



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, InGaN/GaN)
 - NTE30071 (White)

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

Reverse Voltage, V_R	
NTE30066, NTE30070, NTE30071	4V
NTE30065, NTE30067, NTE30068, NTE30069	5V
Continuous Forward Current, I_F	
All Devices	25mA
NTE30066 Only	30mA
Peak Forward Current (1.10 Duty Cycle, 0.1ms Pulse Width), I_{FM}	
NTE30065, NTE30067, NTE30068, NTE30069	50mA
NTE30066, NTE30070, NTE30071	100mA
Power Dissipation, P_D	
NTE30065, NTE30067, NTE30068	100mW
NTE30069	110mW
NTE30066, NTE30070, NTE30071	120mW
LED Junction Temperature, T_j	+100°C
Operating Temperature Range, T_{opr}	-25°C to +85°C
Storage Temperature Range, T_{stg}	
All Devices	-40°C to +100°C
NTE30067 Only	-25°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, NTE30070			-	3.5	4.0	V
NTE30067, NTE30068			-	2.0	2.5	V
NTE30069			-	1.86	2.5	V
NTE30071			-	3.5	4.2	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	μA
NTE30066, NTE30070, NTE30071		$V_R = 4\text{V}$	–	–	60	μA
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			600	1200	–	mcd
NTE30071			2000	4000	–	mcd
Peak Emission Wave Length NTE30065	λ_P	$I_F = 20\text{mA}$	–	575	–	nm
NTE30066			–	523	–	nm
NTE30067			–	592	–	nm
NTE30068			–	620	–	nm
NTE30069			–	660	–	nm
NTE30070			–	468	–	nm
NTE30071		CIE Coordinates, Typ	X: 0.30; Y: 0.29			
Dominate Wave Length NTE30065	λ_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
NTE30070			463	470	479	nm
Spectral Line Half Width NTE30065	$\Delta\lambda$	$I_F = 20\text{mA}$	–	15	–	nm
NTE30066			–	45	–	nm
NTE30067, NTE30068			–	25	–	nm
NTE30069			–	20	–	nm
NTE30070			–	35	–	nm
Viewing Angle	$2\theta^{1/2}$	$I_F = 20\text{mA}$	–	40	–	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 Only)	τ	$I_F = 20\text{mA}$	–	30	–	ns

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

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

