

SINGLE DIGIT SMD DISPLAY(0.20")

LSSD205/66F-XX

DATA SHEET

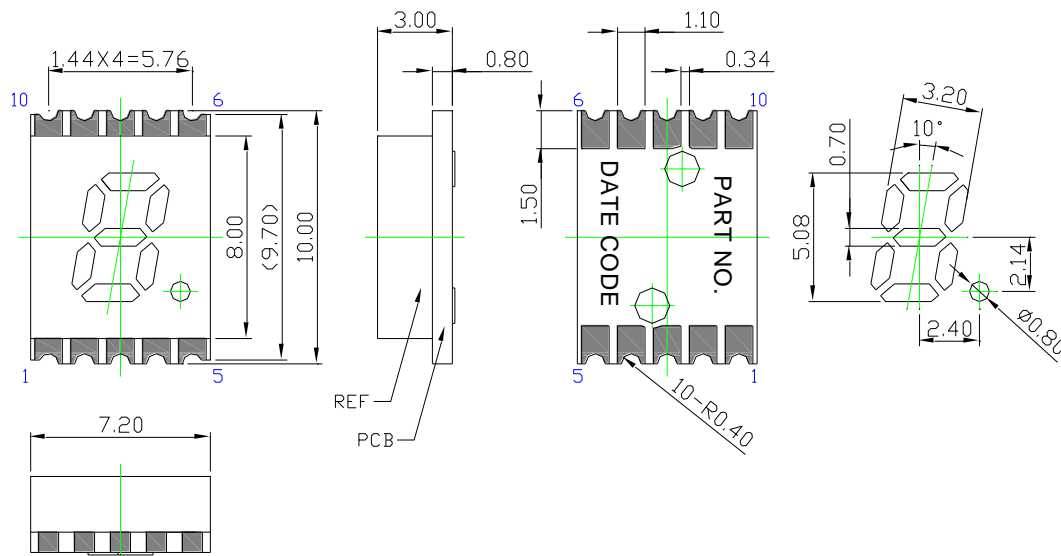
DOC.NO : QW0905- LSSD205/66F-XX

REV. : B

DATE : 24 – Jul. - 2017



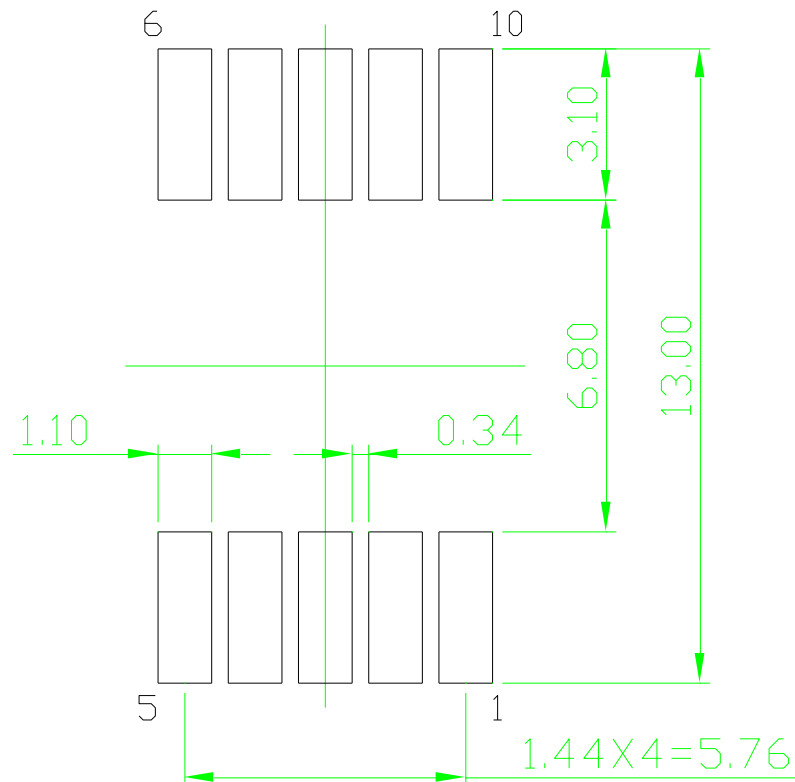
Package Dimensions



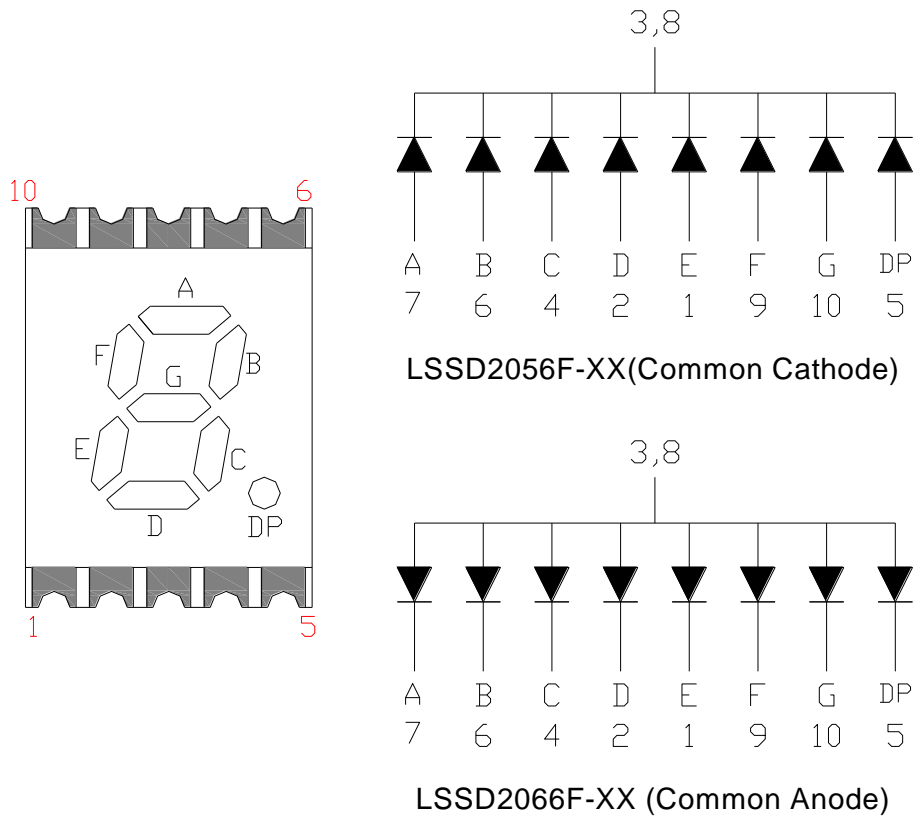
NOTE:

Dimension in millimeters (inches),
And tolerance are ± 0.25 mm (.01") specified.

Recommended Soldering Pad Dimensions



Internal Circuit Diagram



Electrical Connection

| PIN NO. | LSSD2056F-XX | PIN NO. | LSSD2066F-XX |
|---------|----------------|---------|--------------|
| 1 | Anode E | 1 | Cathode E |
| 2 | Anode D | 2 | Cathode D |
| 3 | Common Cathode | 3 | Common Anode |
| 4 | Anode C | 4 | Cathode C |
| 5 | Anode DP | 5 | Cathode DP |
| 6 | Anode B | 6 | Cathode B |
| 7 | Anode A | 7 | Cathode A |
| 8 | Common Cathode | 8 | Common Anode |
| 9 | Anode F | 9 | Cathode F |
| 10 | Anode G | 10 | Cathode G |

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Ratings | UNIT |
|--------------------------------------|------------------|------------|---------|
| Power Dissipation | PD | 70 | mW |
| Peak pulse current Duty 1/10@10KHz | I _{FP} | 90 | mA |
| Forward Current Per Chip | I _F | 25 | mA |
| Debating liner from 25°C per segment | --- | 0.28 | 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 | 6 | ---- | 40 | mcd | IF=20mA |
| Dominant Wavelength | λ D | 619 | ---- | 629 | nm | IF=20mA |
| Spectral radiation bandwidth | Δλ | ---- | 20 | ---- | nm | IF=20mA |
| Forward Voltage | VF | ---- | 2.0 | 2.6 | V | IF=20mA |
| Reverse Current | I _r | ---- | ---- | 10 | μ A | 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.

