

TRIPLE DIGIT SMD DISPLAY (0.39")



LSTD305/6DBK-XX

DATA SHEET

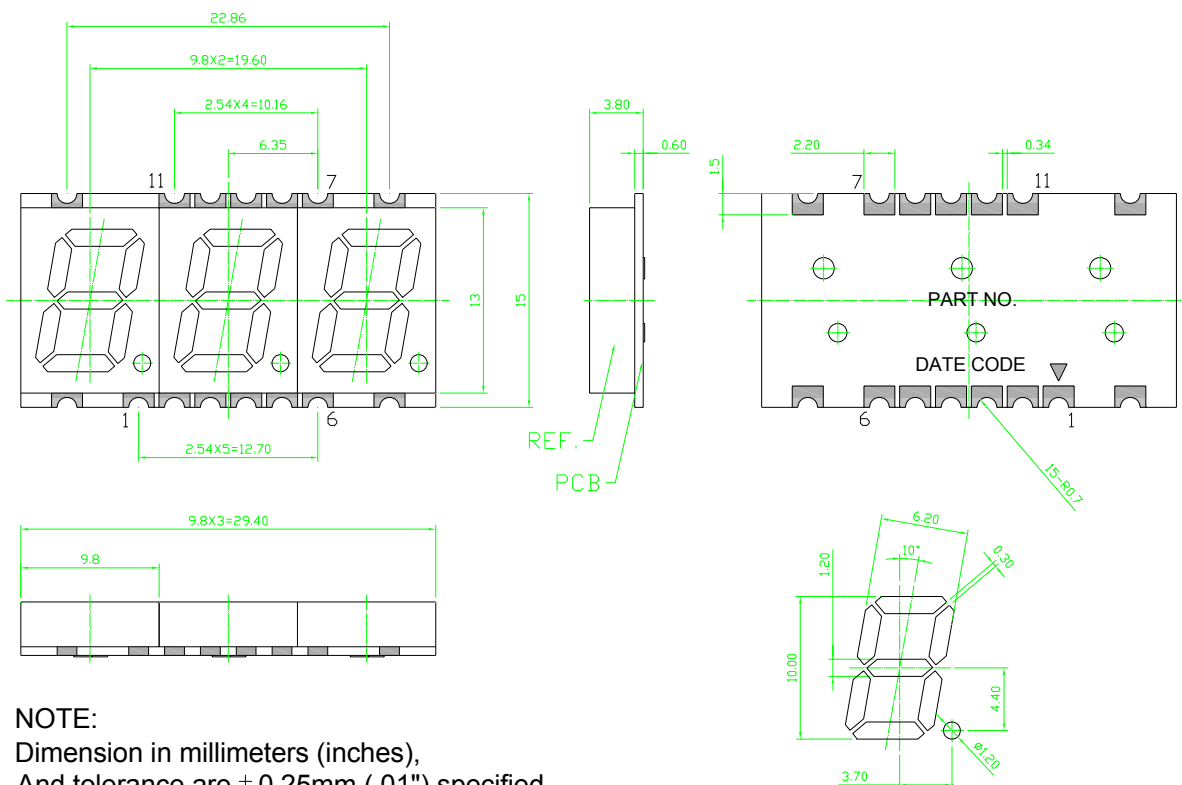
DOC.NO : QW0905- LSTD305/6DBK-XX

REV. : A

DATE : 03 – Jul. – 2013

