



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

NTE3144 thru NTE3147 Light Emitting Diode – 5mm

Features:

- All Plastic Mold Type w/Water Clear Lens:
 - NTE3144 (High Efficiency Red, AlGaP/GaAs)
 - NTE3145 (Yellow Green, GaInN/GaN)
 - NTE3146 (Yellow, AlInGaP/GaAs)
 - NTE3147 (Orange, AlInGaP/GaAs)

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

Power Dissipation, P_D	
NTE3144, NTE3146, NTE3147	90mW
NTE3145	84mW
Continuous Forward Current, I_F	
NTE3144, NTE3147	30mA
NTE3145, NTE3146	25mA
Peak Forward Current (0.1 ms pulse width, 1/10 duty cycle), I_{FM}	50mA
Reverse Voltage, V_R	5V
LED Junction Temperature, T_j	+100°C
Operating Temperature Range, T_{opr}	-25° to +85°C
Storage Temperature Range, T_{stg}	-40° to +100°C
Lead Temperature (During Soldering, 5sec max, 1.6mm below package base)	260°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
View Angle of Half Power	2 θ 1/2	$I_F = 20\text{mA}$	–	30	–	Degree
Forward Voltage	V_F	$I_F = 20\text{mA}$	–	2.05	2.80	V
NTE3144, NTE3147				2.15	2.80	V
NTE3145				2.10	2.80	V
Reverse Current	I_R	$V_R = 5\text{V}$	–	–	10	μA
Luminous Intensity	I_V	$I_F = 20\text{mA}$, Note 1	40	60	–	mcd
NTE3144, NTE3147				80	–	mcd
NTE3145				50	–	mcd
NTE3146			35	50	–	mcd

Note 1. Tolerance: 30%, measured using Exeltron 2001.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Peak Emission Wavelength NTE3144, NTE3147	λ_p	$I_F = 20\text{mA}$	–	625	–	nm
NTE3145			–	570	–	nm
NTE3146			–	589	–	nm
Dominate Wave Length NTE3144, NTE3147	$\lambda_d(\text{HUE})$	$I_F = 20\text{mA}$, Note 2	–	618	–	nm
NTE3145			–	567	–	nm
NTE3146			–	585	–	nm
Specturm Width of Half Valve NTE3144, NTE3147	$\Delta\lambda$	$I_F = 20\text{mA}$	–	45	–	nm
NTE3145			–	30	–	nm
NTE3146			–	35	–	nm
Terminal Capacitance NTE3144, NTE3147	C_t	$V = 0\text{V}$, $F = 1\text{MHz}$	–	6	–	pF
NTE3145, NTE3146			–	7	–	pF
Response Frequency	F_C		–	4	–	MHz

Note 2. The dominate wavelength, λ_d , is derived from the CIE Chromaticity Diagram and represents the color of the device.

