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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)

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

Reverse Voltage, V_R	
NTE30054, NTE30058, NTE30059	4V
NTE30053, NTE30055, NTE30056, NTE30057	5V
Continuous Forward Current, I_F	25mA
Peak Forward Current (1.10 Duty Cycle, 0.1ms Pulse Width), I_{FM}	
NTE30053, NTE30055, NTE30056, NTE30057	50mA
NTE30054, NTE30058, NTE30059	100mA
Power Dissipation, P_D	
NTE30053, NTE30055, NTE30056	100mW
NTE30057	110mW
NTE30054, NTE30058, NTE30059	120mW
LED Junction Temperature, T_j	$+100^\circ\text{C}$
Operating Temperature Range, T_{opr}	-25°C to $+85^\circ\text{C}$
Storage Temperature Range, T_{stg}	
NTE30053, NTE30055, NTE30056	-25°C to $+100^\circ\text{C}$
NTE30054, NTE30057, NTE30058, NTE30059	-40°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	V_F	$I_F = 20\text{mA}$				
NTE30053			–	2.2	2.5	V
NTE30054			–	3.5	4.0	V
NTE30055			–	2.0	2.5	V
NTE30056			–	2.0	2.4	V
NTE30057			–	1.86	2.5	V
NTE30058			–	3.5	4.0	V
NTE30059			–	3.5	4.1	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
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			2400	3600	–	mcd
NTE30057			1200	2200	–	mcd
NTE30058			700	1500	–	mcd
NTE30059			1700	4000	–	mcd
Peak Emission Wave Length NTE30053	λ_P	$I_F = 20\text{mA}$	–	575	–	nm
NTE30054			–	523	–	nm
NTE30055			–	592	–	nm
NTE30056			–	620	–	nm
NTE30057			–	660	–	nm
NTE30058			–	468	–	nm
NTE30059		CIE Coordinates, Typ	X: 0.30; Y: 0.29			
Dominate Wave Length NTE30053	λ_d (HUE)	$I_F = 20\text{mA}$, Note 2	568	572	576	nm
NTE30054			520	525	540	nm
NTE30055			585	590	594	nm
NTE30056			600	610	615	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
NTE30055			–	25	–	nm
NTE30056, NTE30057			–	20	–	nm
NTE30058			–	35	–	nm
Viewing Angle NTE30053, NTE30055, NTE30056	$2\theta^{1/2}$	$I_F = 20\text{mA}$	–	25	–	deg.
NTE30054, NTE30057, NTE30059			–	30	–	deg.
NTE30058			–	35	–	deg.
Terminal Capacitance NTE30053	C_t	$V = 0\text{V}$, $f = 1\text{MHz}$	–	35	–	pF
NTE30055			–	14	–	pF
NTE30056			–	16	–	pF
NTE30057			–	22	–	pF
Response Frequency NTE30053, NTE30055, NTE30056, 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.

