

DATA SHEET

IE-1Y-40011B-CA

Revise History

Rev.	Descriptions	Date	Page
1.0	-	23-10-2009	-
2.0	Renew form	15-12-2015	-
2.1	Renew form	10-11-2018	-
2.2	Renew form	27-12-2021	-
2.3	Renew form	23-10-2023	-
2.4	Renew form	10-12-2024	-



Features

- Low Power Consumption.
- Evenly lighted segments.
- Low voltage DC operated.
- RoHS Compliant.

Application

- Home and smart appliances,Instrument panels.
- Display time and digital combination.
- Test and measurement equipment,Control units.

Part number	Emitted color	Byte height and digits	Colloid color	Panel color	Polarity
IE-1Y-40011B-CA	Yellow	4.0 in 1 digits	Diffused	Black	Common Anode

Electro-Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Forward Voltage	V _F	1.80	2.00	2.40	V	IF=20mA /Per LED
Luminous Intensity ^{*1}	I _V	250	-	300	mcd	
Radiation Bandwidth	△λ	-	30	-	nm	
Color Temperature	CCT	-	-	-	K	
CIE Coordinates	X,Y	-	-	-	-	
Peak Wavelength	λ _p	-	590	-	nm	
Dominant Wavelength	λ _d	586	587	588	nm	VR=5V/Per LED
Reverse Current	I _R	-	-	10	uA	

Notes :

1.A Luminous Intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.

2.2θ1/2 is the o-axis angle where the luminous intensity is 1/2 the peak intensity.

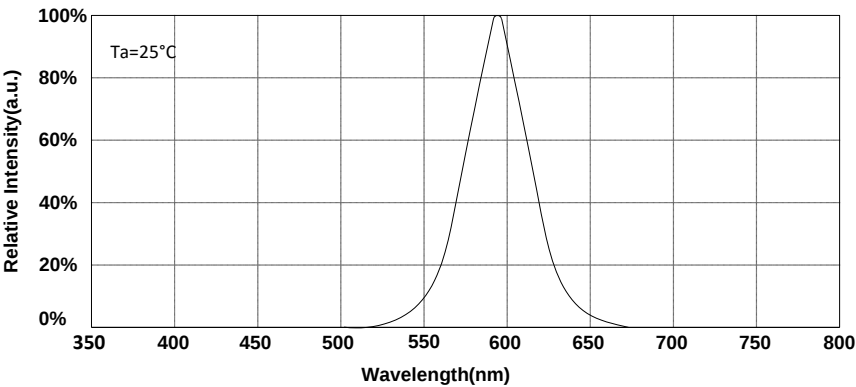
Absolute Maximum Ratings

Parameter	Symbol	Max./Per LED	Unit 单位
		Yellow	
Power Dissipation	P _d	48	mW
Peak Forward Current ^{*1}	I _{FP}	80	mA
Forward Current	I _F	20	mA
Human Body Model	ESD	2000	V
Operating Temperature Range	T _{opr}	-25to+85	°C
Storage Temperature Range	T _{stg}	-35to+85	°C
Reflow Soldering	T _{sld}	260°C for 5 secs	

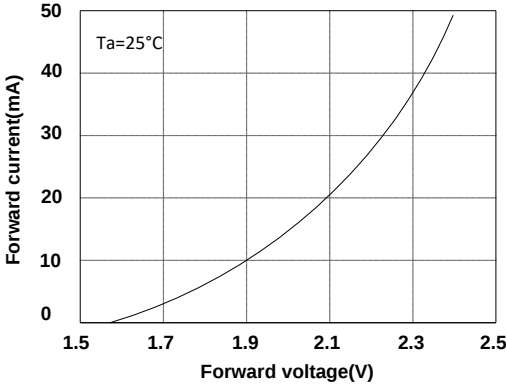
Notes: 1.Duty Factor=10%, Frequency=1kHz.

