



ELECTRONICS, INC.
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NTE3144 thru NTE3147 Light Emitting Diode – 5mm

Features:

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

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

Power Dissipation, P_D	
NTE3144, NTE3146	100mW
NTE3145	84mW
NTE3147	90mW
Continuous Forward Current, I_F	
NTE3144	20mA
NTE3145, NTE3146, NTE3147	25mA
Peak Forward Current (0.1 ms pulse width, 1/10 duty cycle), I_{FM}	
NTE3144, NTE3146, NTE3147	100mA
NTE3145	50mA
Reverse Voltage, V_R	5V
LED Junction Temperature, T_j	+100°C
Operating Temperature Range, T_{opr}	
NTE3144	-40° to +85°C
NTE3146, NTE3147	-20° to +80°C
NTE3145	-25° to +85°C
Storage Temperature Range, T_{stg}	
NTE3146, NTE3147	-30° to +100°C
NTE3144, NTE3145	-40° to +100°C
Lead Temperature (During Soldering, 3sec max, 1.6mm below package base), T_L	+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 NTE3144	2θ1/2	$I_F = 20\text{mA}$	-	40	-	Degree	
			All Others	-	30	-	Degree
Forward Voltage NTE3144	V_F	$I_F = 20\text{mA}$	-	2.0	2.5	V	
			NTE3145	-	2.15	2.80	V
			NTE3146	2.0	-	2.2	V
			NTE3147	-	2.0	2.2	V
Reverse Current	I_R	$V_R = 5\text{V}$	-	-	10	uA	

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
Luminous Intensity NTE3144	I_V	$I_F = 20\text{mA}$, Note 1	80	100	-	mcd
NTE3145			50	80	-	mcd
NTE3146			40	-	80	mcd
NTE3147			40	-	60	mcd
Peak Emission Wavelength NTE3144	λ_p	$I_F = 20\text{mA}$	630	-	635	nm
NTE3145			-	570	-	nm
NTE3146			585	590	595	nm
NTE3147			600	605	610	nm
Dominate Wave Length NTE3145 Only	$\lambda_d(\text{HUE})$	$I_F = 20\text{mA}$, Note 2	-	567	-	nm
Specturm Width of Half Valve NTE3144	$\Delta\lambda$	$I_F = 20\text{mA}$	-	20	-	nm
NTE3145			-	30	-	nm
Terminal Capacitance NTE3145 Only	C_t	$V = 0\text{V}$, $F = 1\text{MHz}$	-	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.

