



ELECTRONICS, INC.  
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## NTE30065 thru NTE30071 Super Bright LED Indicators, 10mm

**Features:**

- RoHS Compliant
- All Plastic Mold Type w/Water Clear Lens:
  - NTE30065 (Yellow Green, AlInGaP/GaAs)
  - NTE30066 (Light Green, InGaN/GaN)
  - NTE30067 (Orange, AlInGaP/GaAs)
  - NTE30068 (Light Red, AlInGaP/GaAs)
  - NTE30069 (Deep Red, GaAlAs/GaAlAs)
  - NTE30070 (Blue)
  - NTE30071 (Super White, GaInN/GaN)

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

Reverse Voltage, $V_R$						
All Device	.....					5V
NTE30066 <b>Only</b>	.....					4V
Continuous Forward Current, $I_F$						
All Devices	.....					25mA
NTE30066 <b>Only</b>	.....					30mA
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width), $I_{FM}$						
NTE30065, NTE30067, NTE30068, NTE30069	.....					50mA
NTE30066, NTE30070, NTE30071	.....					100mA
Electrostatic Discharge (HBM, NTE30071 <b>Only</b> ), ESD	.....					150V
Power Dissipation, $P_D$						
NTE30065, NTE30067, NTE30068, NTE30070	.....					100mW
NTE30069	.....					110mW
NTE30066	.....					120mW
NTE30071	.....					80mW
LED Junction Temperature, $T_j$	.....					+100°C
Operating Temperature Range, $T_{opr}$						
All Devices	.....					-25°C to +85°C
NTE30070, NTE30071 <b>Only</b>	.....					-20°C to +80°C
Storage Temperature Range, $T_{stg}$						
NTE30067 <b>Only</b>	.....					-25°C to +100°C
NTE30070, NTE30071 <b>Only</b>	.....					-30°C to +100°C
All Other Devices	.....					-40°C to +100°C
Lead Temperature (During Soldering, .063 (1.6mm) from body, 5sec max), $T_L$	.....					+260°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	$V_F$	$I_F = 20\text{mA}$				
NTE30065			-	2.2	2.5	V
NTE30066			-	3.5	4.0	V
NTE30067, NTE30068			-	2.0	2.5	V
NTE30069			-	1.86	2.5	V
NTE30070			30.	-	3.4	V
NTE30071	3.0	3.3	3.6	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	$I_R$	$V_R = 5\text{V}$	-	-	10	$\mu\text{A}$
NTE30070			-	-	1.0	$\mu\text{A}$
NTE30066		$V_R = 4\text{V}$	-	-	60	$\mu\text{A}$
Luminous Intensity NTE30065	$I_V$	$I_F = 20\text{mA}$ , Note 1	600	1300	-	mcd
NTE30066			1800	3500	-	mcd
NTE30067			1200	2000	-	mcd
NTE30068			1400	2000	-	mcd
NTE30069			1500	3000	-	mcd
NTE30070			3000	-	4000	mcd
NTE30071			10000	-	12000	mcd
Peak Emission Wave Length NTE30065	$\lambda_P$	$I_F = 20\text{mA}$	-	575	-	nm
NTE30066			-	523	-	nm
NTE30067			-	592	-	nm
NTE30068			-	620	-	nm
NTE30069			-	660	-	nm
NTE30070			460	465	470	nm
NTE30071		CIE Coordinates, Typ		X: 0.30; Y: 0.30		
Dominate Wave Length NTE30065	$\lambda_d$ (HUE)	$I_F = 20\text{mA}$ , Note 2	-	572	-	nm
NTE30066			520	525	540	nm
NTE30067			-	590	-	nm
NTE30068			-	615	-	nm
NTE30069			-	645	-	nm
Correlative Color Temp (NTE30071 <b>Only</b> )	$T_C$	$I_F = 20\text{mA}$	7000	-	9000	K
Spectral Line Half Width NTE30065	$\Delta\lambda$	$I_F = 20\text{mA}$	-	15	-	nm
NTE30066			-	45	-	nm
NTE30067, NTE30068			-	25	-	nm
NTE30069			-	20	-	nm
Viewing Angle All Devices	$2\theta^{1/2}$	$I_F = 20\text{mA}$	-	40	-	deg.
NTE30070, NTE30071			-	30	-	deg.
Terminal Capacitance NTE30065	$C_t$	$V = 0\text{V}$ , $f = 1\text{MHz}$	-	35	-	pF
NTE30067			-	14	-	pF
NTE30068			-	20	-	pF
NTE30069			-	22	-	pF
Response Frequency NTE30065, NTE30067, NTE30068, NTE30069	$F_c$		-	4	-	MHz
Optic Rise Time (NTE30066 <b>Only</b> )	$\tau$	$I_F = 20\text{mA}$	-	30	-	ns

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

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

