



ELECTRONICS, INC.
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NTE30037 thru NTE30043, NTE30045 Super Bright LED Indicators, 5mm

Features:

- All Plastic Mold Type w/Water Clear Lens:
 - NTE30037 (Yellow Green, AlGaP/GaAs)
 - NTE30038 (Pure Green, GaInN/GaN)
 - NTE30039 (Yellow, AlInGaP/GaP)
 - NTE30040 (Orange, AlInGaP/GaAs)
 - NTE30041 (Deep Red, GaAlAs/GaAlAs)
 - NTE30042 (Amber, AlGaP/GaAs)
 - NTE30043 (Blue, GaInN/GaN)
 - NTE30045 (White, GaInN/GaN)

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

Reverse Voltage, V_R	
All devices	5V
Continuous Forward Current, I_F	
NTE30037, NTE30038, NTE30039, NTE30040, NTE30041, NTE30042	25mA
NTE30043, NTE30045	30mA
Peak Forward Current (1.10 Duty Cycle, 0.1ms Pulse Width), I_{FM}	
NTE30037, NTE30040, NTE30042	50mA
NTE30039, NTE30041, NTE30043, NTE30045	100mA
NTE30038	150mA
Power Dissipation, P_D	
NTE30037, NTE30040, NTE30042	100mW
NTE30041	110mW
NTE30038, NTE30043, NTE30045	120mW
NTE30039	150mW
Operating Temperature Range, T_{opr}	-25°C to $+85^\circ\text{C}$
NTE30038 Only	-40°C to $+100^\circ\text{C}$
NTE30039 Only	-20°C to $+80^\circ\text{C}$
Storage Temperature Range, T_{stg}	
NTE30038 Only	-40°C to $+100^\circ\text{C}$
NTE30039 Only	-30°C to $+100^\circ\text{C}$
All other devices	-25°C to $+100^\circ\text{C}$
Lead Temperature (During Soldering, .063 (1.6mm) from body, 5sec max), T_L	$+260^\circ\text{C}$

Rev. 8-20



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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage NTE30037	V_F	$I_F = 20\text{mA}$	–	2.2	2.4	V
NTE30038			3.0	3.3	3.6	V
NTE30039			2.0	–	2.2	V
NTE30040			–	2.0	2.6	V
NTE30041			1.8	2.0	2.2	V
NTE30042			–	2.0	2.4	V
NTE30043			–	3.5	4.0	V
NTE30045			–	3.6	4.0	V
Reverse Current All Devices (Except NTE30039)	I_R	$V_R = 5\text{V}$	–	–	10	μA
NTE30038			–	–	100	μA
NTE30043, NTE30045 Only		$V_R = 4\text{V}$			60	μA
Luminous Intensity NTE30037	I_V	$I_F = 20\text{mA}$, Note 1	–	2500	–	mcd
NTE30038			–	11000	–	mcd
NTE30039			10000	–	12000	mcd
NTE30040			–	2400	–	mcd
NTE30041			8000	–	10000	mcd
NTE30042			–	5500	–	mcd
NTE30043			–	3500	–	mcd
NTE30045			–	16000	–	mcd
Peak Emission Wave Length NTE30037	λ_P	$I_F = 20\text{mA}$	–	575	–	nm
NTE30038			–	523	–	nm
NTE30039			590	593	595	nm
NTE30040			–	620	–	nm
NTE30041			660	–	665	nm
NTE30042			–	607	–	nm
NTE30043			–	465	–	nm
NTE30045		CIE Coordinates, Typ	X: 0.30; Y: 0.31			
Viewing Angle All Devices	$2\theta^{1/2}$	$I_F = 20\text{mA}$	–	12	–	deg.
NTE30038 Only			–	15	–	deg.
NTE30040 Only			–	40	–	deg.
NTE30039, NTE30041			–	30	–	deg.
NTE30045 Only			–	22	–	deg.
Terminal Capacitance (NTE30040 Only)	C_t	$V = 0\text{V}$, $f = 1\text{MHz}$	–	15	–	pF
Response Frequency (NTE30040 Only)	F_c		–	4	–	MHz

Note 1. Luminous intensity is measured with an Exeltron 2001.

