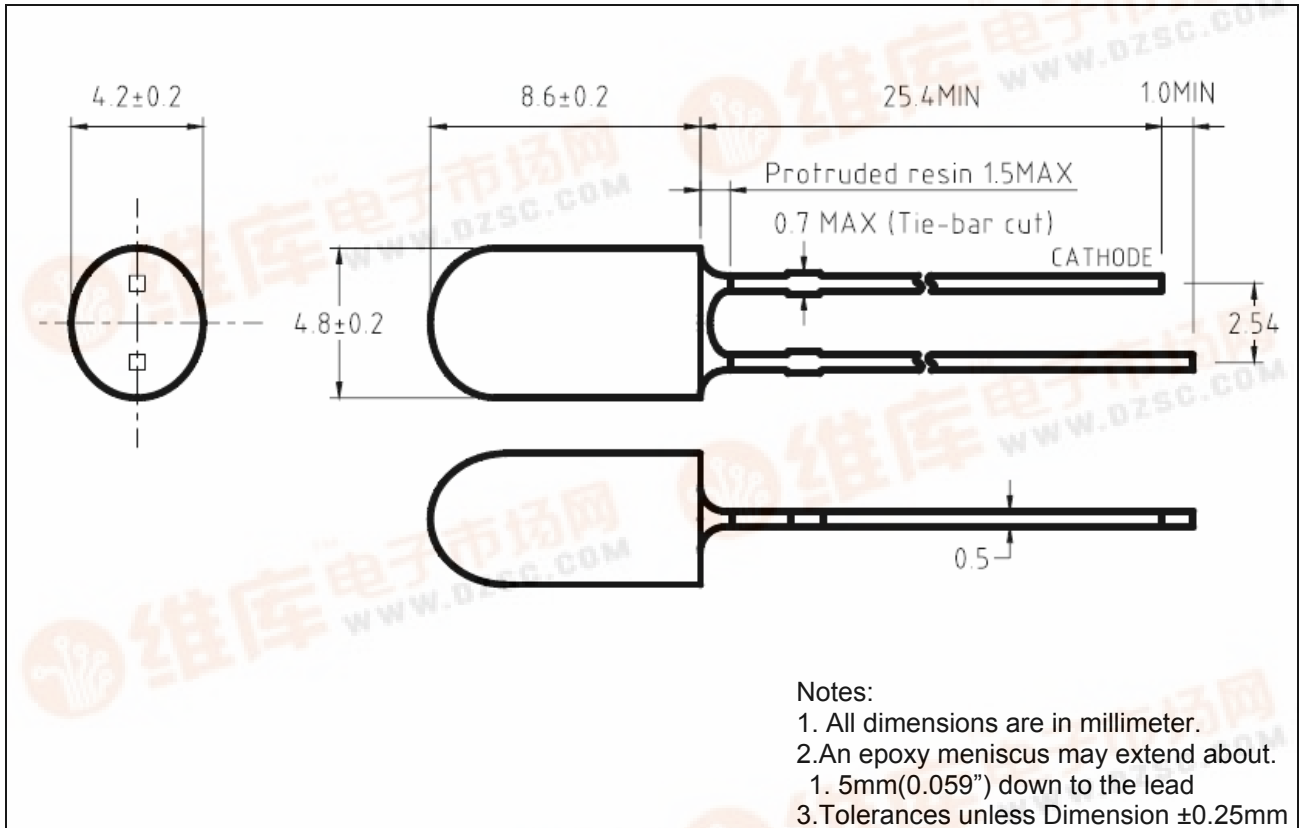


|            |                   |                  |
|------------|-------------------|------------------|
| Part No.   | <b>AL-V5K3ART</b> | Diff No.         |
| 4.2x4.8 mm | Oval              | Type : LED Lamps |

Package Dimension :



■ Features :

- Choice of various viewing angles.
- Available on Tape and Reel.
- Reliable and robust.

■ Descriptions :

- The series is specially designed for application requiring higher brightness.
- The LED lamps are available with different color, intensities, epoxy colors etc.

■ Applications :

- TV set
- Monitor
- Telephone

|            |                   |                  |
|------------|-------------------|------------------|
| Part No.   | <b>AL-V5K3ART</b> | Diff No.         |
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| PART NO.   | Chip     |               | Lens Color      |
|------------|----------|---------------|-----------------|
|            | Material | Emitted Color |                 |
| AL-V5K3ART | AlGaInP  | Orange Red    | Red Transparent |

■ Absolute Maximum Ratings at Ta=25℃

| Parameter                                | Symbol                | Rating      | Unit |
|------------------------------------------|-----------------------|-------------|------|
| Forward Current                          | I <sub>F</sub>        | 20          | mA   |
| Operating Temperature                    | T <sub>opr</sub>      | -30 to +80  | ℃    |
| Storage Temperature                      | T <sub>stg</sub>      | -40 to +100 | ℃    |
| Soldering Temperature                    | T <sub>sol</sub>      | 260 ± 5     | ℃    |
| Electrostatic Discharge                  | ESD                   | 1000        | V    |
| Power Dissipation                        | P <sub>D</sub>        | 120         | mW   |
| Peak Forward Current<br>(Duty 1/10@1KHz) | I <sub>F</sub> (Peak) | 100         | mA   |
| Reverse Voltage                          | V <sub>R</sub>        | 5           | V    |

