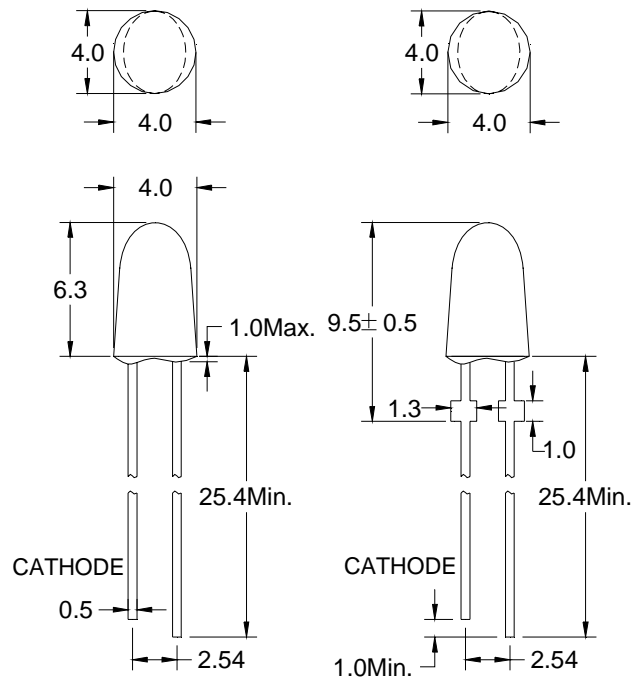




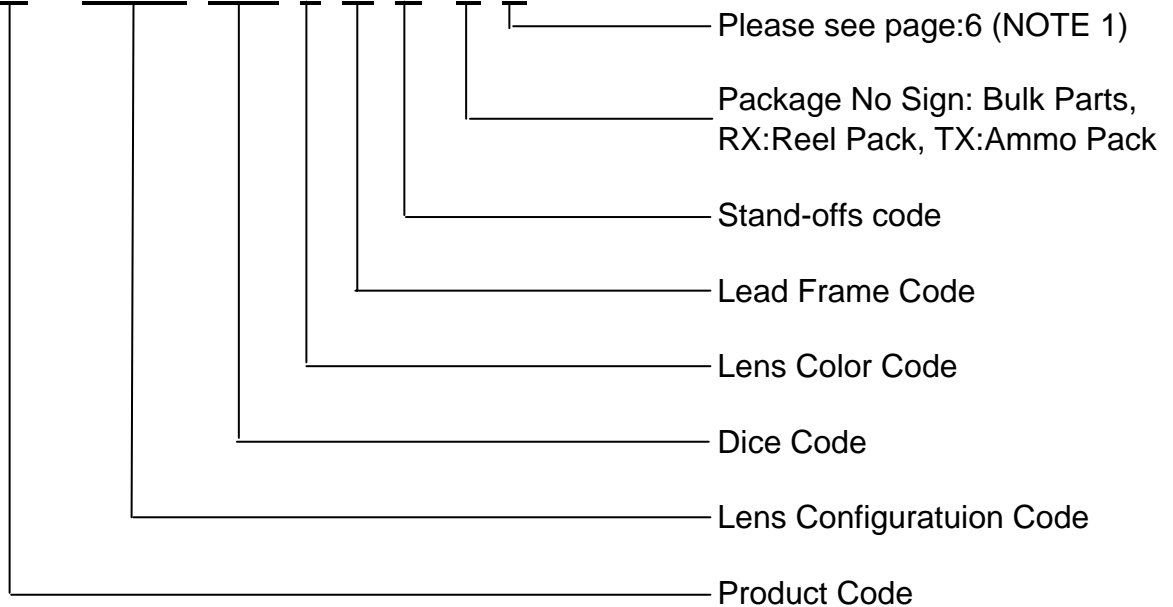
■ **Outline Dimensions : ( mm )**



Tolerance :  $\pm 0.25$  mm

■ **Part Numbering System :**

**B V Q - 4 2 9 T H 9 M R - X X**



■ **Sub Part Numbering :**

Please also refer to the label on product bags and cartons.