Optical & Electrical Characteristics Curves

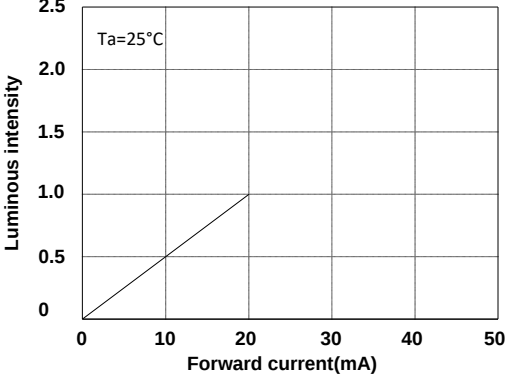
Relative Intensity vs.Wavelength



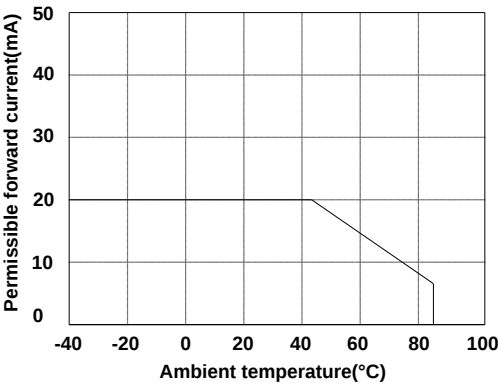
Forward Current vs.Forward Voltage



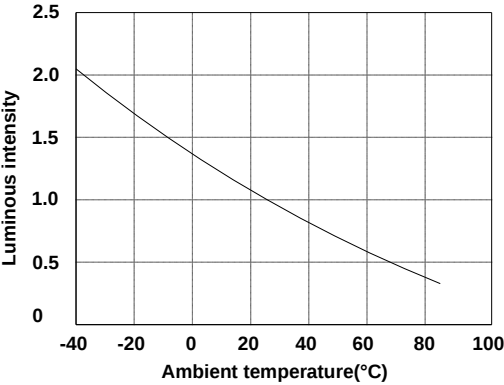
Luminous Intensity vs. Forward Current



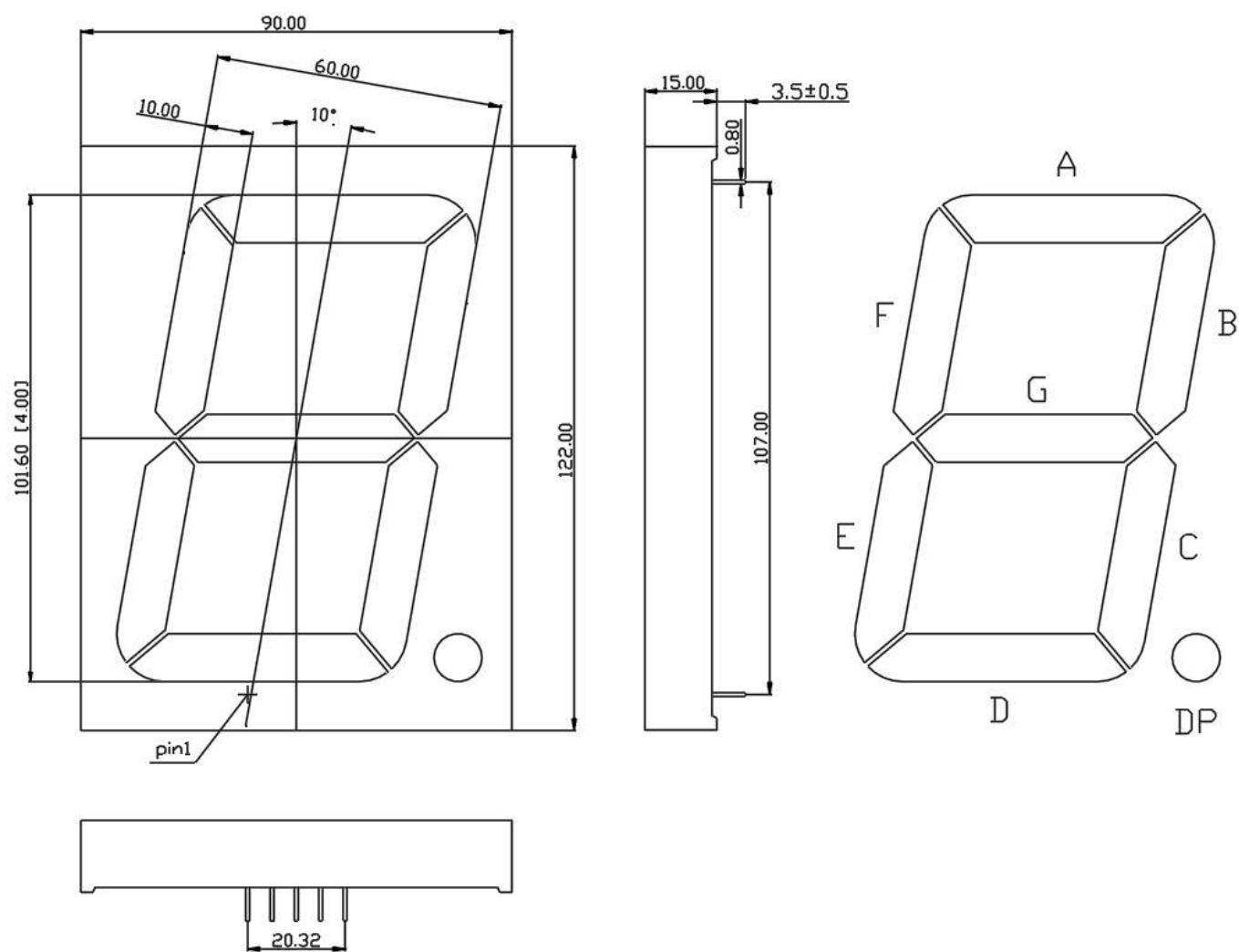
Forward Current Derating Curve



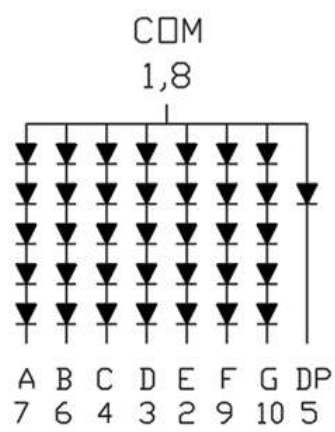
Luminous Intensity vs.Ambient Temperaturs