Luminous Intensity Classification

| BIN CODE | Iv(mcd) at 20mA | |
|----------|-----------------|-----|
| | Min | Max |
| L | 6 | 20 |
| M | 20.1 | 30 |
| N | 30.1 | 40 |

Dominant Wavelength Classification

| BIN CODE | Iv(nm) at 20mA | |
|----------|----------------|-----|
| | Min | Max |
| 1 | 619 | 622 |
| 2 | 622.1 | 626 |
| 3 | 626.1 | 629 |

Typical Electro-Optical Characteristics Curve

(25 °C Free Air Temperature Unless Otherwise Specified)

F: Super Bright RED ((AlGaInP/GaAs) CURVE

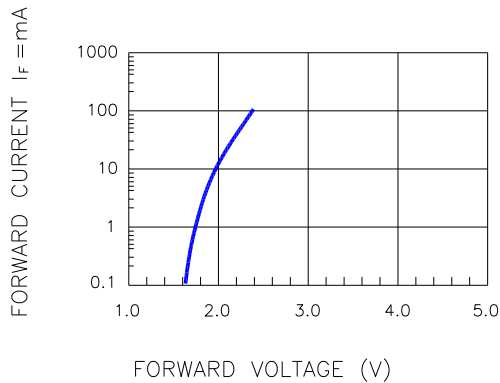


