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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 NTE3180 utilize LED chips which are made from AlGaAs on a transparent GaP substrate. The NTE3181 utilize LED chips which are made from GaP on a transparent GaP substrate, white segment, green face. The 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, P_D	
NTE3180, NTE3181	100mW
Derate Linear from $+50^\circ\text{C}$	0.4mA/ $^\circ\text{C}$
NTE3182	60mW
Derate Linear from $+25^\circ\text{C}$	0.27mA/ $^\circ\text{C}$
Peak Forward Current, Per Chip (1/10 Duty Cycle, 0.1ms Pulse Width), I_{FP}	
NTE3180 & NTE3181	100mA
NTE3182	80mA
Continuous Forward Current, Per Chip, I_F	
NTE3180	40mA
NTE3181	50mA
NTE3182	20mA
Reverse Voltage, Per Chip, V_R	5V
Storage and Operating Temperature Range, T_{stg} , T_{opr}	
NTE3180, NTE3181	-40° to $+80^\circ\text{C}$
NTE3182	-35° to $+85^\circ\text{C}$
Soldering Temperature (1/16 inch Below Seating for 3 Seconds), T_L	$+260^\circ\text{C}$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Viewing Angle NTE3180, NTE3181 Only	$2\theta_{1/2}$	$I_F = 20\text{mA}$	-	150	-	deg.
Average Luminous Intensity Per Bar NTE3180	I_V	$I_F = 20\text{mA}$, Note 1	-	10.5	14.0	mcd
NTE3181			7.0	11.0	15.0	mcd
NTE3182		$I_F = 10\text{mA}$	2.3	4.2	-	mcd
Peak Emission Wavelength NTE3180	λ_{peak}	$I_F = 20\text{mA}$	655	660	665	nm
NTE3181			563	568	573	nm
NTE3182			-	585	-	nm
Spectral Line Half Width NTE3180	$\Delta\lambda$	$i_F = 20\text{mA}$	19	24	29	nm
NTE3181			5	10	15	nm
NTE3182			-	35	-	nm
Dominant Wavelength NTE3182 Only	λ_d	$i_F = 20\text{mA}$	-	588	-	nm
Forward Voltage NTE3180	V_F	$i_F = 20\text{mA}$	1.6	1.85	2.4	V
NTE3181			1.7	2.2	2.6	V
NTE3182			-	2.1	2.6	V
Reverse Current	I_R	$V_R = 5\text{V}$	-	-	100	μA

Note 1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.

