



ELECTRONICS, INC.
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NTE3140 thru NTE3143 Light Emitting Diode – 3mm

Features:

- All Plastic Mold Type w/Colored Diffused Lens:
 - NTE3140 (High Efficiency Red, AlGaP/GaAs)
 - NTE3141 (Yellow Green, GaInN/GaN)
 - NTE3142 (Yellow, AlInGaP/GaAs)
 - NTE3143 (Orange, AlInGaP/GaAs)

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

Power Dissipation, P_D		
NTE3140, NTE3142, NTE3143	.....	90mW
NTE3141	.....	84mW
Continuous Forward Current, I_F		
NTE3140, NTE3143	.....	30mA
NTE3141, NTE3142	.....	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)	.....	+240°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	$2\theta_{1/2}$	$I_F = 20\text{mA}$	-	40	-	Degree
Forward Voltage	V_F	$I_F = 20\text{mA}$	-	2.05	2.80	V
NTE3140, NTE3143				2.15	2.80	V
NTE3141				2.10	2.80	V
NTE3142						
Reverse Current	I_R	$V_R = 5\text{V}$	-	-	10	uA
Luminous Intensity	I_V	$I_F = 20\text{mA}$, Note 1	20	35	-	mcd
NTE3140, NTE3143				40	-	mcd
NTE3141				30	-	mcd
NTE3142						

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 NTE3140, NTE3143	λ_p	$I_F = 20\text{mA}$	-	625	-	nm
NTE3141			-	570	-	nm
NTE3142			-	589	-	nm
Dominate Wave Length NTE3140, NTE3143	$\lambda_d(\text{HUE})$	$I_F = 20\text{mA}$, Note 2	-	618	-	nm
NTE3141			-	567	-	nm
NTE3142			-	585	-	nm
Spectrum Width of Half Valve NTE3140, NTE3143	$\Delta\lambda$	$I_F = 20\text{mA}$	-	45	-	nm
NTE3141			-	30	-	nm
NTE3142			-	35	-	nm
Terminal Capacitance NTE3140, NTE3143	C_t	$V = 0\text{V}$, $F = 1\text{MHz}$	-	6	-	pF
NTE3141			-	7	-	pF
NTE3142			-	5	-	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.