**■ Absolute Maximum Ratings at Ta = 25 °C**

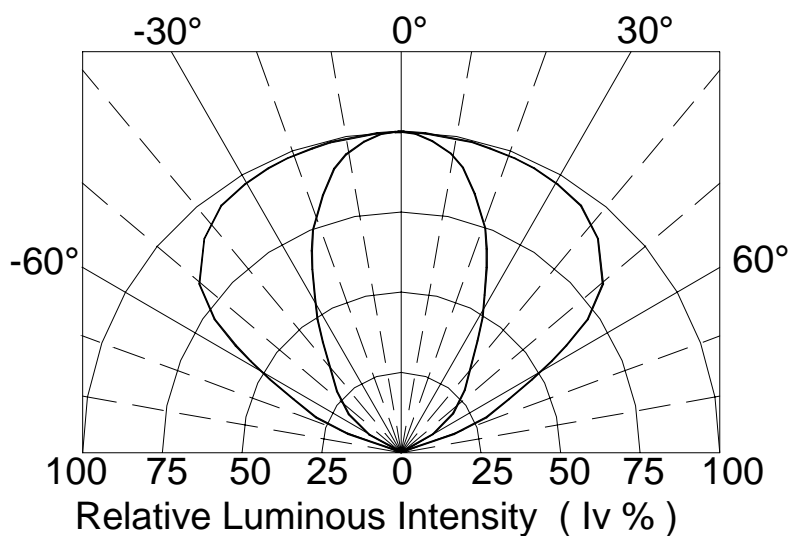
PARAMETER	MAX.	UNIT
Power Dissipation (P <sub>D</sub> )	75	mW
Continuous Forward Current (I <sub>F</sub> )	30	mA
Peak Forward Current ( 1/10 Duty Cycle , 0.1ms Pulse Width ) (I <sub>FP</sub> )	160	mA
Reverse Voltage (V <sub>R</sub> )	5	V
Operating Temperature Range (T <sub>opr</sub> )	-40 to + 100	°C
Storage Temperature Range (T <sub>stg</sub> )	-40 to + 100	°C
Lead Solder Temperature 1.6mm Below Package (T <sub>sld</sub> )	260 °C for 5 seconds	

**■ Electro-Optical Characteristics at Ta = 25 °C**

PARAMETER	SYMBOL	TEST CONDITION	VALUES			UNIT
			MIN.	TYP.	MAX.	
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	—	(1.9)	2.4	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> = 5V	—	—	100	μA
Peak Emission Wavelength	λ <sub>p</sub>	I <sub>F</sub> =20mA	—	592	—	nm
Dominant Wavelength	λ <sub>d</sub>	I <sub>F</sub> =20mA	—	590	—	nm
Viewing Angle at 50% I <sub>v</sub>	2θ 1/2	I <sub>F</sub> =20mA	—	120/60	—	Deg.
Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> =20mA	465	(600)	—	mcd

**■ Radiation Characteristic :**

Ta=25°C



**■ Bin Grade Limits (  $I_F = 20\text{ mA}$  ) Luminous Intensity / mcd**Tolerance :  $\pm 15\%$ 

Bin	F	G	H	I	J	K
Min.	360	465	600	780	1000	1300
Max.	465	600	780	1000	1300	1680

Please contact our sales department for more information.

**■ Bin Grade Limits (  $I_F = 20\text{ mA}$  ) Dominant Wavelength / nm**

Bin	YC	YD	YE	YF
Min.	583	586	589	592
Max.	586	589	592	595

Please contact our sales department for more information.

