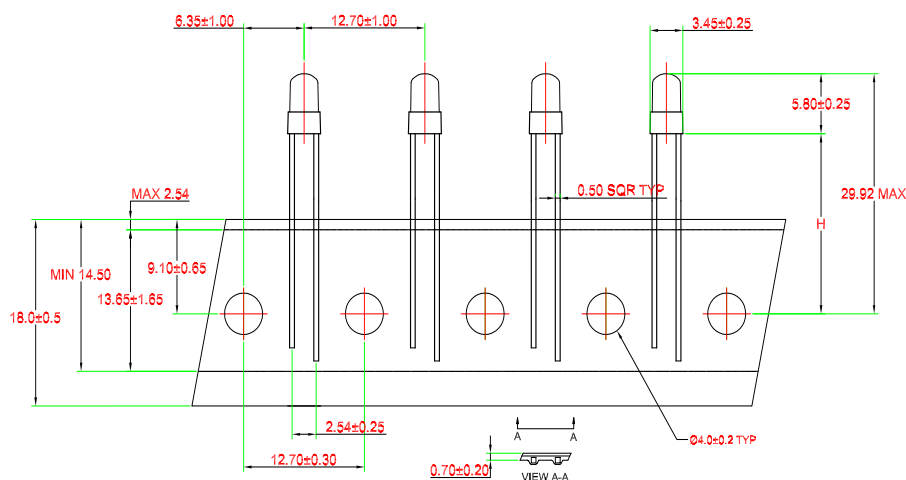


Barcode label

|                                                                                     |                                                                                     |                |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------|
| <b>DOMINANT</b>                                                                     |                                                                                     | 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                                                                       |  |                |
|  |                                                                                     |                |

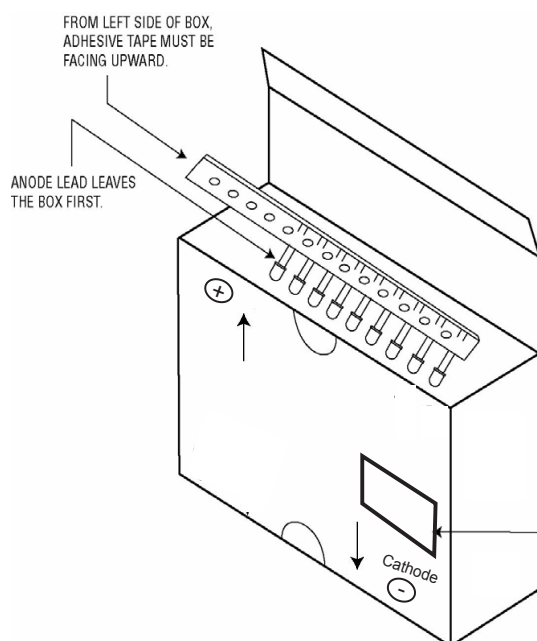
## Packaging Specification

### 2. Ammopack: Lxx-xxxxx-xxxx-x-x-ANxx



| Packing Variant | H              | Polarity of 1st Lead Leaves the Box |
|-----------------|----------------|-------------------------------------|
| A N 1 8         | $18.0 \pm 0.5$ | Anode                               |
| A N 2 3         | $22.5 \pm 0.5$ | Anode                               |
| A N 2 7         | $27.0 \pm 0.5$ | Anode                               |

| 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 420 x 48      | 0.16                  | 5,000                | $0.85 \pm 0.1$                  |



