

Product Data Sheet

- ✧ KL23011WDBA/BY
- ✧ Digit height: 2.3 inch (56.80mm)
- ✧ Digit number: 1 digit
- ✧ Emitting color: Yellow

Dongguan Kinley Industrial Co., Ltd

Add: Humen 3rd Industrial District, Humen Town Dongguan City GD,CN

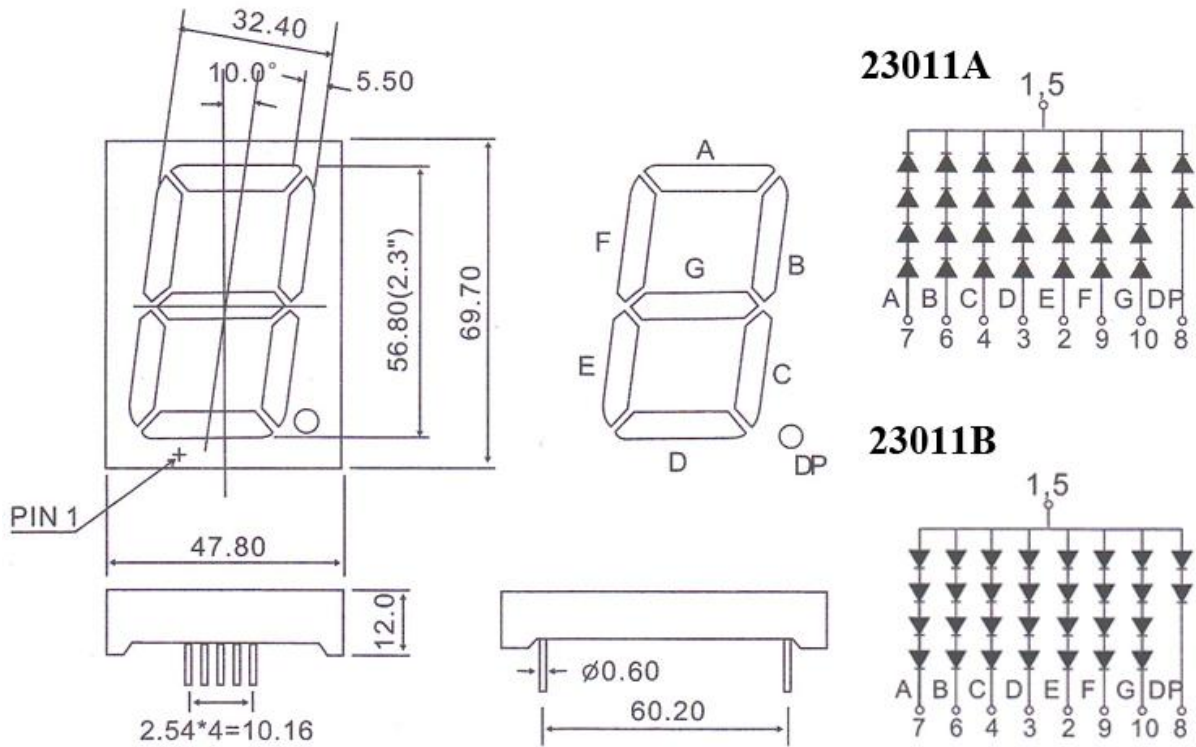
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Dimension and Diagram



Notes:

1. Dimension in millimeter [inch], tolerance is ± 0.25 [.010] and angle is $\pm 1^\circ$ unless otherwise noted.
2. Bending \leq Length*1%.
3. The specifications characteristics and technical data described in the datasheet are subject to change without prior notice.

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Absolute Maximum Ratings at TA=25°C

| Parameter | Symbol | Test Condition | Value | | Unit |
|-----------------------|--------|-----------------|-------|-----|------|
| | | | Min | Max | |
| Reverse Voltage | VR | IR=30 | 5 | — | V |
| Forward Current | IF | — | — | 10 | mA |
| Power Dissipation | Pd | — | — | 100 | mW |
| Pulse Current | Ipeak | Duty=0.1mS,1KHz | — | 150 | mA |
| Operating Temperature | T opr | — | -40 | +85 | °C |
| Storage Temperature | T str | — | -40 | +85 | °C |

Electro-Optical Characteristics (Ta=25°C)

| Parameter | | Symbol | Min. | Typ. | Max. | Units | Condition |
|------------------------------|-------------------|--------|------|------|------|-------|-----------|
| Forward Voltage | Per segment | VF | -- | 5.8 | 6.2 | V | IF=10mA |
| | Per decimal point | | | 1.9 | 2.1 | | |
| Reverse Current | | IR | -- | -- | 10 | μA | VR=5V |
| Luminous Intensity | Per segment | IV | 320 | 340 | 360 | mcd | IF=10mA |
| | Per decimal point | | 80 | 85 | 90 | | |
| Peak Wavelength | | λp | -- | 595 | -- | nm | IF=10mA |
| Dominant Wavelength | | λd | -- | 590 | -- | nm | IF=10mA |
| Spectrum Radiation Bandwidth | | Δλ | -- | 20 | -- | nm | IF=10mA |

Note:

1.Luminous Intensity is based on the Kinley standards.

