



ELECTRONICS, INC.  
 44 FARRAND STREET  
 BLOOMFIELD, NJ 07003  
 (973) 748-5089  
<http://www.nteinc.com>

## NTE3180, NTE3181, NTE3182 Rectangle Light Emitting Diode – 12.7mm x 6.35mm

**Description:**

The NTE3180 (Super Bright Red), NTE3181 (Green) and NTE3182 (Yellow) are rectangular light sources designed for a variety of applications where a large bright source of light is required. These light bars are configured in dual-in-line packages. The NTE3181 utilize LED chips which are made from GaP on a transparent GaP substrate, White Segment, Green Face. The NTE3180 & NTE3182 utilize LED chips which are made from GaAsP on transparent GaP substrate.

**Features:**

- Low Power Requirement
- I.C Compatible
- Excellent On-Off Contrast
- Panel and Legend Mount Ready
- Suitable for Multiplex Operation
- Easy Mounting On P.C Board

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

Power Dissipation Per Chip	
NTE3180, NTE3181 .....	100mW
Derate Linear from $+50^\circ\text{C}$ .....	0.4mA/ $^\circ\text{C}$
NTE3182 .....	60mW
Derate Linear from $+25^\circ\text{C}$ .....	0.24mA/ $^\circ\text{C}$
Peak Forward Current Per Chip (1/10 Duty Cycle, 0.1ms Pulse Width)	
NTE3180 & NTE3181 .....	100mA
NTE3182 .....	80mA
Continuous Forward Current Per Chip	
NTE3180 .....	40mA
NTE3181 .....	50mA
NTE3182 .....	20mA
Reverse Voltage Per Chip .....	5V
Storage and Operating Temperature Range .....	$-25^\circ$ to $+85^\circ\text{C}$
NTE3180 (only) .....	$-40^\circ$ to $+80^\circ\text{C}$
Soldering Temperature (1/16 inch Below Seating for 3 Seconds) .....	$+260^\circ\text{C}$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Viewing Angle	$2\theta_{1/2}$		-	100	-	deg.
NTE3180 Only			-	150	-	deg.
Average Luminous Intensity Per Bar	$I_V$	$I_F = 10\text{mA}$	2.3	4.2	-	mcd
NTE3180 Only			7	11	15	mcd
Peak Emission Wavelength	$\lambda_{\text{peak}}$	$I_F = 20\text{mA}$	-	565	-	nm
NTE3180 Only			563	568	573	nm
Spectral Line Half Width	$\Delta\lambda$	$i_F = 20\text{mA}$	-	30	-	nm
NTE3180 Only			5	10	15	nm
Forward Voltage	$V_F$	$i_F = 20\text{mA}$	-	2.1	2.8	V
NTE3180 Only			1.7	2.2	2.6	V
Reverse Current	$I_R$	$V_R = 5\text{V}$	-	-	100	$\mu\text{A}$