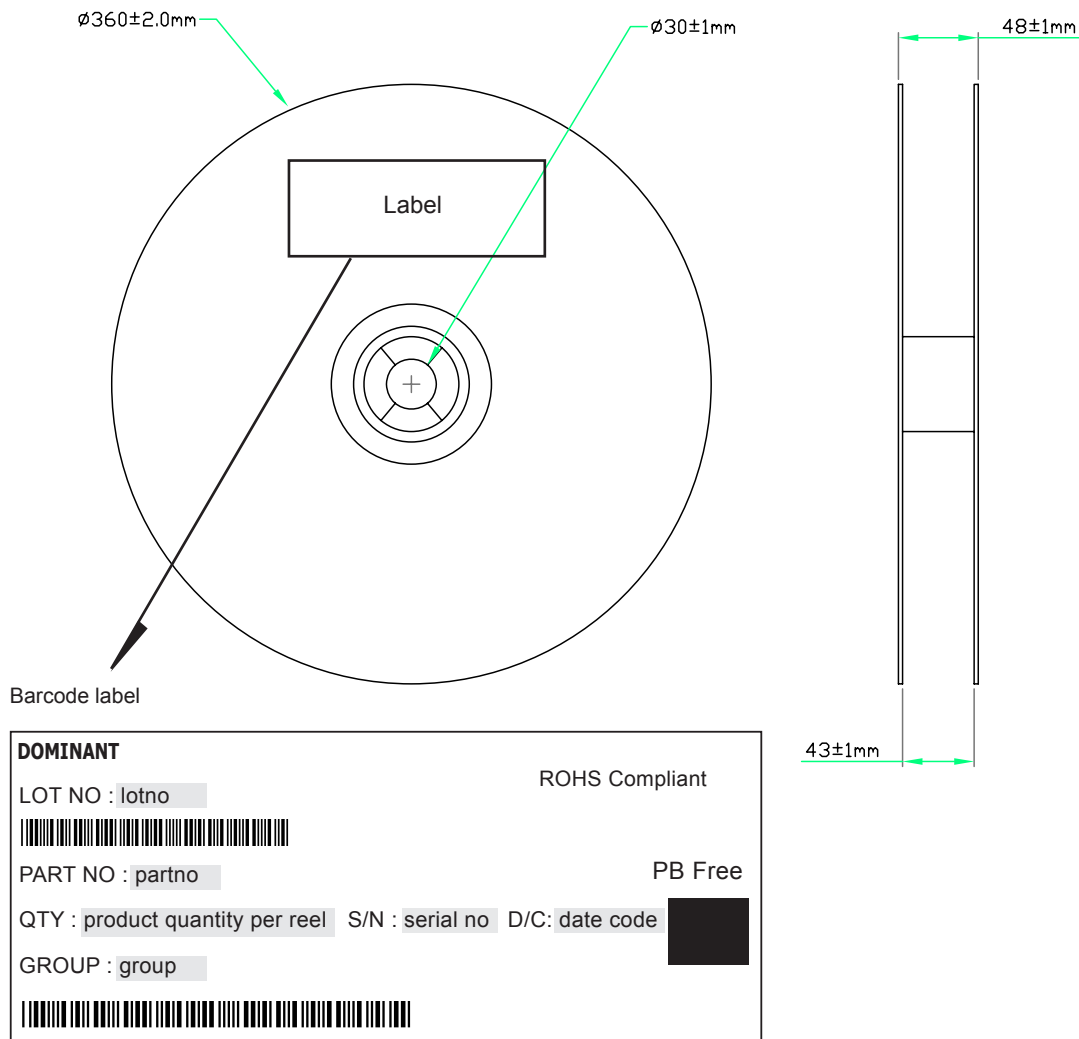
Barcode label

|                                                                |  |                |
|----------------------------------------------------------------|--|----------------|
| <b>DOMINANT</b>                                                |  | 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                                                  |  |                |
|                                                                |  |                |

