

SPECIFICATIONS FOR LED DISPLAYS

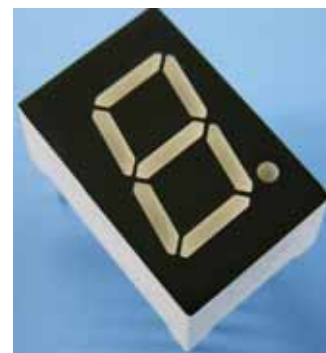
12.7mm(0.50") Seven Segments Single Digit

LSD050 -10 Series

WENRUN OPTOELECTRONIC

Features:

- High efficiency, low power consumption.
- Extremely low current.
- Luminous evenly distributed on each segment.
- Low development cost.

**LSD050A/B -10****Descriptions:**

- Industrial standard size.
- These display provide excellent reliability in bright ambient light.
- These devices are made with white segments and black surface.

Applications:

- Audio equipment or Instrument panels.
- General use for digital indicators.
- Multimedia product.

Selection Guide:

| Part No. | | Chip | | Lens Color |
|--------------|--------------|-----------|----------------|----------------|
| Anode | Cathode | Material | Emitting Color | |
| LSD050BSR-10 | LSD050ASR-10 | GaAlAs | Super Red | White Diffused |
| LSD050BG-10 | LSD050AG-10 | GaP | Green | |
| LSD050BY-10 | LSD050AY-10 | GaAsP/GaP | Yellow | |

Absolute Maximum Rating (Ta=25)

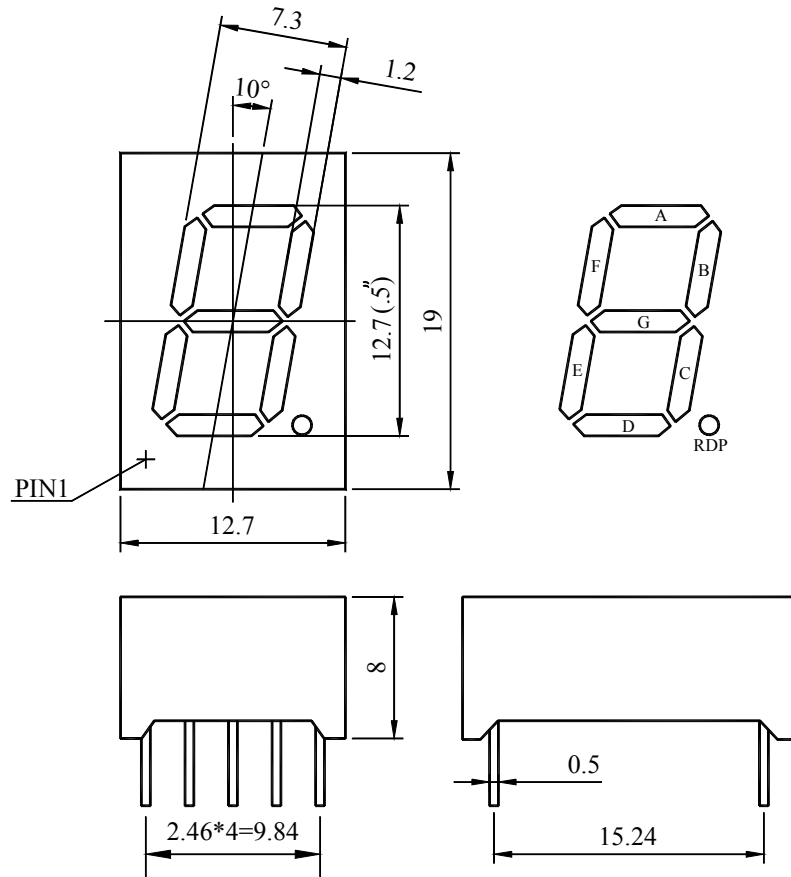
| Parameter | Symbol | Super Red | Green | Yellow | Unit |
|--|-----------|-------------|-------|--------|------|
| Power Dissipation/Segment | P_d | 50 | 60 | 60 | mW |
| Peak Forward Current /Segment (Duty 1/10@ 1KHz) | I_{FP} | 70 | 70 | 70 | mA |
| Continuous Forward Current /Segment | I_F | 20 | 20 | 20 | mA |
| Recommend use current /Segment | I_F | 5~10 | 5~10 | 5~10 | mA |
| Reverse Voltage /Segment | V_R | 5 | 5 | 5 | V |
| Operating Temperature Range | T_{opr} | -25~ +75 | | | |
| Storage Temperature Range | T_{stg} | -30 ~ +85 | | | |
| Solder Temperature | T_{sol} | 260 \pm 5 | | | |

- Notes :** 1、 This is the limit current . It is not allowed to use when the product work continuously.
 2、 It is recommended that the product is driven by TTL,CMOS.
 3、 Soldering time 5 seconds.

