ELECTRONICS, INC.
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RoHS 2002/95/EC

NTE30037 thru NTE30043, NTE30045
Super Bright LED Indicators, 5mm

Features:

- All Plastic Mold Type w/Water Clear Lens:
  - NTE30037 (Yellow Green, AlGaP/GaAs)
  - NTE30038 (Pure Green, GaInN/GaN)
  - NTE30039 (Yellow, AlInGaP/GaP)
  - NTE30040 (Orange, AlInGaP/GaAs)
  - NTE30041 (Deep Red, GaAlAs/GaAlAs)
  - NTE30042 (Amber, AlGaP/GaAs)
  - NTE30043 (Blue, GaInN/GaN)
  - NTE30045 (White, GaInN/GaN)

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Reverse Voltage, V_R
- NTE30038 **Only** 4V
- All other devices 5V

Continuous Forward Current, I_F
- NTE30037, NTE30038, NTE30040, NTE30041, NTE30042 . . . . . 25mA
- NTE30039, NTE30043, NTE30045 . . . . . 30mA

Peak Forward Current (1.10 Duty Cycle, 0.1ms Pulse Width), I_{FM}
- NTE30037, NTE30040, NTE30041, NTE30042 . . . . . 50mA
- NTE30038, NTE30039, NTE30043, NTE30045 . . . . . 100mA

Power Dissipation, P_D
- NTE30037, NTE30039, NTE30040, NTE30042 . . . . . 100mW
- NTE30041 . . . . . 110mW
- NTE30038, NTE30043, NTE30045 . . . . . 120mW

Operating Temperature Range, T_{opr} . . . . . –25°C to +85°C

Storage Temperature Range, T_{stg}
- NTE30038 **Only** . . . . . –40°C to +100°C
- All other devices . . . . . –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°C unless otherwise specified)

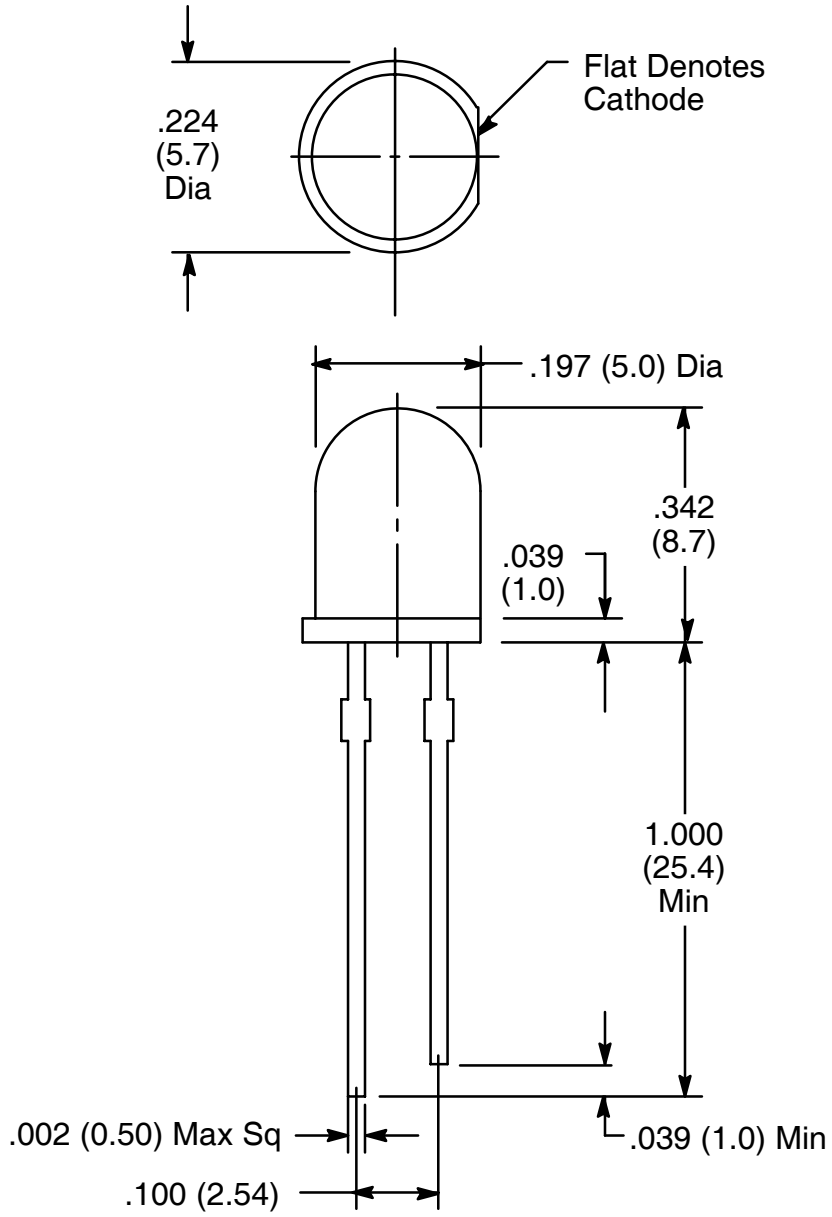
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage, NTE30037	V_F	I_F = 20mA	–	2.2	2.4	V
NTE30038			–	3.5	4.0	V
NTE30039			–	2.25	2.6	V
NTE30040			–	2.0	2.6	V
NTE30041			–	1.86	2.5	V
NTE30042			–	2.0	2.4	V
NTE30043			–	3.5	4.0	V
NTE30045			–	3.6	4.0	V