2.Pay attention about Intensity is only for one chip

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Reliability test items and conditions:

The reliability of products shall be satisfied with items listed below. Confidence level:90% LTPD:10%

| NO | Item | Test Conditions | Test Hours/Cycle | Sample Size | Failure Judgment Criteria | Ac/Re |
|----|-------------------------------------|--|------------------|-------------|-------------------------------------|-------|
| 1 | Reflow Soldering | TEMP:230°C±5°C Min. 5 SEC | 6 Min | 22 PCS | Iv ≤ Ivt*0.5 or VF ≥ U or VF ≤ L | 0/1 |
| 2 | Temperature Cycle | H:+100°C 15min ∫ 5min L:-40°C 15min | 300 Cycles | 22 PCS | | 0/1 |
| 3 | Thermal Shock | H:+100°C 5min ∫ 10 sec L:-10°C 5min | 300 Cycles | 22 PCS | | 0/1 |
| 4 | High Temperature Storage | TEMP:100°C | 1000 HRS | 22PCS | | 0/1 |
| 5 | Low Temperature Storage | TEMP:-40°C | 1000 HRS | 22 PCS | | 0/1 |
| 6 | DC Operating Life | TEMP:25°C If=10mA | 1000 HRS | 22 PCS | | 0/1 |
| 7 | High Temperature / High Humidity | 85°C / 85% RH | 1000 HRS | 22 PCS | | 0/1 |

Note:

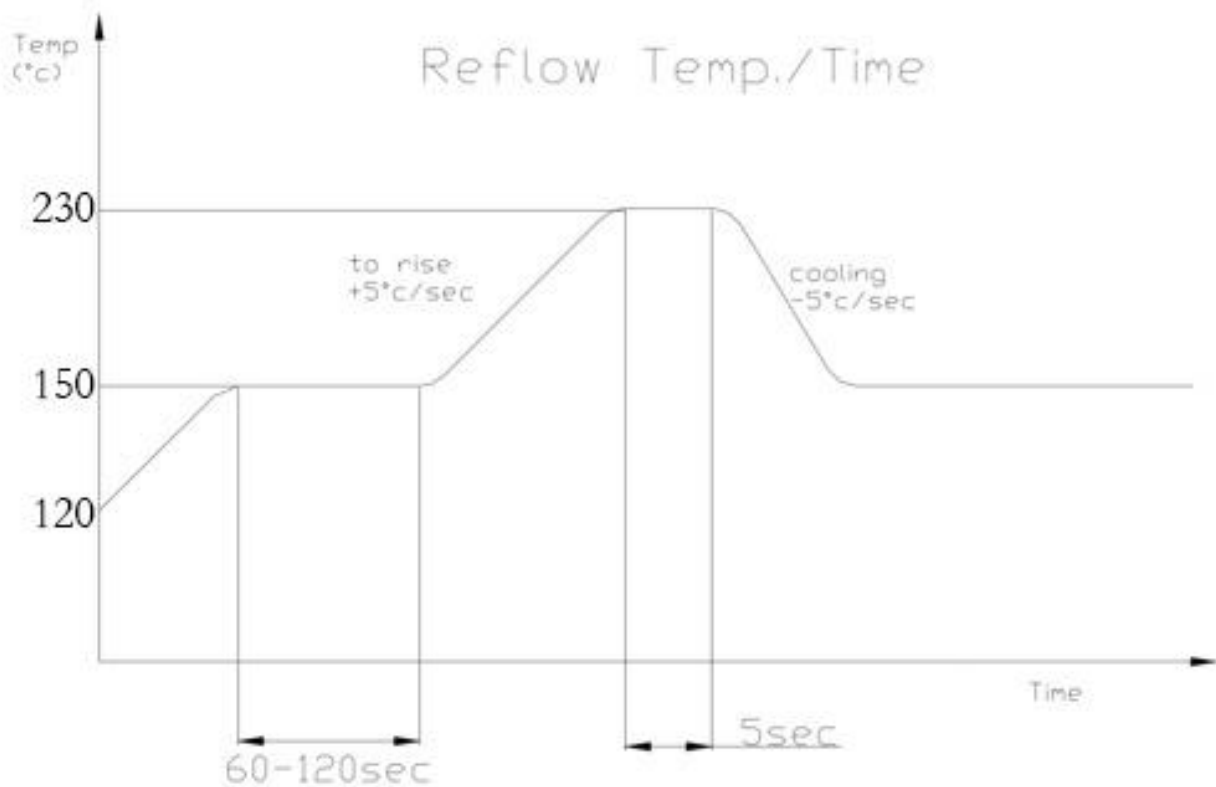
Ivt: The test Iv value of the chip before the reliability test

Iv: The test value of the chip that has completed the reliability test

U: Upper Specification Limit L: Lower Specification Limit

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Reflow Temp. / Time :



■ Soldering Iron :

Basic spec is ≤ 5 sec when 230°C. If temperature is higher, time should be shorter (+10°C → -1sec).

Power dissipation of iron should be smaller than 15 W, and temperature should be controllable. Surface temperature of the device should be under 230 °C.

■ Rework :

1. Customer must finish rework within 5 sec under 230°C.
2. The head of iron can not touch copper foil.