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

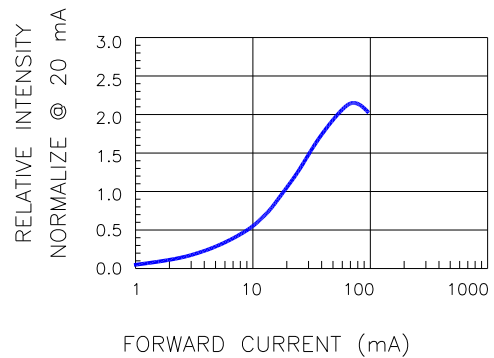


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

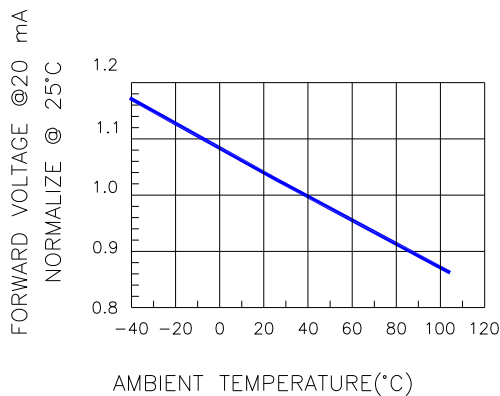


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

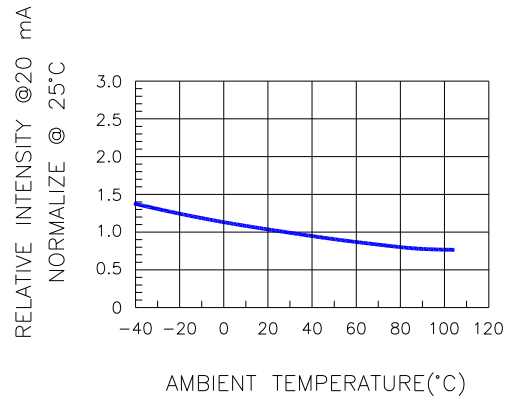


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

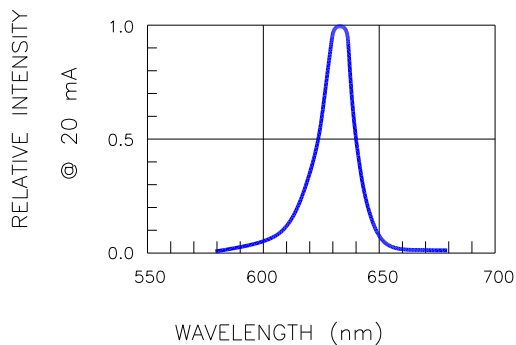


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

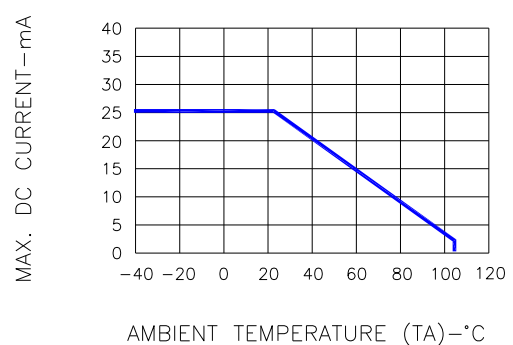
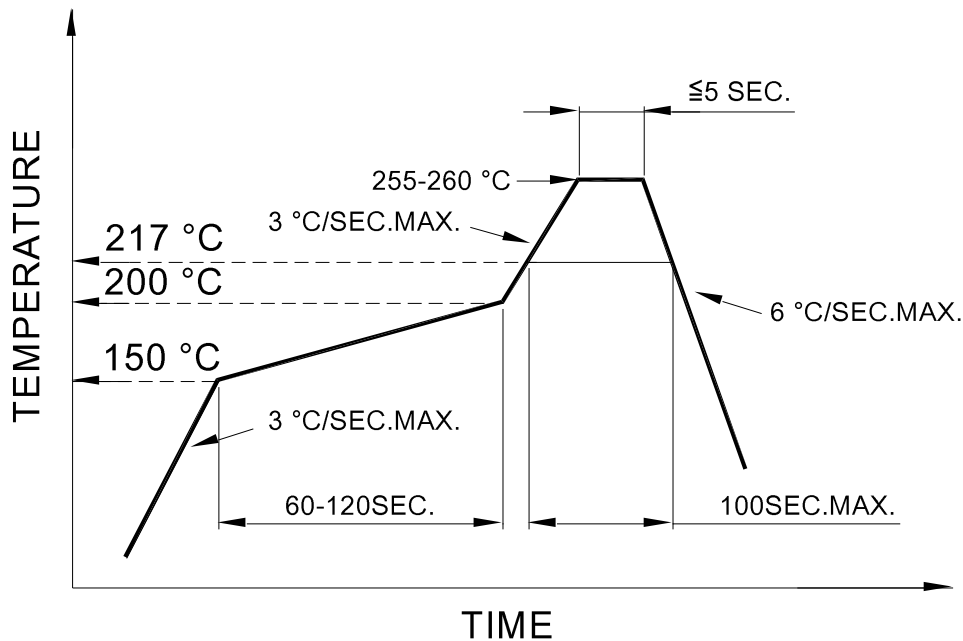