■ Electronic Optical Characteristics :

| Parameter                    | Symbol         | Min. | Typ.    | Max. | Unit | Condition            |
|------------------------------|----------------|------|---------|------|------|----------------------|
| Luminous Intensity           | I <sub>V</sub> | /    | 800     | /    | mcd  | I <sub>F</sub> =20mA |
| Viewing Angle                | 2θ1/2          | /    | 50 / 20 | /    | deg  | I <sub>F</sub> =20mA |
| Peak Wavelength              | λ <sub>p</sub> | /    | 630     | /    | nm   | I <sub>F</sub> =20mA |
| Dominant Wavelength          | λ <sub>d</sub> | /    | 625     | /    | nm   | I <sub>F</sub> =20mA |
| Spectrum Radiation Bandwidth | △λ             | /    | 20      | /    | nm   | I <sub>F</sub> =20mA |
| Forward Voltage              | V <sub>F</sub> | /    | 2.0     | 2.4  | V    | I <sub>F</sub> =20mA |
| Reverse Current              | I <sub>R</sub> | /    | /       | 10   | μA   | V <sub>R</sub> =5V   |

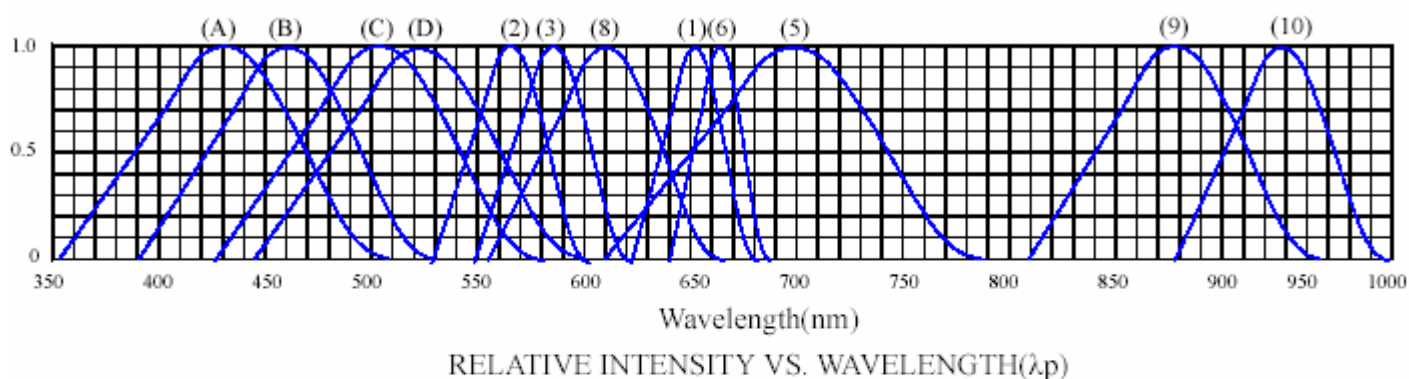
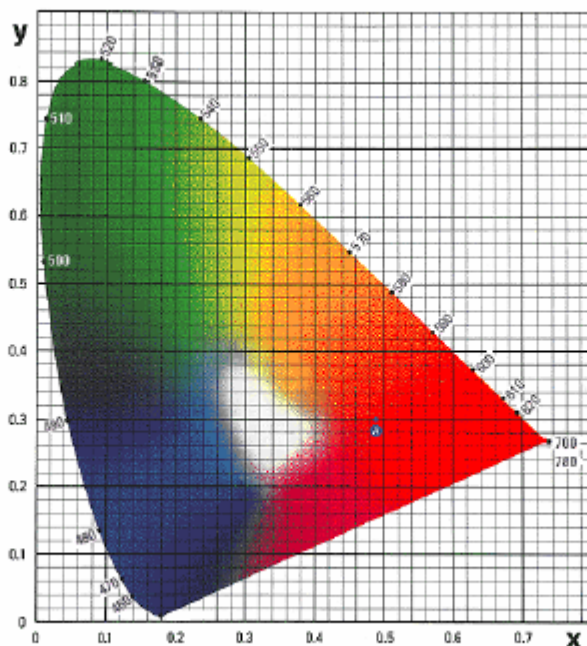
|            |            |                  |
|------------|------------|------------------|
| Part No.   | AL-V5K3ART | Diff No.         |
| 4.2x4.8 mm | Oval       | Type : LED Lamps |