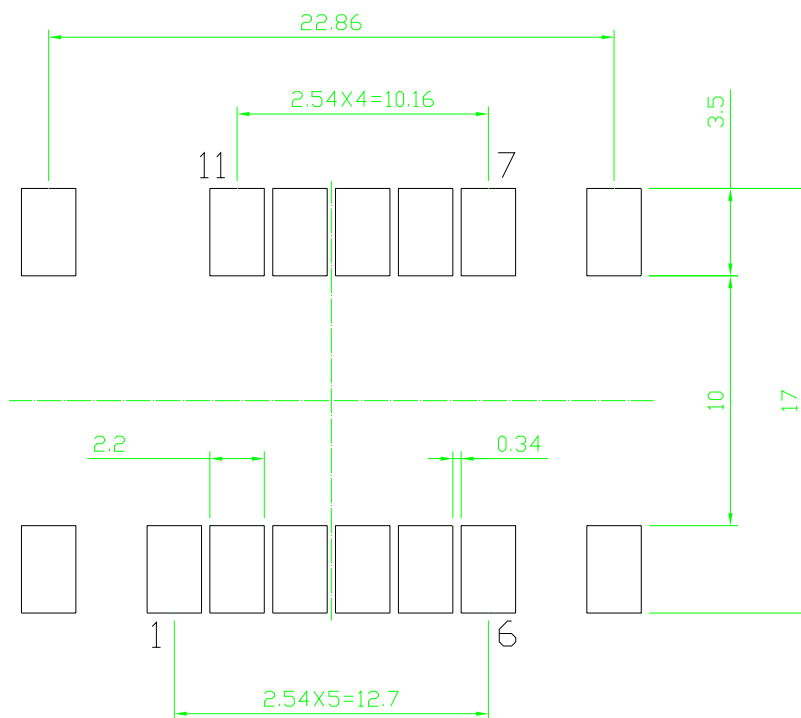


Package Dimensions

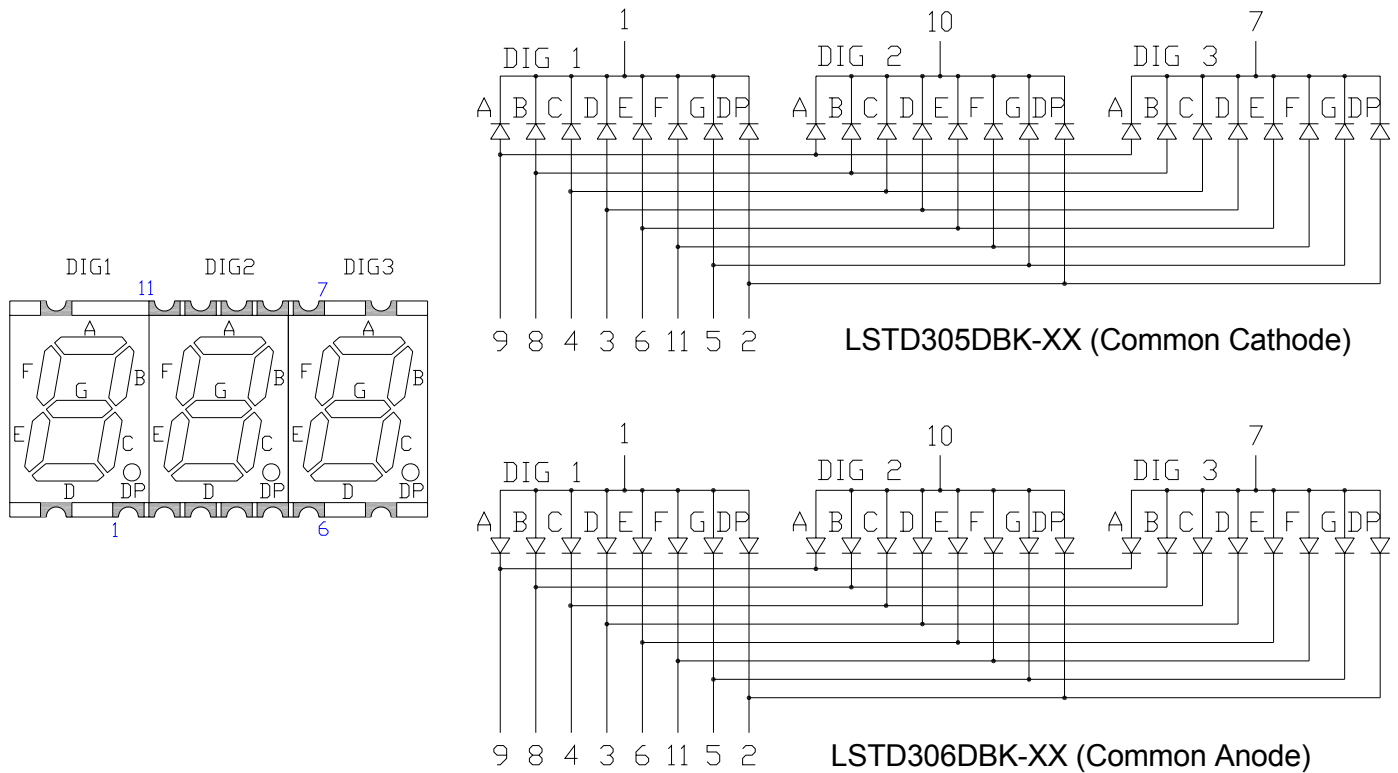


NOTE:
Dimension in millimeters (inches),
And tolerance are $\pm 0.25\text{mm}$ (.01") specified.

