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## NTE30018 & NTE30019 Light Emitting Diode (LED) 0603 Surface Mount

**Features:**

- NTE30018: Super Bright Orange (AlInGaP/GaAs)
- NTE30019: Super Bright Blue
- 1.6mm x 0.8mm (0603) SMT LED, 0.75mm Thickness
- Low Power Consumption
- Wide Viewing Angle
- Ideal for Backlight and Indicator Applications

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

|   |        |
|---|--------|
| DC Forward Current, $I_F$   |        |
| NTE30018 .....  | 25mA   |
| NTE30019 .....  | 20mA   |
| Peak Forward Current (Note 1), $I_{F(\text{peak})}$                         |        |
| NTE30018 .....  | 50mA   |
| NTE30019 .....  | 100mA  |
| Reverse Voltage, $V_R$  |        |
| NTE30018 .....  | 5V     |
| NTE30019 .....  | 4V     |
| Power Dissipation, $P_D$  |        |
| NTE30018 .....  | 100mW  |
| NTE30019 .....  | 120mW  |
| Electrostatic Discharge (NTE30019 <b>Only</b> ), ESD .....                  |        |
| 150V  |        |
| LED Junction Temperature, $T_J$   |        |
| NTE30018 .....  | +100°C |
| NTE30019 .....  | +125°C |
| Operating Temperature Range, $T_{\text{opr}}$ .....                         |        |
| -30° to +85°C   |        |
| Storage Temperature Range, $T_{\text{stg}}$ .....                           |        |
| -40° to +85°C   |        |
| Reflow Soldering (Preheat +150° to +180°C 60sec to 120sec, 10sec max) ..... |        |
| +260°C  |        |

Note 1. 1/10 Duty Cycle, 0.1ms Pulse Width.

**Electrical/Optical Characteristics:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

| Parameter                   | Symbol          | Test Conditions              | Min | Typ | Max | Unit    |
|-----------------------------|-----------------|------------------------------|-----|-----|-----|---------|
| Viewing Angle of Half Power | $2\theta_{1/2}$ | $I_F = 20\text{mA}$          | -   | 140 | -   | degrees |
| Luminous Intensity          | $I_V$           | $I_F = 20\text{mA}$ , Note 2 | 35  | 75  | -   | mcd     |
| NTE30018                    |                 |                              |     |     |     |         |
| NTE30019                    |                 |                              | 28  | 52  | -   | mcd     |

Note 2. Tolerance: 30% measured with EXELTRON 2001

**Electrical/Optical Characteristics (Cont'd):** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

| Parameter                             | Symbol            | Test Conditions              | Min | Typ | Max | Unit          |
|---------------------------------------|-------------------|------------------------------|-----|-----|-----|---------------|
| Forward Voltage<br>NTE30018           | $V_F$             | $I_F = 20\text{mA}$          | -   | 2.0 | 2.4 | V             |
| NTE30019                              |                   |                              | -   | 3.5 | 4.0 | V             |
| Reverse Current<br>NTE30018           | $I_R$             | $V_R = 5\text{V}$            | -   | -   | 10  | $\mu\text{A}$ |
| NTE30019                              |                   | $V_R = 4\text{V}$            | -   | -   | 60  | $\mu\text{A}$ |
| Peak Emission Wave Length<br>NTE30018 | $\lambda_P$       | $I_F = 20\text{mA}$          | -   | 620 | -   | nm            |
| NTE30019                              |                   |                              | -   | 468 | -   | nm            |
| Dominate Wavelength<br>NTE30018       | $\lambda_d$ (HUE) | $I_F = 20\text{mA}$ , Note 3 | -   | 615 | -   | nm            |
| NTE30019                              |                   |                              | 465 | 470 | 480 | nm            |
| Spectral Line Half Width<br>NTE30018  | $\Delta\lambda$   | $I_F = 20\text{mA}$          | -   | 20  | -   | nm            |
| NTE30019                              |                   |                              | -   | 45  | -   | nm            |

Note 3. The dominate wavelength,  $\lambda_d$ , is derived from the CIE Chromatic Diagram and represents the color of the device.

