



ELECTRONICS, INC.
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NTE30053 thru NTE30059 Super Bright LED Indicators, 8mm

Features:

- RoHS Compliant
- All Plastic Mold Type w/Water Clear Lens:
 - NTE30053 (Yellow Green, AlInGaP/GaAs)
 - NTE30054 (Light Green, InGaN/GaN)
 - NTE30055 (Orange, AlInGaP/GaAs)
 - NTE30056 (Light Red, AlInGaP/GaAs)
 - NTE30057 (Deep Red, GaAlAs/GaAlAs)
 - NTE30058 (Blue, INGaN/GaN)
 - NTE30059 (White, INGaN)

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

Reverse Voltage, V_R	
NTE30054, NTE30058,	4V
NTE30053, NTE30055, NTE30056, NTE30057, NTE30059	5V
Continuous Forward Current, I_F	
NTE30055, NTE30056	20mA
All Others	25mA
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width), I_{FM}	
NTE30053, NTE30057, NTE30059	50mA
NTE30054, NTE30055, NTE30056, NTE30058,	100mA
Power Dissipation, P_D	
NTE30053, NTE30055, NTE30056	100mW
NTE30057	110mW
NTE30054, NTE30058,	120mW
NTE30059	200mW
LED Junction Temperature, T_j	+100°C
Operating Temperature Range, T_{opr}	
NTE30055, NTE30056	-20°C to +80°C
NTE30059	-30°C to +80°C
All Others	-25°C to +85°C
Storage Temperature Range, T_{stg}	
NTE30053	-25°C to +100°C
NTE30055, NTE30056	-30°C to +100°C
NTE30054, NTE30057, NTE30058, NTE30059	-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 NTE30053	V_F	$I_F = 20\text{mA}$	-	2.2	2.5	V
NTE30054			-	3.5	4.0	V
NTE30055, NTE30056			2.0	-	2.2	V
NTE30057			-	1.86	2.5	V
NTE30058			-	3.5	4.0	V
NTE30059			2.9	3.0	3.6	V
Reverse Current NTE30053, NTE30057	I_R	$V_R = 5\text{V}$	-	-	10	μA
NTE30054, NTE30058, NTE30059		$V_R = 4\text{V}$	-	-	60	μA
Luminous Intensity NTE30053	I_V	$I_F = 20\text{mA}$, Note 1	600	1600	-	mcd
NTE30054			2000	4500	-	mcd
NTE30055, NTE30056			3000	3500	4000	mcd
NTE30057			1200	2200	-	mcd
NTE30058			700	1500	-	mcd
NTE30059			5500	6350	-	mcd
Peak Emission Wave Length NTE30053	λ_P	$I_F = 20\text{mA}$	-	575	-	nm
NTE30054			-	523	-	nm
NTE30055			585	590	595	nm
NTE30056			620	625	-	nm
NTE30057			-	660	-	nm
NTE30058			-	468	-	nm
NTE30059		CIE Coordinates, Typ		X: 0.29; Y: 0.29		nm
Dominate Wave Length NTE30053	λ_d (HUE)	$I_F = 20\text{mA}$, Note 2	568	572	576	nm
NTE30054			520	525	540	nm
NTE30057			-	645	-	nm
NTE30058			463	470	479	nm
Spectral Line Half Width NTE30053	$\Delta\lambda$	$I_F = 20\text{mA}$	-	15	-	nm
NTE30054			-	45	-	nm
NTE30057			-	20	-	nm
NTE30058			-	35	-	nm
Viewing Angle NTE30053	$2\theta^{1/2}$	$I_F = 20\text{mA}$	-	25	-	deg.
NTE30058			-	35	-	deg.
All Others			-	30	-	deg.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Terminal Capacitance NTE30053	C_t	$V = 0\text{V}, f = 1\text{MHz}$	-	35	-	pF
NTE30057			-	22	-	pF
Response Frequency NTE30053, NTE30057	F_c		-	4	-	MHz
Optic Rise Time (NTE30054 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.