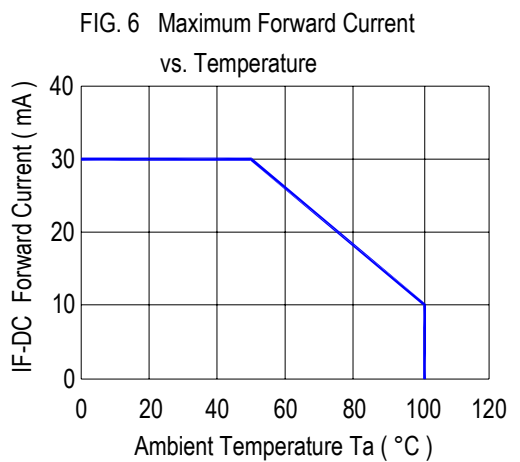
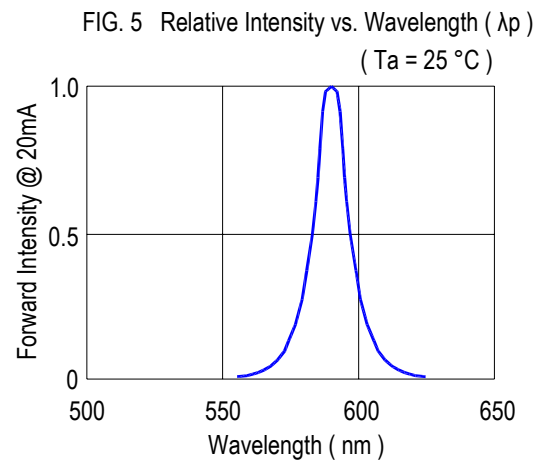
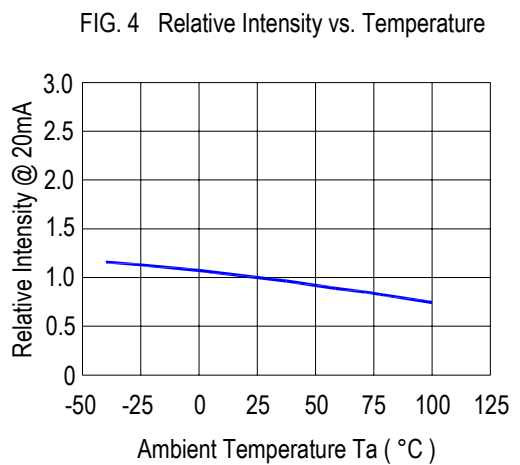
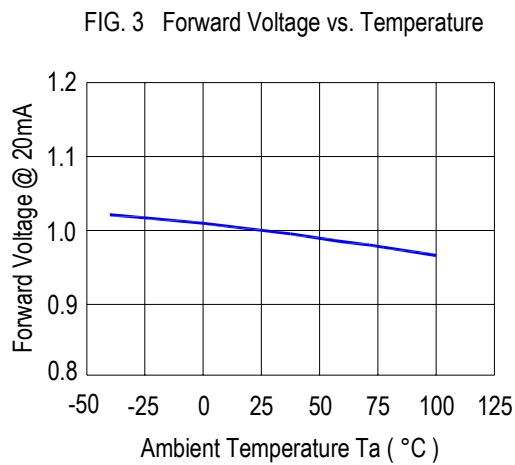
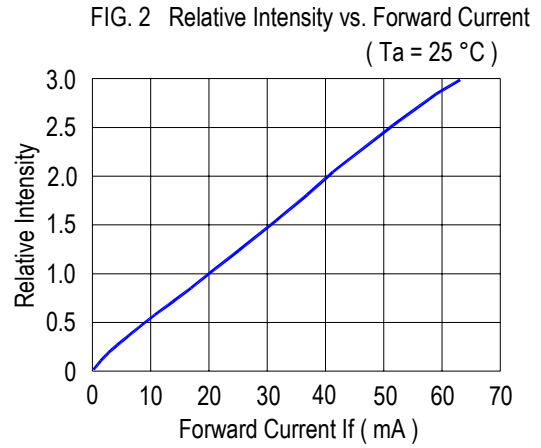
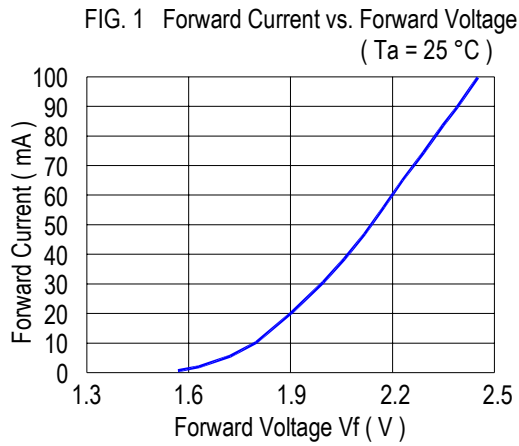
**■ Bin Grade Limits (  $I_F = 20\text{ mA}$  ) Forward Voltage / v**