## ■ Reliability test items and conditions :

| NO | Item                             | Test Conditions                              | Test Hours/Cycle | Sample Size | Ac/Re |
|----|----------------------------------|----------------------------------------------|------------------|-------------|-------|
| 1  | Solder Heat                      | TEMP : 260°C ±5°C                            | 5 SEC            | 76 PCS      | 0/1   |
| 2  | Temperature Cycle                | H : +85°C 30min<br>└ 5min<br>L : -55°C 30min | 50 CYCLES        | 76 PCS      | 0/1   |
| 3  | Thermal Shock                    | H : +100°C 5min<br>└ 10set<br>L : -10°C 5min | 50 CYCLES        | 76 PCS      | 0/1   |
| 4  | High Temperature Storage         | TEMP : 100°C                                 | 1000 HRS         | 76 PCS      | 0/1   |
| 5  | Low Temperature Storage          | TEMP : -55°C                                 | 1000 HRS         | 76 PCS      | 0/1   |
| 6  | DC Operating Life                | TEMP : 25°C<br>I <sub>F</sub> =20mA          | 1000 HRS         | 76 PCS      | 0/1   |
| 7  | High Temperature / High Humidity | 85°C / 85%RH                                 | 1000 HRS         | 76 PCS      | 0/1   |

|            |                   |                  |
|------------|-------------------|------------------|
| Part No.   | <b>AL-V5K3ART</b> | Diff No.         |
| 4.2x4.8 mm | Oval              | Type : LED Lamps |

◆ TYPICAL ELECTRICAL-OPTICAL CHARACTERISTICS CURVES



- (1) GaAsP/GaAs 655nm/Red
- (2) GaP 568nm/ Yellow Green
- (3) GaAsP/GaP 585nm/Yellow
- (4) GaAsP/GaP 635nm/Orange & Hi-Eff Red
- (5) GaP 700nm/Bright Red
- (6) GaAlAs/GaAs 660nm/Super Red
- (8) GaAsP/GaP 610nm/Super Red

- (9)- GaAlAs 880nm
- (10)-GaAs/GaAs&GaAlAs/GaAs 940nm
- (A)- GaN 430nm/Blue
- (B)- InGaN 470nm/Blue
- (C)- InGaN 502nm/Ultra Green
- (D)- InGaN 523nm/Ultra Green

Part No. **AL-V5K3ART**

Diff No.

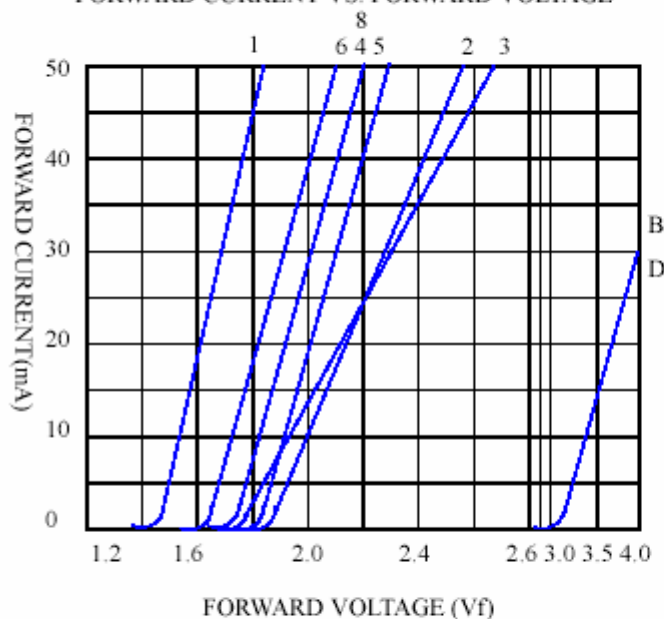
4.2x4.8 mm

Oval

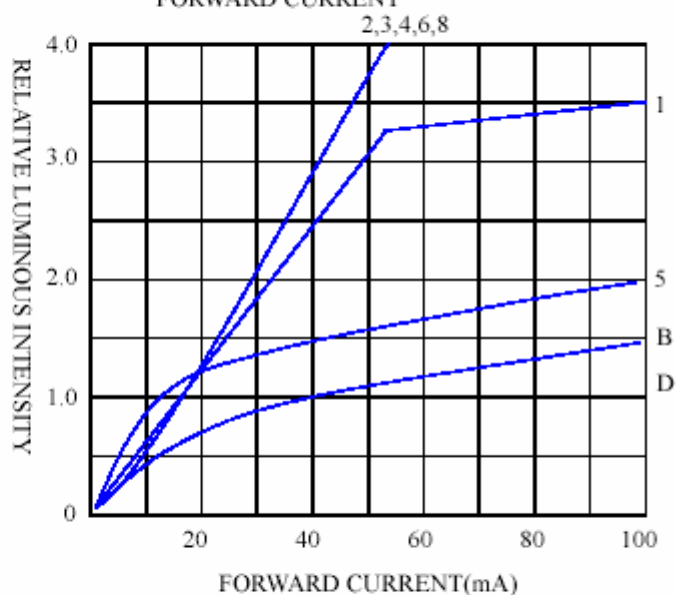
Type : LED Lamps

◆ CHARACTERISTICS DIAGRAMS

FORWARD CURRENT VS. FORWARD VOLTAGE



RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



FORWARD CURRENT VS. AMBIENT TEMPERATURE