Package Dimension (Unit:mm,Tolerance:±0.20mm)



Internal Circuit Diagram

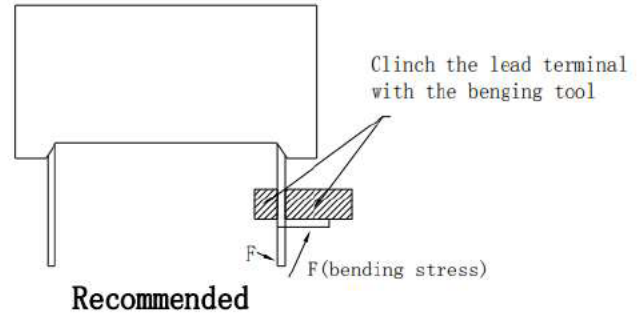
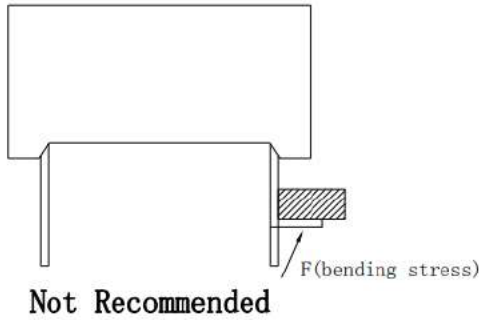


Mounting Method

1. Lead Forming

1.1. Do not bend the component leads by hand without proper tools.

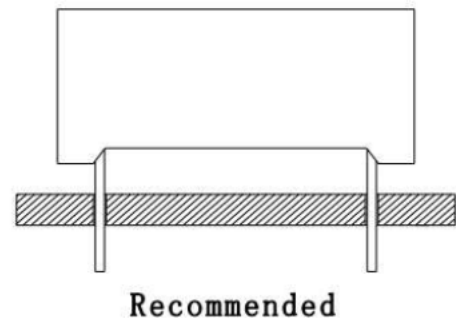
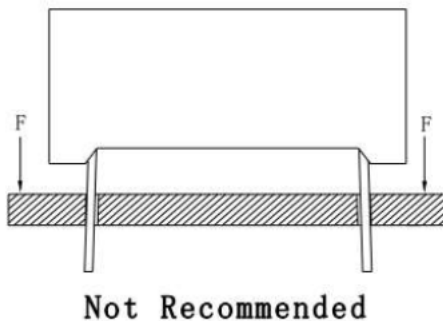
1.2. The leads should be bent by clinching the upper part of the lead firmly so that the bending force is not exerted on the plastic body.