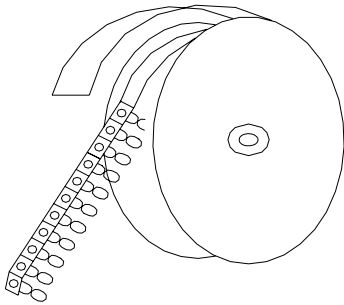
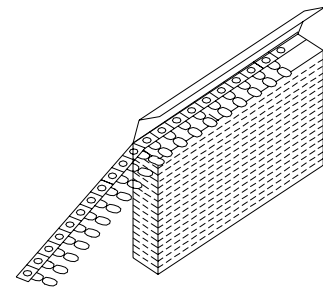
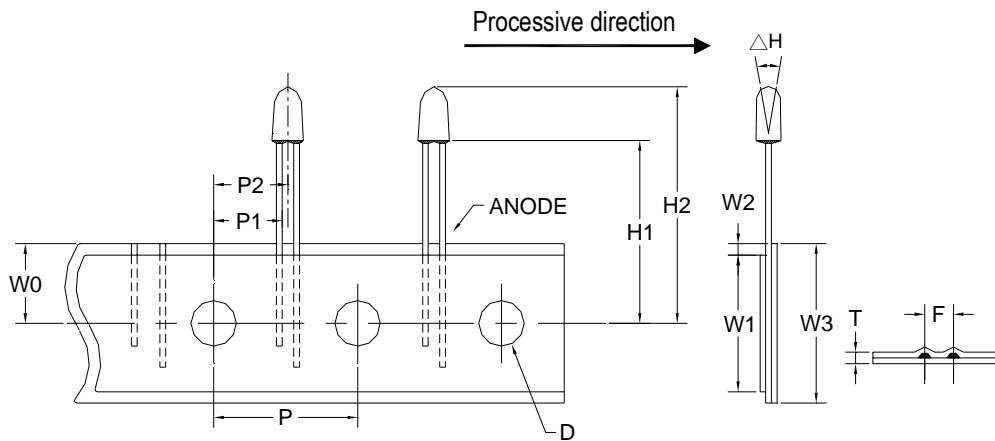
Bin	16	18	20	22
Min.	1.6	1.8	2.0	2.2
Max.	1.8	2.0	2.2	2.4

Please contact our sales department for more information.

■ **Characteristics Data**

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES



**R (Reel Pack):**

**T (Ammo Pack):**

**Dimensions ( Unit : mm )**


ITEM	SYMBOL	SPECIFICATION	
		MILIMETER	
		SIZE	TOLERANCE
TAPE FEED HOLE DIAMETER	D	4.0	±0.2
COMPONENT LEAD PITCH	F	2.54	±0.5
FRONT-TO-REAR DEFLECTION	ΔH		MAX. 2.0
FEED HOLE PITCH	P	12.7	±0.3
LEAD LOCATION	P1	5.33	±0.7
CENTER OF COMPONENT LOCATION	P2	6.35	±1.3
OVERALL TAPED PACKAGE THICKNESS	T		MAX. 1.0
FEED HOLE LOCATION	W0	9.0	±0.5
ADHESIVE TAPE WIDTH	W1	13.0	±0.5
ADHESIVE TAPE POSITION	W2		MAX. 4.0
TAPE WIDTH	W3	18.0	±0.5