LABEL ON THIS SIDE OF BOX

## Packaging Specification

### 3. Reel: Lxx-xxxxxx-xxxx-x-x-TRNxxx

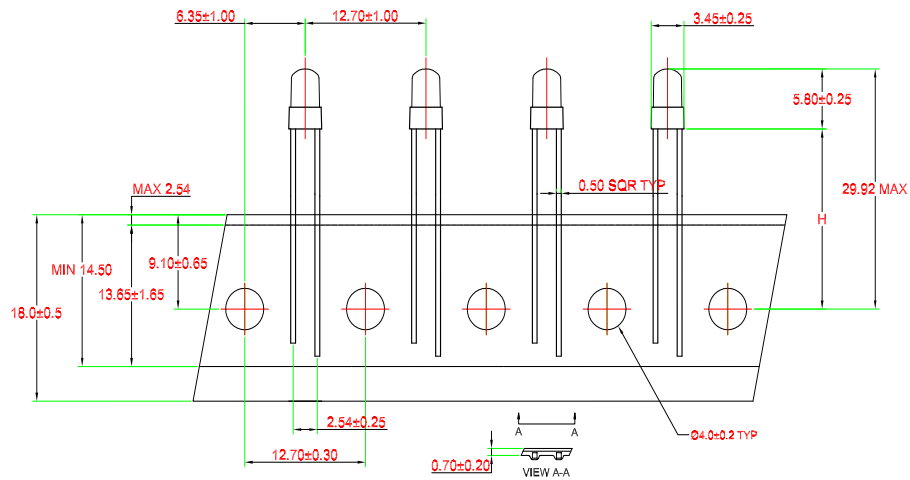


| Average 1pc 3mm Lamp (g) | Empty Reel Weight (kg) | Quantity / Reel (pcs) | 1 Completed Reel (kg) |
|--------------------------|------------------------|-----------------------|-----------------------|
| 0.12                     | 0.39                   | 1,800                 | <b>0.75 ± 0.1</b> 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



