



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

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage NTE30037	$V_F$	$I_F = 20\text{mA}$	-	2.2	2.4	V
NTE30038			-	3.5	4.0	V
NTE30039			-	2.25	2.6	V
NTE30040			-	2.0	2.6	V
NTE30041			-	1.86	2.5	V
NTE30042			-	2.0	2.4	V
NTE30043			-	3.5	4.0	V
NTE30045			-	3.6	4.0	V

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Reverse Current All Devices	$I_R$	$V_R = 5V$	-	-	10	$\mu\text{A}$	
NTE30043, NTE30045 <b>Only</b>		$V_R = 4V$	-	-	60	$\mu\text{A}$	
Luminous Intensity NTE30037	$I_V$	$I_F = 20\text{mA}$	Note 1	-	1500	-	mcd
			Note 2	-	2500	-	mcd
NTE30038			Note 1	-	8000	-	mcd
			Note 2	-	10500	-	mcd
NTE30039			Note 1	-	3500	-	mcd
			Note 2	-	7000	-	mcd
NTE30040			Note 1	-	3200	-	mcd
			Note 2	-	5500	-	mcd
NTE30041			Note 1	-	1400	-	mcd
			Note 2	-	3500	-	mcd
NTE30042			Note 1	-	3000	-	mcd
			Note 2	-	5500	-	mcd
NTE30043			Note 1	-	3000	-	mcd
			Note 2	-	3500	-	mcd
NTE30045			Note 1	-	7500	-	mcd
			Note 2	-	16000	-	mcd
Peak Emission Wave Length NTE30037	$\lambda_P$	$I_F = 20\text{mA}$	-	575	-	nm	
NTE30038			-	523	-	nm	
NTE30039			-	592	-	nm	
NTE30040			-	620	-	nm	
NTE30041			-	660	-	nm	
NTE30042			-	607	-	nm	
NTE30043			-	465	-	nm	
NTE30045			CIE Coordinates, Typ		X: 0.30; Y: 0.31		
Spectral Line Half Width NTE30037, NTE30040, NTE30041, NTE30042	$\Delta\lambda$	$I_F = 20\text{mA}$	-	20	-	nm	
NTE30038			-	45	-	nm	
NTE30039			-	25	-	nm	
NTE30043			-	35	-	nm	
Viewing Angle All Devices	$2\theta_{1/2}$	$I_F = 20\text{mA}$	-	12	-	deg.	
NTE30038 <b>Only</b>			-	15	-	deg.	
NTE30045 <b>Only</b>			-	22	-	deg.	

Note 1. Luminous intensity is measured with a Labsphere LED-1100.

Note 2. Luminous intensity is measured with an Exeltron 2001.