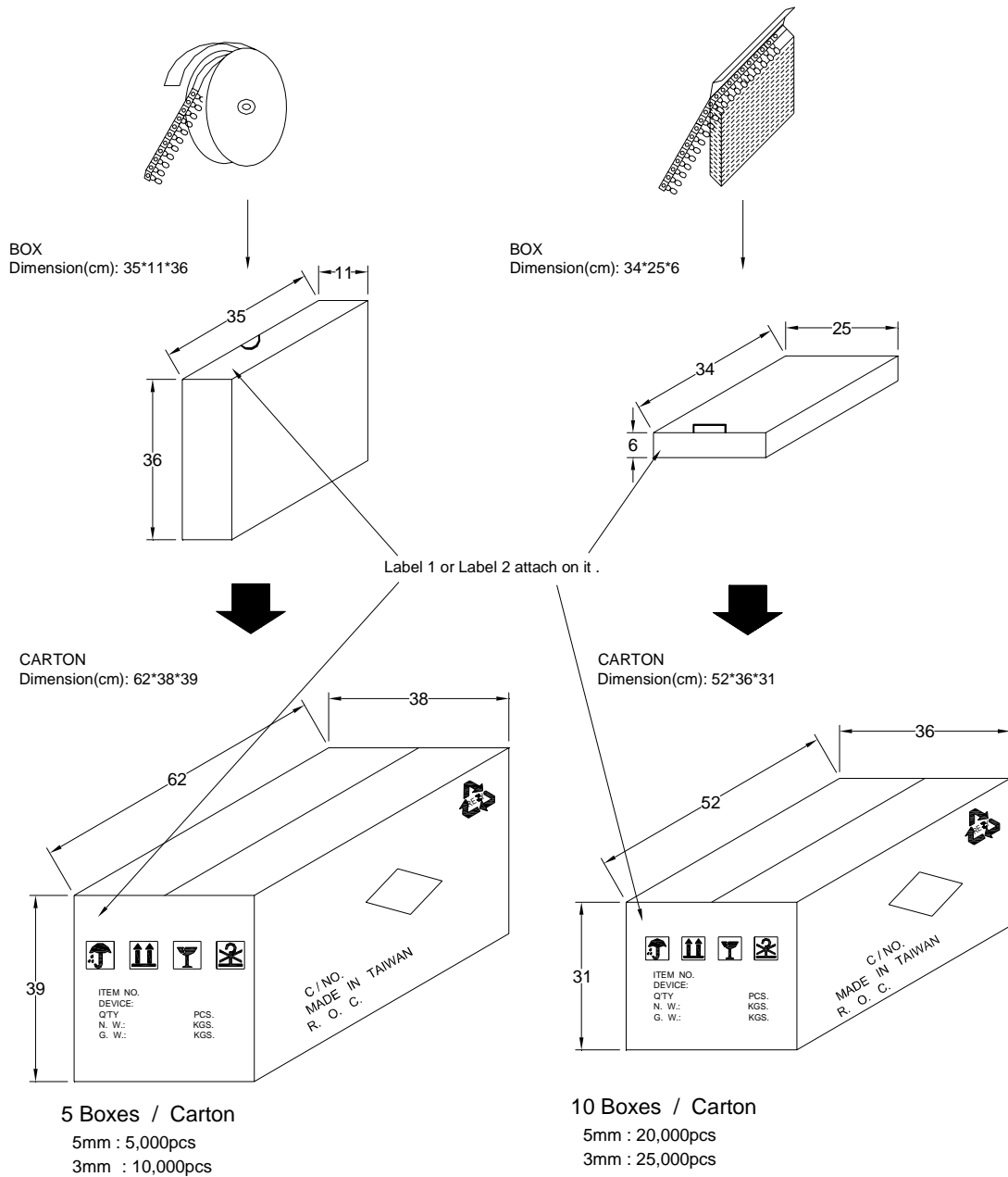
unit:mm

NOTE 1: R : Loaded quantity per reel:2000 pcs/reel  
T : Loaded quantity per tape :2500 pcs/tape


ITEM	SYMBOL	NOTE 1:				
		A	B	C	D	E
FEED HOLE TO BOTTOM OF COMPONENT	H1	18.5	19.0	19.7	21.5	22.5
FEED HOLE TO OVERALL COMPONENT HEIGHT	H2	24.8	25.3	26.0	27.8	28.8

\* The pin length in the type is for reference only.

Tolerance ±1.0 mm



Label 1

	Bright View	Electronics Co.,Ltd.
PART NO.: BVQ-XXXXXXXX-XX		
LOT NO.: _____		
GRADE: X- Δ - ■		
Q'ty	pcs	QA

Normal

X: Bin grade  
Δ: Wavelength  
■: Vf

Label 2

	Bright View	Electronics Co.,Ltd.
PART NO.: _____		
LOT NO.: _____		
GRADE: _____		
Q'ty	pcs	QA

CAUTION

 ELECTROSTATIC SENSITIVE DEVICES  
DO NOT OPEN OR HANDLE EXCEPT  
AT A STATIC-FREE WORKSTATION

Anti-electrostatic bag

**■ Cautions :****(1) Lead Forming**

- \* When forming leads, the leads should be bent at a point at least 3mm from the base of the epoxy bulb. Do not use the base of the leadframe as a fulcrum during lead forming.
- \* Lead forming should be done before soldering.
- \* Do not apply any bending stress to the base of the lead. The stress to the base may damage the LED's characteristics or it may break the LEDs.
- \* When mounting the LEDs onto a printed circuit board, the holes on the circuit board should be exactly aligned with the leads of the LEDs. If the LEDs are mounted with stress at the leads, it causes deterioration of the epoxy resin and this will degrade the LEDs.

**(2) Storage Conditions**

- \* The LEDs should be stored at 30°C or less and 70%RH or less after being shipped from Bright View and the storage life limits are 3 months. If the LEDs are stored for 3 months or more, they can be stored for a year in a sealed container with a nitrogen atmosphere and moisture absorbent material.
- \* Bright View LED leadframes are comprised of a silver plated copper alloy. The silver surface may be affected by environments which contain corrosive gases and so on. Please avoid conditions which may cause the LED to corrode, tarnish or discolor. This corrosion or discoloration may cause difficulty during soldering operations. It is recommended that the LEDs be used as soon as possible.
- \* Please avoid rapid transitions in ambient temperature, especially, in high humidity environments where condensation can occur.

