



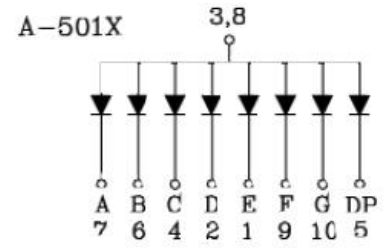
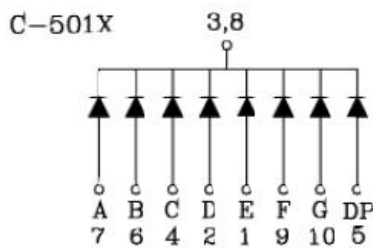
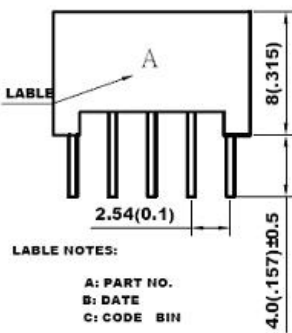
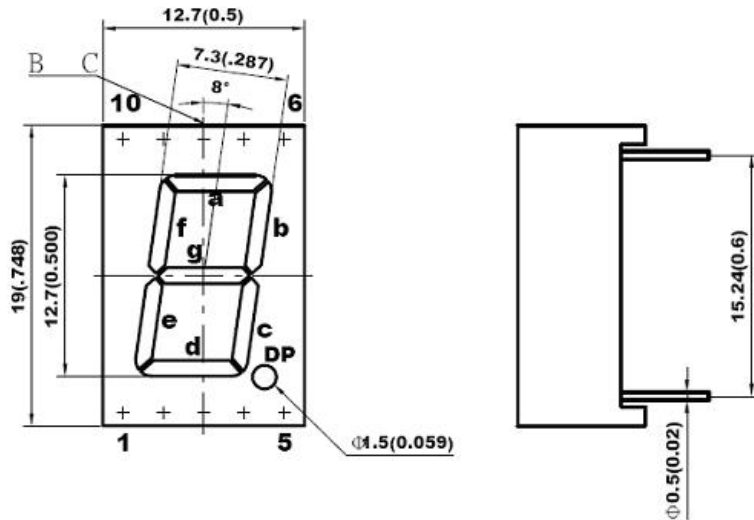
American Opto Plus LED

C/A501SR G/W

0.50" Single Digit Seven Segment Display

- ❖ 0.50inch (12.7 mm) height
- ❖ Low power consumption
- ❖ RoHS Compliance
- ❖ Case mold type

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches)
2. Tolerance is $\pm 0.25\text{mm}$ (0.01") unless otherwise specified



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DEVICE SELECTION GUIDE

| Part Number | Chip | | Face / Segment |
|---------------|----------|---------------|----------------|
| | Material | Emitted Color | |
| C/A 501SR G/W | AlGaAs | Super Red | Gray / White |
| | | | |

ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

| Parameter | Symbol | Max Rating | Unit |
|--|--------|------------|------|
| Power Dissipation per segment | PAD | 72 | mW |
| Peak Current per segment (1/10 Duty Cycle @1KHz) | IAF | 100 | mA |
| Continuous Forward Current per segment | IPF | 30 | mA |
| Reverse Voltage | VR | 5.0 | V |
| Operating Temperature Range | TOPR | -40~+85 | °C |
| Storage Temperature Range | TSTG | -40~+85 | °C |

Solder temperature 1.6 mm from body for 3 seconds at 260°C

OPTICAL-ELECTRICAL CHARACTERISTICS

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|--------------------------|--------|----------------|------|-------|-----|------|
| Ave. Luminous Intensity | IV | IF = 10mA | 5000 | 18000 | | μcd |
| Forward Voltage/segment | VF | IF = 10mA | | 1.75 | 2.4 | V |
| Reverse Current/segment | IR | VR = 5V | | | 10 | uA |
| Spectrum Line Half-Width | Δλ | IF = 10mA | | 20 | | nm |
| Dominant Wavelength | λd | IF = 10mA | | 645 | | nm |
| Peak Wavelength | λp | IF = 10mA | | 660 | | nm |



