



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 Only	.....					4V
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
Electrostatic Discharge (HBM, NTE30071 Only), 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 Only	.....					-20°C to +80°C
Storage Temperature Range, T_{stg}						
NTE30067 Only	.....					-25°C to +100°C
NTE30070, NTE30071 Only	.....					-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	μA
NTE30070			-	-	1.0	μA
NTE30066		$V_R = 4\text{V}$	-	-	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			3000	-	4000	mcd
NTE30071			10000	-	12000	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			460	465	470	nm
NTE30071		CIE Coordinates, Typ	X: 0.30; Y: 0.30			
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
Correlative Color Temp (NTE30071 Only)	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 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.

