ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089
http://www.nteinc.com

RoHS 2002/95/EC

NTE30081 thru NTE30085
Light Emitting Diode (LED)
Right Angle Surface Mount

Features:

- Available in 5 Different Colors:
  - NTE30081 (Super Red, GaAlAs/GaAs)
  - NTE30082 (Super Green, GaP/GaP)
  - NTE30083 (Super Yellow, AlInGaP/GaAs)
  - NTE30084 (Super Orange)
  - NTE30085 (Super Blue, GaInN/GaN)
- 3.2mm x 1.0mm Right Angle SMT LED, 1.5mm Thickness
- Single Color
- Suitable for All SMT Assembly and Solder Process
- Ideal for Backlighting

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

DC Forward Current, I_F
- NTE30081 . . . . . 30mA
- NTE30082, NTE30083, NTE30084 . . . . . 25mA
- NTE30085 . . . . . 20mA

Peak Forward Current (Note 1), $I_{F(peak)}$
- NTE30085 . . . . . 100mA
- All Other Devices 50mA

Reverse Voltage, V_R
- NTE30085 . . . . . 4V
- All Other Devices 5V

Power Dissipation, P_D
- NTE30081 . . . . . 110mW
- NTE30082 . . . . . 84mW
- NTE30083, NTE30084 . . . . . 100mW
- NTE30085 . . . . . 120mW

Electrostatic Discharge (NTE30085 **Only**), ESD 150V

LED Junction Temperature, T_J
- NTE30081, NTE30082, NTE30083, NTE30084 . . . . . +100°C
- NTE30085 . . . . . +125°C

Operating Temperature Range, T_{opr} . . . . . –30° to +85°C

Storage Temperature Range, T_{stg} . . . . . –40° to +85°C

Reflow Soldering (Preheat +150° to +180°C 60sec to 120sec, 10sec max) . . . . . +260°C

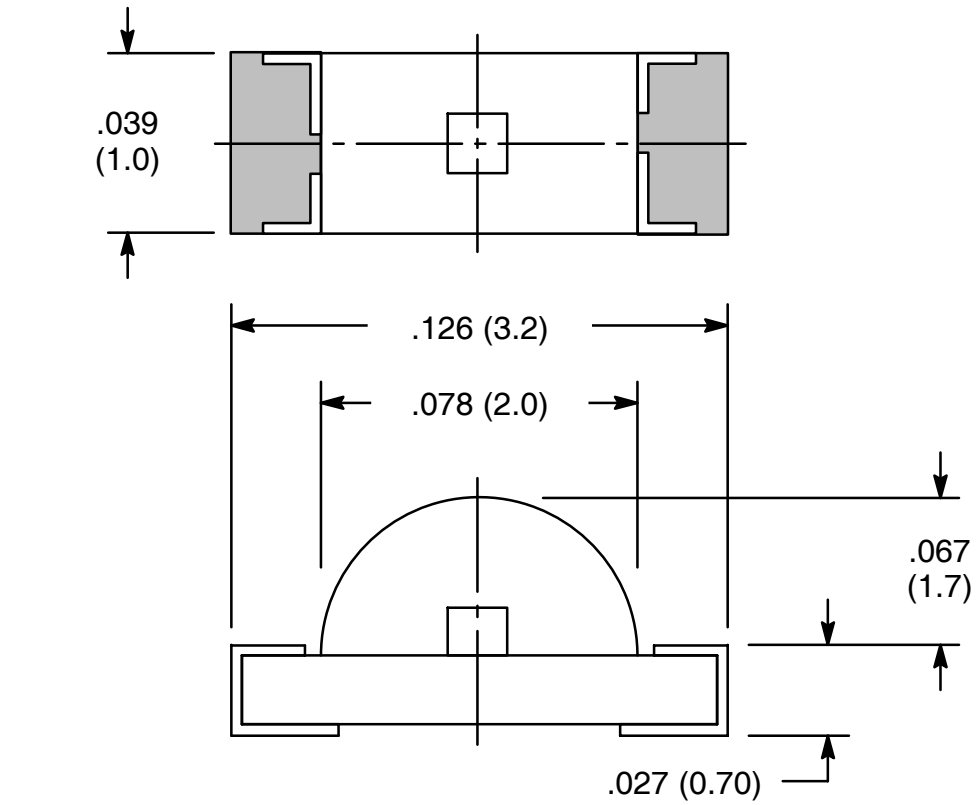
Note 1. 1/10 Duty Cycle, 0.1ms Pulse Width.