Recommended Soldering Pad Dimensions



Internal Circuit Diagram



Electrical Connection

| PIN NO. | LSTD305DBK-XX | PIN NO. | LSTD306DBK-XX |
|---------|----------------------|---------|--------------------|
| 1 | Common Cathode DIG 1 | 1 | Common Anode DIG 1 |
| 2 | Anode DP | 2 | Cathode DP |
| 3 | Anode D | 3 | Cathode D |
| 4 | Anode C | 4 | Cathode C |
| 5 | Anode G | 5 | Cathode G |
| 6 | Anode E | 6 | Cathode E |
| 7 | Common Cathode DIG 3 | 7 | Common Anode DIG 3 |
| 8 | Anode B | 8 | Cathode B |
| 9 | Anode A | 9 | Cathode A |
| 10 | Common Cathode DIG 2 | 10 | Common Anode DIG 2 |
| 11 | Anode F | 11 | Cathode F |

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Ratings | UNIT |
|--------------------------------------|------------------|------------|---------|
| Power Dissipation | PD | 120 | mW |
| Peak pulse current Duty 1/10@10KHz | I _{FP} | 100 | mA |
| Forward Current Per Chip | I _F | 30 | mA |
| Debating liner from 25°C per segment | --- | 0.3 | mA / °C |
| Storage Temperature | T _{stg} | -40 ~ +105 | °C |
| Operating Temperature | T _{opr} | -40 ~ +105 | °C |
| Soldering Temperature | T _p | 260 | °C |

Typical Electrical & Optical Characteristics (Ta=25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Condition |
|------------------------------|----------------|------|------|------|------|-----------|
| Luminous Intensity | IV | ---- | 40 | ---- | mcd | IF=20mA |
| Dominant Wavelength | λ D | ---- | 470 | ---- | nm | IF=20mA |
| Spectral radiation bandwidth | Δλ | ---- | 30 | ---- | nm | IF=20mA |
| Forward Voltage | VF | ---- | 3.2 | 4.0 | V | IF=20mA |
| Reverse Current | I _r | ---- | ---- | 10 | μA | VR=5V |

Note : 1.The forward voltage data did not including ±0.1V testing tolerance.

2.The luminous intensity data did not including ±15% testing tolerance.

Typical Electro-Optical Characteristics Curve

(25 °C Free Air Temperature Unless Otherwise Specified)

DBK: Super Bright RED (InGaN) CURVE

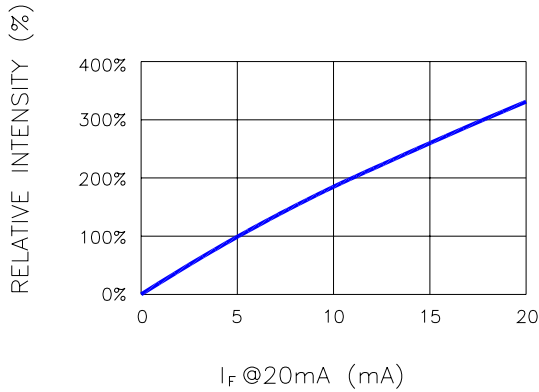


Fig.1 RELATIVE INTENSITY VS. FORWARD CURRENT

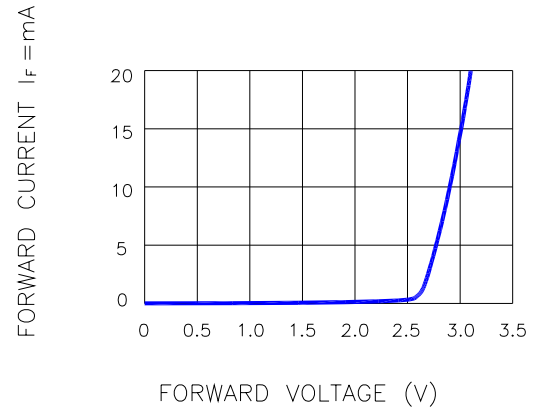


Fig.2 FORWARD CURRENT VS. FORWARD VOLT.

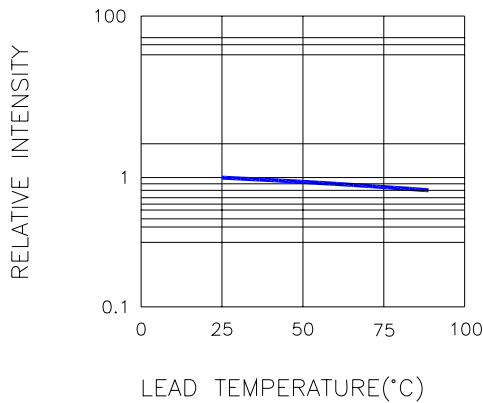


Fig.3 RELATIVE INTENSITY VS.LEAD TEMPERATURE
(PULSED 20 mA; 300us PULSE,10ms PERIOD)