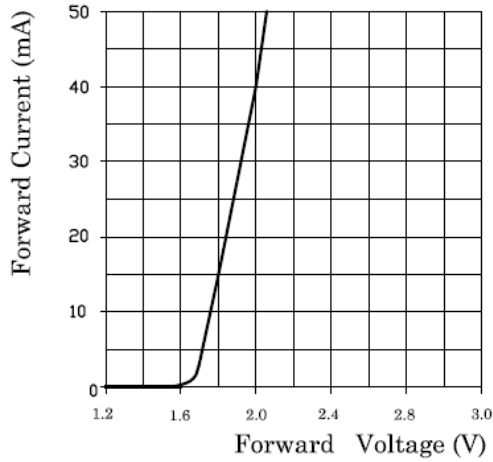
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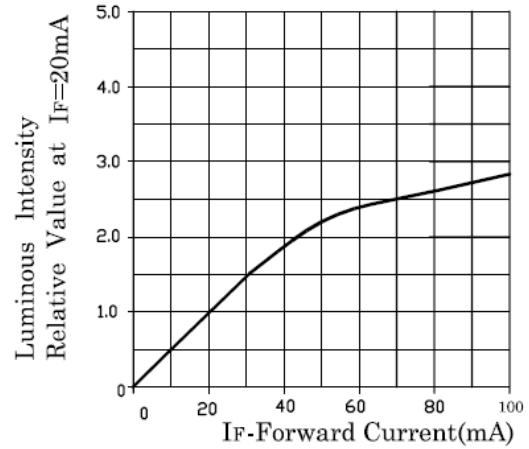
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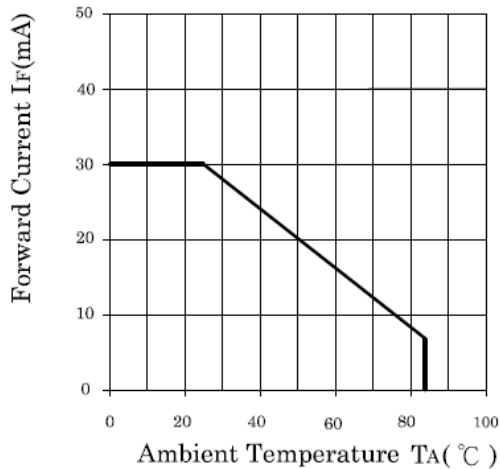
TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES: SUPER RED (SR)



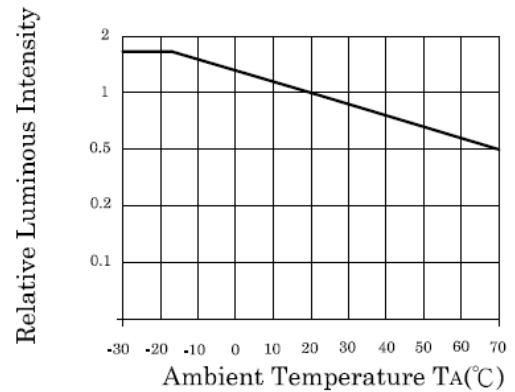
Forward Current Vs.
Forward Voltage



Luminous Intensity Vs.
Forward Current



Forward Current
Derating Curve



Luminous Intensity Vs.
Ambient Temperature



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WAVE SOLDERING

| SOLDERING INSTRUCTIONS | | | | | | |
|------------------------|-----------------------------------|------------------------|------------------------------------|-------------------------------------|------------------------|------------------------------------|
| TYPES | DIP AND WAVE SOLDERING | | | IRON SOLDERING(WITH 1.5mm IRON TIP) | | |
| | TEMPERATURE OF THE SOLDERING BATH | MAXIMUM SOLDERING TIME | DISTANCE FROM SOLDER JOINT TO CASE | TEMPERATURE OF SOLDERING IRON | MAXIMUM SOLDERING TIME | DISTANCE FROM SOLDER JOINT TO CASE |
| LEDS | ≤ 260°C | 3S | >2mm | ≤ 295°C | 3S | >2mm |
| | ≤ 260°C | 5S | >4mm | ≤ 295°C | 5S | >4mm |
| DISPLAYS | ≤ 260°C | 3S | >2mm | ≤ 295°C | 3S | >2mm |



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LAMP HANDLING AND APPLICATION PRECAUTIONS

STORAGE

1. It is recommended to store the products in the following conditions:
 - a. Humidity: 60% RH Max
Temperature: 5°C ~ 40°C (41°F ~ 105°F)
 - b. Shelf life in sealed bag: 3 month < 40°C and 90% RH

FORMING

1. Any forming on lead pin must be done before soldering, not during or after soldering
2. Avoid applying any stress to resin in order to prevent the epoxy fracture and break on bonding wire.
3. While forming, please use a tie bar cut or equivalent to hold or bend the pin.
4. 2mm from the base of resin is the minimum distance for the place bending the lead pin
5. Avoid bending the lead pin at the same point twice or more

SOLDERING

1. No stress can be applied to lead pins when they are heated, otherwise disconnection may occur.
2. When an LED is mounted into a P.C. board, pitch spacing should be aligned carefully to avoid causing any stress to the lead wires.
3. Mounting direction (electrode direction) of SMD LED and Display should be perpendicular to direction of PCB curve
4. After soldering, don't bend the PCB

CLEANING

1. Avoid using any unspecified chemical solvent to clean LED. For example, Trichloroethylene, Chloroform, Acetone, and Diflon S3MC.
2. Any cleaning method can only be taken under normal temperature in one minute or less if it is required
3. Special attention should be taken when using any chemicals for cleaning because some chemicals may damage the surface of epoxy.