**(3) Heat Generation**

- \* Thermal design of the end product is of paramount importance. Please consider the heat generation of the LED when making the system design. The coefficient of temperature increase per input electric power is affected by the thermal resistance of the circuit board and density of LED placement on the board, as well as other components. It is necessary to avoid intense heat generation and operate within the maximum ratings given in this specification.
- \* The operating current should be decided after considering the ambient maximum temperature of LEDs.



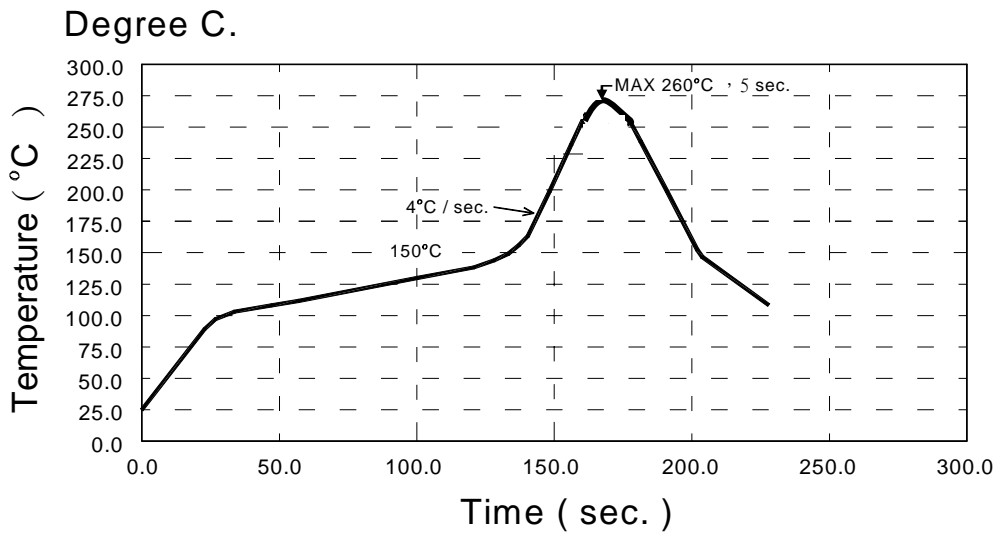
**(4) Cleaning**

- \* It is recommended that isopropyl alcohol be used as a solvent for cleaning the LEDs. When using other solvents, it should be confirmed beforehand whether the solvents will dissolve the resin or not. Freon solvents should not be used to clean the LEDs because of worldwide regulations.
- \* Do not clean the LEDs by the ultrasonic. When it is absolutely necessary, the influence of ultrasonic cleaning on the LEDs depends on factors such as ultrasonic power and the assembled condition. Before cleaning, a pre-test should be done to confirm whether any damage to the LEDs will occur.

**(5) Soldering**

Dip Soldering ( wave soldering-solder bath ) :

- \* Leave 3mm of minimum distance from the base of the epoxy. Soldering beyond the base of the the tie bar ( stand off ) is recommended.
- \* When soldering, do not load stress on the LEDs during heating.
- \* Cutting the leadframes at high temperatures may cause LED failure.
- \* Never take next process until the component is cooled down to room temperature after reflow.
- \* After soldering, do not warp the circuit board.
- \* The recommended dip soldering profile is the following:



Manual Soldering ( solder iron ) :

- \* Temperature at tip of iron: 300°C Max.
- \* It's banned to load any stress on the resin during soldering.
- \* Soldering time: 3 sec. Max.( one time only ).
- \* Leave 3mm of minimum distance from the base of the epoxy.

**(6) Other**

- \* Care must be taken to ensure that the reverse voltage will not exceed the absolute maximum rating when using the LEDs with matrix drive.
  
- \* The LEDs described in this brochure are intended to be used for ordinary electronic equipment (such as office equipment, communications equipment, measurement instruments and household appliances). Consult Bright View sales staff in advance for information on the applications in which exceptional quality and reliability are required, particularly when the failure or malfunction of the LEDs may directly jeopardize life or health (such as for airplanes, aerospace, submersible repeaters, nuclear reactor control systems, automobiles, traffic control equipment, life support systems and safety devices).
  
- \* The appearance and specifications of the product may be modified for improvement without notice.