Electro−Optical Characteristics (Cont'd): (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Current All Devices	I_R	V_R = 5V	–	–	10	μA
NTE30038, NTE30043, NTE30045 **Only**		V_R = 4V	–	–	60	μA
Luminous Intensity NTE30037	I_V	I_F = 20mA, Note 1	–	2500	–	mcd
NTE30038			–	10500	–	mcd
NTE30039			–	7000	–	mcd
NTE30040			–	2400	–	mcd
NTE30041			–	3500	–	mcd
NTE30042			–	5500	–	mcd
NTE30043			–	3500	–	mcd
NTE30045			–	16000	–	mcd
Peak Emission Wave Length NTE30037	λ_P	I_F = 20mA	–	575	–	nm
NTE30038			–	523	–	nm
NTE30039			–	592	–	nm
NTE30040			–	620	–	nm
NTE30041			–	660	–	nm
NTE30042			–	607	–	nm
NTE30043			–	465	–	nm
NTE30045		CIE Coordinates, Typ	X: 0.30; Y: 0.31			
Dominate Wave Length (NTE30040 **Only**)	λ_d (HUE)	I_F = 20mA, Note 2	–	615	–	nm
Spectral Line Half Width NTE30037, NTE30040, NTE30041, NTE30042	$\Delta\lambda$	I_F = 20mA	–	20	–	nm
NTE30038			–	45	–	nm
NTE30039			–	25	–	nm
NTE30043			–	35	–	nm
Viewing Angle All Devices	$2\theta^1/_2$	I_F = 20mA	–	12	–	deg.
NTE30038 **Only**			–	15	–	deg.
NTE30040 **Only**			–	40	–	deg.
NTE30045 **Only**			–	22	–	deg.
Terminal Capacitance (NTE30040 **Only**)	C_t	V = 0V, f = 1MHz	–	15	–	pF
Response Frequency (NTE30040 **Only**)	F_c		–	4	–	MHz

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.


Flat Denotes
Cathode
.224
(5.7)
Dia
.197 (5.0) Dia
.342
(8.7)
.039
(1.0)
1.000
(25.4)
Min
.002 (0.50) Max Sq
.039 (1.0) Min
.100 (2.54)