

**DISPLAY Elektronik GmbH**

**DATA SHEET**

**BACKLIGHT**

**DE LP-502-RGB**

*Product Specification*

*Version: 2*

**21.09.2016**

# GENERAL SPECIFICATION

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MODEL NO. :

# DE LP-502-RGB

CUSTOMER P/N

| Version No. | Change Description    | Date       |
|-------------|-----------------------|------------|
| 0           | Original Version      | 14.09.2016 |
| 1           | Update Spec           | 20.09.2016 |
| 2           | Change LED Wavelength | 21.09.2016 |
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DATE: 21.09.2016

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DATE: 21.09.2016

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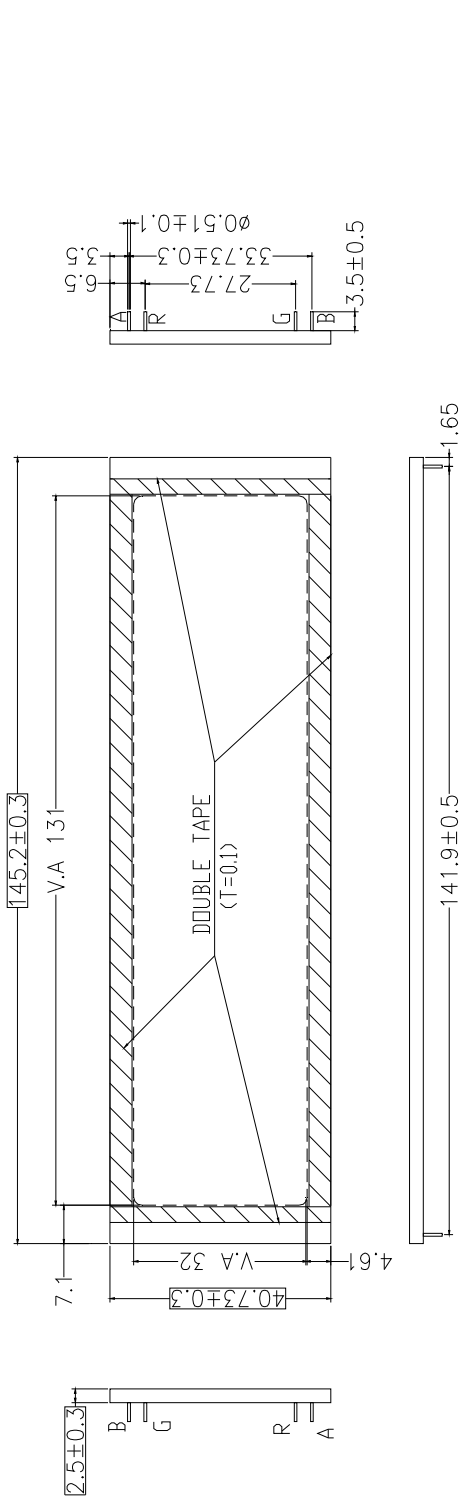
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## 1. FEATURES

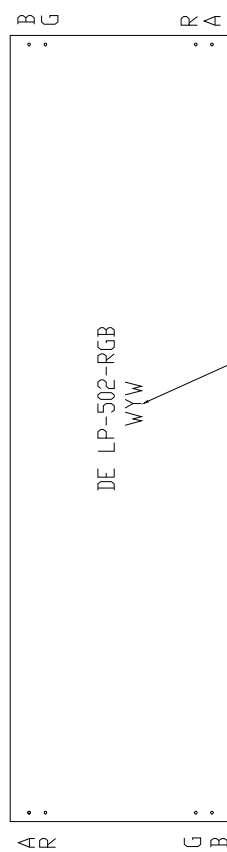
Backlight Color: RGB

RoHS: Conformed

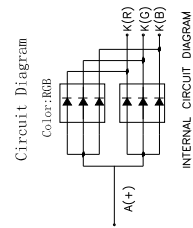
## 2. EXTERNAL DIMENSION (unit: mm)



Remarks:  
 1. Unmarked tolerance is  $\pm 0.3$   
 2. All materials comply with RoHS  
 3. ...critical dimension.  
 4. Operation temperature:  $-20^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$   
 Storage temperature:  $-40^{\circ}\text{C}$  to  $+90^{\circ}\text{C}$



Product date code printing  
 Format: Y:year ,W:week



**3. ELECTRICAL/OPTICAL SPECIFICATIONS**

Electronics/Optical Specifications:

| Item                      | Symbol | RED                           |      |      | GREEN |      |      | BLUE |      |      | Unit              | Condition |
|---------------------------|--------|-------------------------------|------|------|-------|------|------|------|------|------|-------------------|-----------|
|                           |        | MIN.                          | TYP. | MAX. | MIN.  | TYP. | MAX. | MIN. | TYP. | MAX. |                   |           |
| Forward Current           | Vf     | 1.9                           | 2.1  | 2.5  | 2.8   | 3.0  | 3.4  | 2.9  | 3.1  | 3.5  | mA                | If=40*2mA |
| Dominant Wave Length      | λD     | 620                           | 630  | 640  | 515   | 525  | 535  | 465  | 470  | 475  | nm                | If=40*2mA |
| Color Chromaticity        | X      | —                             | —    | —    | —     | —    | —    | —    | —    | —    |                   |           |
|                           | Y      | —                             | —    | —    | —     | —    | —    | —    | —    | —    |                   |           |
| Uniformity                | Avg    | 65                            |      |      | 65    |      |      | 65   |      |      | %                 |           |
| Luminance                 | Lv     | 100                           | 150  |      | 250   | 310  |      | 50   | 85   |      | cd/m <sup>2</sup> |           |
| Reverse Current (Per LED) | Ir     |                               |      | 10   |       |      | 10   |      |      | 10   | μA                | Vr= 5.0 V |
| Lifetime                  |        | 50000(brightness reduce half) |      |      |       |      |      |      |      |      |                   |           |

**4. ACCEPT QUALITY LEVEL (AQL).**

- 4.1. AQL standard value: Critical defect =0, Major defect=0.65; Minor defect =2.5.
- 4.2. Inspection Plan: ANSI Z-1.4, Normal Inspection Level II, Single Sampling Plan.

**5. RELIABILITY TEST**

| Test Item                       | Test Condition   |
|---------------------------------|--|
| High Temperature Storage        | +90°C x 96h  |
| Low temperature Storage         | -40°C x 96h  |
| High Temperature Operation      | +70°C x 96h  |
| Low Temperature Operation       | -20°C x 96h  |
| High Temperature, High Humidity | 60°C x 90%RH x 4 Weeks                                   |
| Thermal Shock                   | -20°C x 30min → 25°C x 10s → +70°C x 30min<br>x 5 Cycles |
| Vibration Test                  | Frequency x Swing x Time<br>40Hz x 4mm x 4h              |
| Drop Test                       | Height x Number of drop<br>1.0m x 6 drops                |