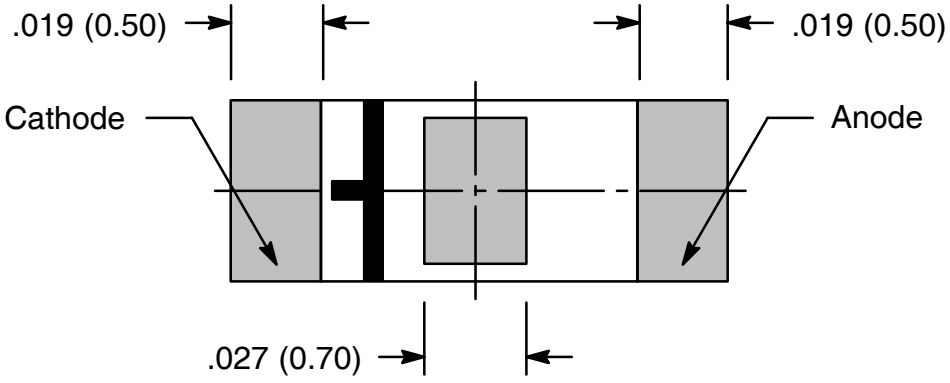
Electrical/Optical Characteristics: (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Viewing Angle of Half Power NTE30083	2Θ 1/2	I_F = 20mA	–	140	–	degrees
All Other Devices			–	120	–	degrees
Luminous Intensity NTE30081	I_V	I_F = 20mA, Note 2	15.0	37.5	–	mcd
NTE30082			6.0	13.5	–	mcd
NTE30083, NTE30085			30	60	–	mcd
NTE30084			32	60	–	mcd
Forward Voltage NTE30081	V_F	I_F = 20mA	–	1.80	2.40	V
NTE30082			–	2.15	2.80	V
NTE30083, NTE30084			–	2.00	2.40	V
NTE30085			–	3.50	3.90	V
Reverse Current NTE30085	I_R	V_R = 4V	–	–	60	μA
All Other Devices		V_R = 5V	–	–	10	μA
Peak Emission Wave Length NTE30081	λ_P	I_F = 20mA	–	660	–	nm
NTE30082			–	570	–	nm
NTE30083			–	595	–	nm
NTE30084			–	635	–	nm
NTE30085			–	468	–	nm
Dominate Wavelength NTE30081	$\lambda_{d\ (HUE)}$	I_F = 20mA, Note 3	–	643	–	nm
NTE30082			–	567	–	nm
NTE30083			–	592	–	nm
NTE30084			–	626	–	nm
NTE30085			–	470	–	nm
Spectral Line Half Width NTE30081, NTE30082	$\Delta\lambda$	I_F = 20mA	–	30	–	nm
NTE30083, NTE30084			–	20	–	nm
NTE30085			–	45	–	nm
Terminal Capacitance (NTE30081 **Only**)	C_t	V = 0V, f = 1MHz	–	18	–	pF
Response Frequency (NTE30081 **Only**)	F_c		–	4	–	MHz

Note 2. Tolerance: 30% measured with EXELTRON 2001

Note 3. The dominate wavelength, λ_d, is derived from the CIE Chromatic Diagram and represents the color of the device.


.039
(1.0)
.126 (3.2)
.078 (2.0)
.067
(1.7)
.027 (0.70)


.019 (0.50)
.019 (0.50)
Cathode
Anode
.027 (0.70)