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

SMT REFLOW SOLDERING INSTRUCTIONS

SMT Soldering Profile

Pb free reflow soldering Profile



SOLDERING IRON

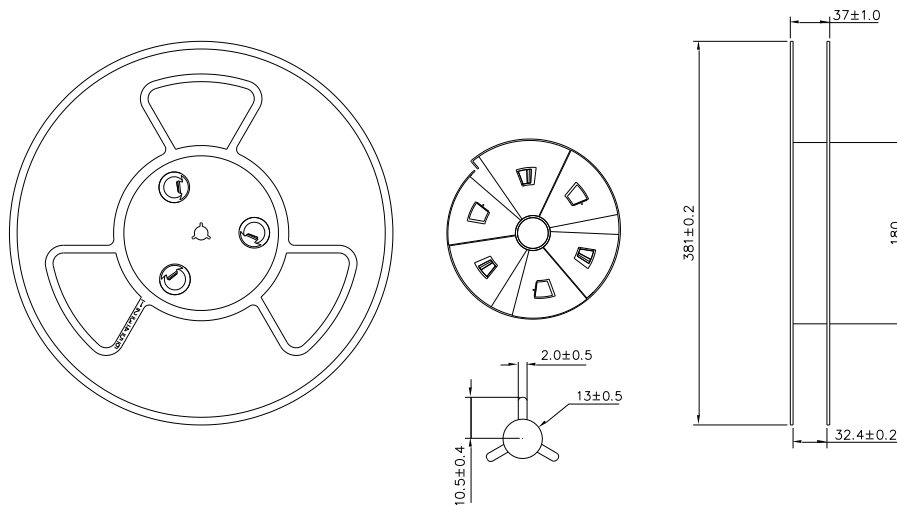
Basic spec is ≤ 4 sec when 260°C. If temperature is higher, time should be shorter (+10°C→1 sec). Power dissipation of Iron should be smaller than 15W, and temperature should be controllable. Surface temperature of the device should be under 230°C.

REWORK

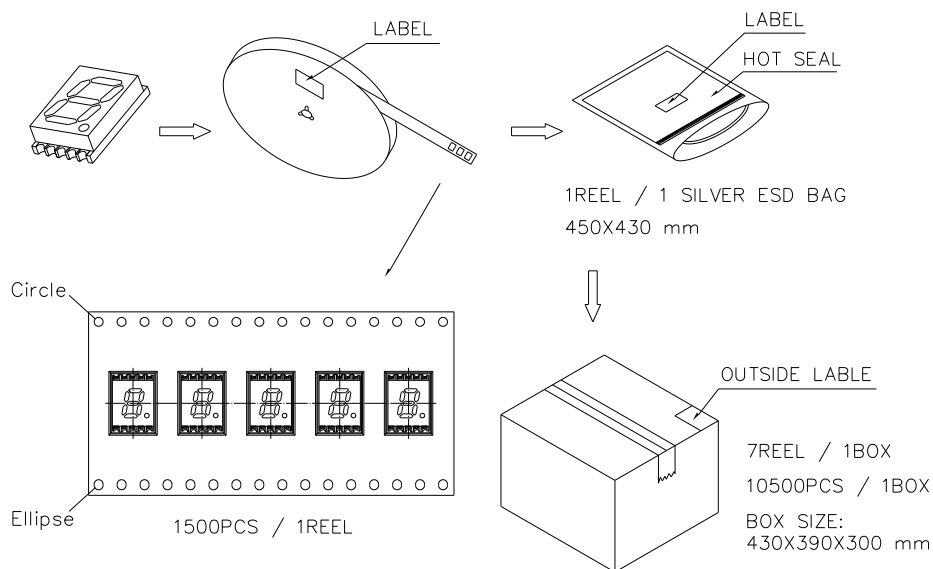
Customer must finish rework within 3 sec. under 350°C.

The head of soldering iron cannot touch copper foil.

REEL DIMENSIONS



PACKING & LABEL SPECIFICATIONS



STORAGE CONDITION

In factory original sealed bag package

| TEMPERATURE CONDITION | HUMIDITY CONDITION |
|-----------------------|--------------------|
| 5°C ~ 30°C | Below 60%RH |

After opened and not in factory original sealed bag package

| TEMPERATURE CONDITION | HUMIDITY CONDITION | STORAGE TIME |
|-----------------------|--------------------|----------------------------------|
| 5°C ~ 30°C | Below 60%RH | Within 4 weeks (MSL as level 2a) |