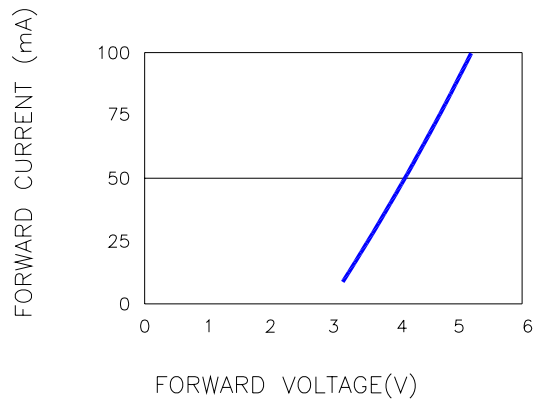


Fig.4 PEAK FORWARD VOLTAGE
VS.FORWARD(100us TEST PULSE,
1% DUTY CYCLE)

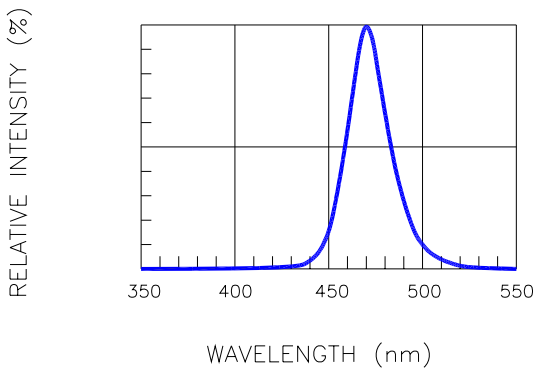


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

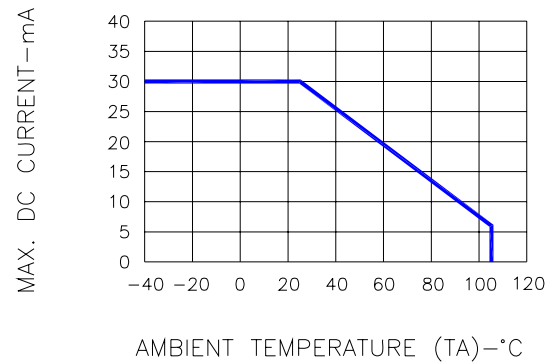
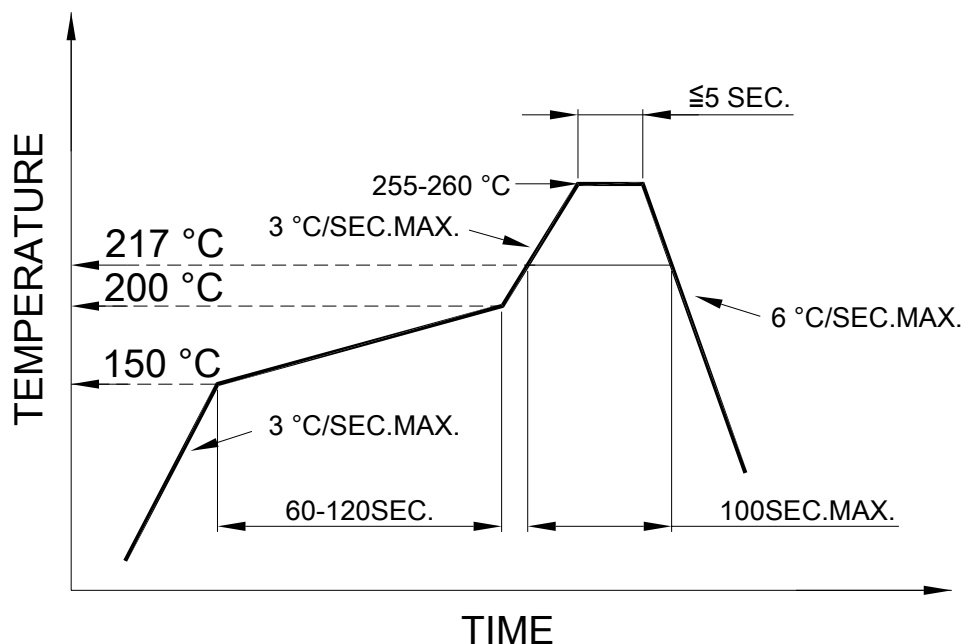


Fig.6 MAX. ALLOWABLE DC CURRENT
VS. AMBIENT TEMPERATURE

SMT REFLOW SOLDERING INSTRUCTIONS

SMT Soldering Profile

Pb free reflow soldering Profile



SOLDERING IRON

Basic spec is ≤ 4 sec when 260°C. If temperature is higher, time should be shorter (+10°C→1 sec). Power dissipation of Iron should be smaller than 15W, and temperature should be controllable. Surface temperature of the device should be under 230°C.

REWORK

Customer must finish rework within 3 sec. under 350°C.

The head of soldering iron cannot touch copper foil.