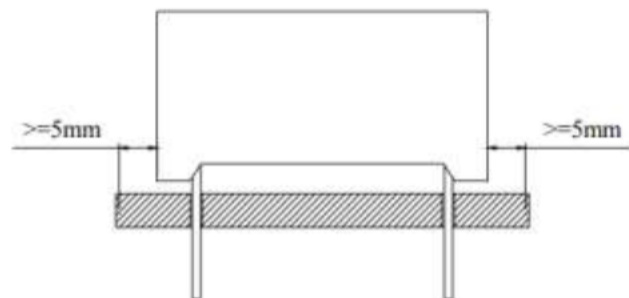
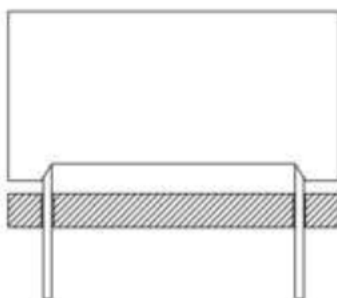
2. Installation

2.1. The installation process should not apply stress to the lead terminals.

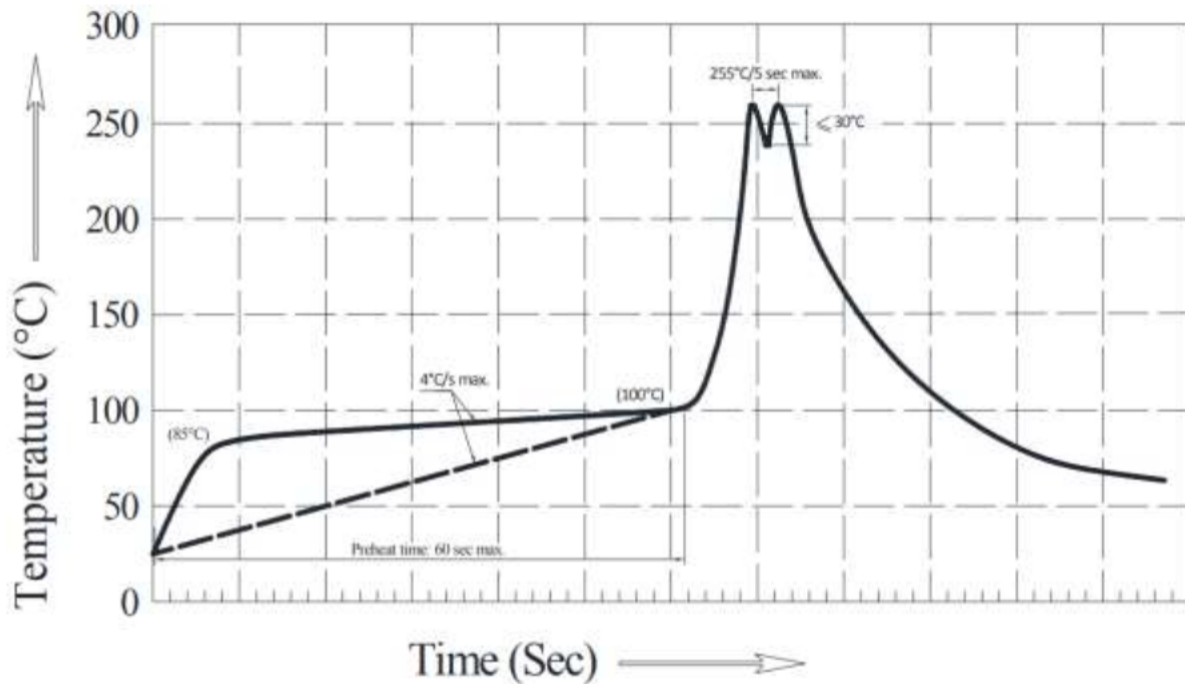
2.2. When inserting for assembly, ensure the terminal pitch matches the substrate board's hole pitch to prevent spreading or pinching of the lead terminals.



2.3. The component shall be placed at least 5mm from the edge of the PCB to avoid damage caused by excessive heat during wave soldering.



3. Recommended Wave Soldering Profiles



Notes:

- 3.1. It is recommended to pre-heat at a temperature of 105°C or lower (measured using a thermocouple attached to the LED pins) before immersion in the solder wave, with a maximum solder bath temperature of 260°C.
- 3.2. The peak wave soldering temperature should be between 245°C to 255°C for 3 seconds (maximum of 5 seconds).
- 3.3. Avoid applying stress to the epoxy resin when the temperature exceeds 85°C.
- 3.4. Fixtures should not exert stress on the component during mounting and soldering processes.
- 3.5. Only one wave soldering pass is allowed.
- 3.6. Maintain the PCB top-surface temperature below 105°C during wave soldering.

4. LED Storage Instructions

- 4.1. Store LEDs at or below 30°C and 80% relative humidity (RH) before opening the package.
- 4.2. LEDs should be used within one year of purchase.
- 4.3. After opening the package, store LEDs at or below 30°C and 60% RH.