Electrical Optical Characteristics (Ta=25)

| Parameter | Symbol | Super Red | | Green | | Yellow | | Unit | Test Condition |
|--------------------------------|-----------|-----------|------|-------|------|--------|------|---------|----------------|
| | | Typ. | Max. | Typ. | Max. | Typ. | Max. | | |
| Luminous Intensity /Segment | I_v | 8.0 | -- | 4.0 | -- | 4.0 | -- | mcd | $I_F=10mA$ |
| Forward Voltage /Segment | V_F | 1.85 | 2.3 | 2.2 | 2.5 | 2.0 | 2.5 | V | $I_F=20mA$ |
| Reverse Current /Segment | I_R | -- | 50 | -- | 50 | -- | 50 | μA | $V_R=5V$ |
| Dominant Wavelength | λ | 645 | -- | 565 | -- | 585 | -- | nm | $I_F=20mA$ |
| Spectral Line Half Width | | 30 | -- | 30 | -- | 30 | -- | nm | $I_F=20mA$ |

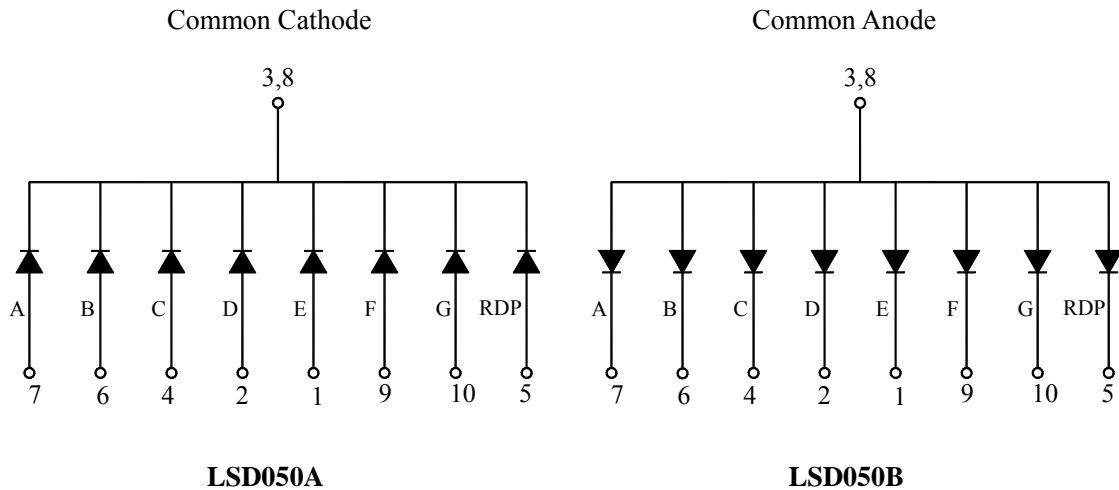
Package Dimensions:



NOTES :

- All dimensions are in millimetres (mm), Tolerance is $\pm 0.25\text{mm}$ unless otherwise noted.
- Specifications are subject to change without notice.

Internal Circuit:



Reliability Test Items and Conditions

| NO | Test Item | Test Conditions | Duration | Sample | Ac/Re |
|----|----------------------|---|-----------|--------|-------|
| 1 | Temperature Cycle | -30 ~ 25 ~ 85 ~ 25 30min 5min 30min 5min | 50cycles | 100 | 0/1 |
| 2 | High Temp. Storage | Ta=85 | 1000hours | 100 | 0/1 |
| 3 | Temp.& Humidity Test | Ta=85 RH=85% | 1000hours | 100 | 0/1 |
| 4 | Low Temp. Storage | Ta=-30 | 1000hours | 100 | 0/1 |
| 5 | Operating Life Test | Ta=25 ± 5 DC IF=15mA | 1000hours | 100 | 0/1 |
| 6 | Solder Heat | Tsol=260 ± 5 , 10s | 1times | 20 | 0/1 |

Typical Electro-Optical Characteristics Curves