## Packaging Specification

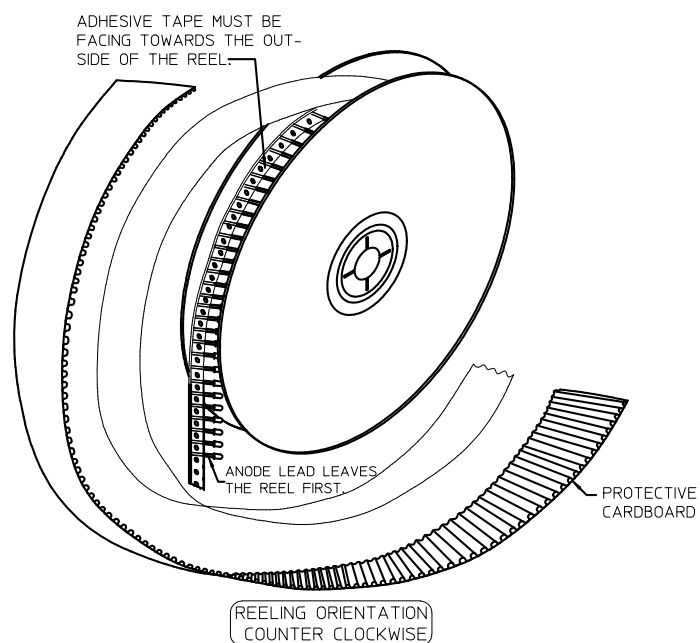
### 3. Reel: Lxx-xxxxxx-xxxx-x-x-TRNxxx



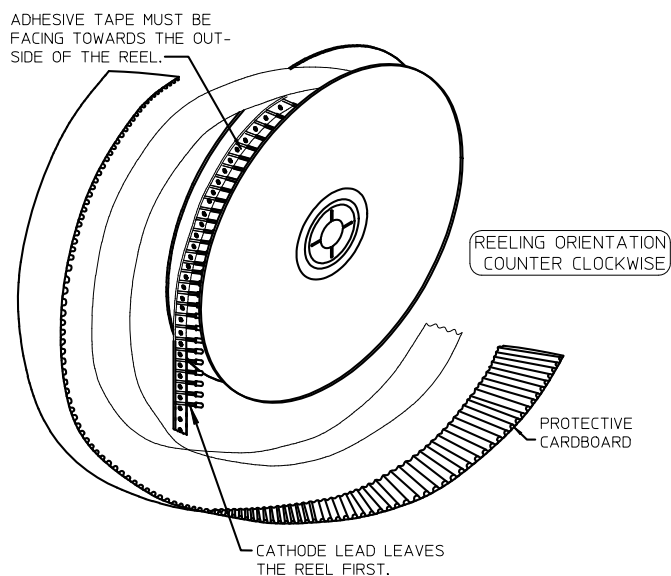
| Packing Variant | H          | Polarity of 1st Lead Leaves the Box |
|-----------------|------------|-------------------------------------|
| R N 1 8 A       | 18.0 ± 0.5 | Anode                               |
| R N 1 8 C       | 18.0 ± 0.5 | Cathode                             |
| R N 2 1 A       | 20.5 ± 0.5 | Anode                               |
| R N 2 1 C       | 20.5 ± 0.5 | Cathode                             |
| R N 2 3 A       | 22.5 ± 0.5 | Anode                               |
| R N 2 3 C       | 22.5 ± 0.5 | Cathode                             |
| R N 2 5 A       | 25.0 ± 0.5 | Anode                               |
| R N 2 5 C       | 25.0 ± 0.5 | Cathode                             |
| R N 2 9 A       | 28.5 ± 0.5 | Anode                               |
| R N 2 9 C       | 28.5 ± 0.5 | Cathode                             |

## Packaging Specification

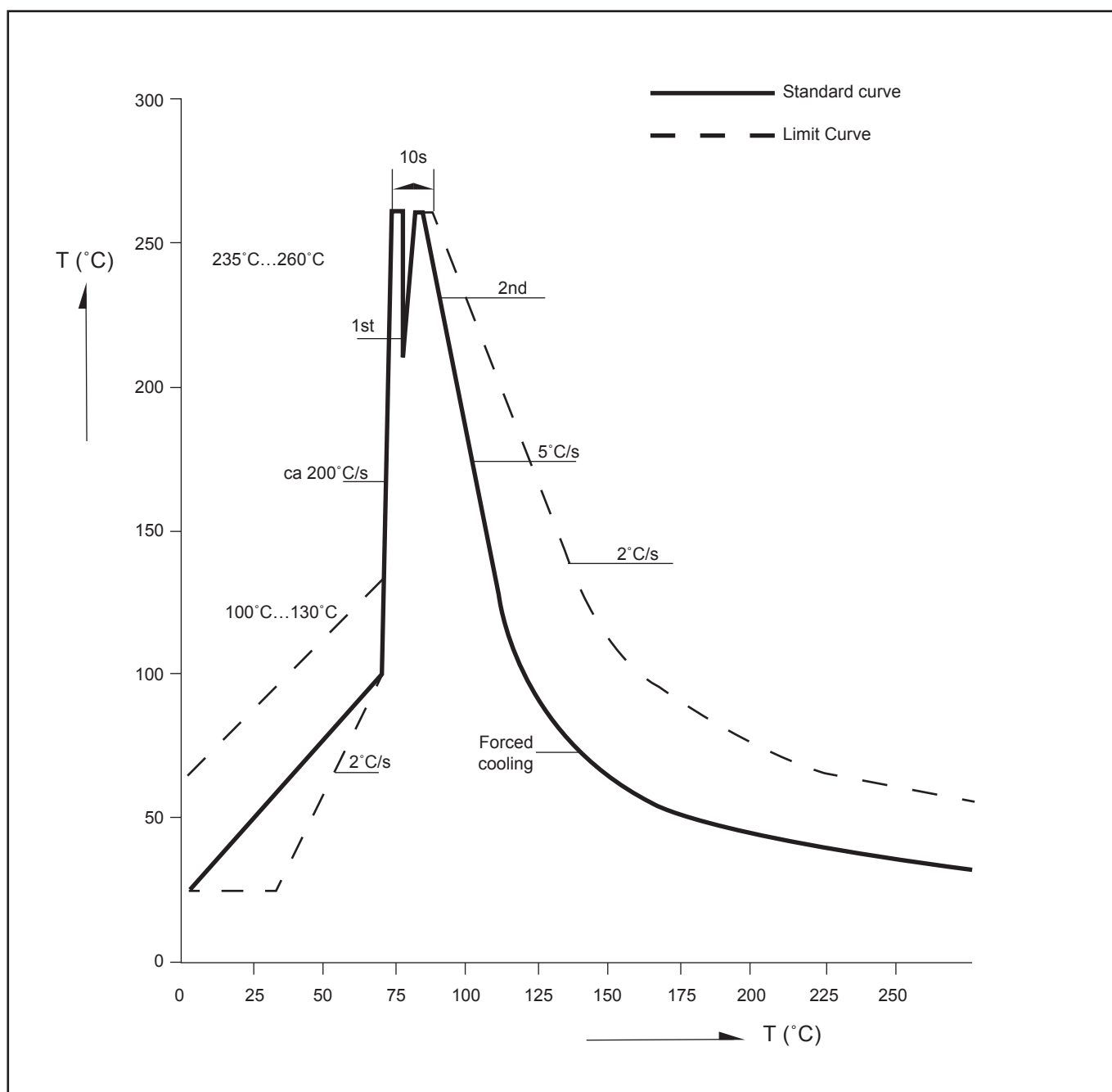
### 1. Anode option:



### 2. Cathode option:



**Recommended TTW Soldering Profile (acc. to CECC 00802)**



## Revision History

| Page | Subjects                                                                | Date of Modification |
|------|-------------------------------------------------------------------------|----------------------|
| -    | Initial release                                                         | 02 Oct 2012          |
| 2    | Add new partno: L3O-C50EA-TU2-1,<br>L3Y-C50EA-TU2-1,<br>L3P-C50EA-PQ2-1 | 02 Jan 2013          |
|      |                                                                         |                      |
|      |                                                                         |                      |
|      |                                                                         |                      |
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### 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:**

#### Head Quarter

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](mailto:sales@dominant-semi.com)

#### DOMINANT Opto Technologies (Shanghai) Co., Ltd

Rm 305, Hongwell International Plaza No. 1600 Zhong Shan(W) Rd, Xuhui District, 200235 Shanghai, China  
Tel: +86 21 5403 5655, Fax: +86 21 5403 6055  
E-mail: [sales\\_china@dominant-semi.com](mailto:sales_china@dominant-semi.com)

#### DOMINANT Korea Sales Office

DOMINANT Semiconductors Korea Inc.  
#211, Suntech City, 513-15, Sangdaewon 1-Dong, Jungwon-Gu, Seongnam-Si, Gyeonggi-Do, 462-725 Korea.  
Tel: +82-31-701-5203 Fax: +82-31-701-5204  
E-mail: [sales\\_korea@dominant-semi.com](mailto:sales_korea@dominant-semi.com)

#### DOMINANT Europe Sales Office

DOMINANT Semiconductors Europe GmbH  
Raiffeisenstr. 38, 74906 Bad Rappenau Germany  
Tel: +49 (0) 7264-89010-0 Fax: +49 (0) 7264-89010-29  
E-mail: [info@dominant-semi.eu](mailto:info@dominant-semi.eu)

#### DOMINANT U.S.A Sales Office

25 Rockaway Road, 08833 Lebanon, New Jersey, USA  
Tel: +1(908) 439-9930 Cell: +1(908) 343-5810 Fax: +1(908) 439-9929  
E-mail: [don.wendel@dominant-semi.com](mailto:don.wendel@dominant-semi.com)

#### DOMINANT India Sales Office

C-11, Vesanth Business Centre, #86, TTK Road, Alwarpet Chennai - 600 018, India.  
Tel: +91-44-42030616 / 516 Fax: +91-44-4920616 Cell: +91-9444 920 537  
E-mail: [pravat.behera@dominant-semi.com](mailto:pravat.behera@dominant-semi.com)

