



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



## 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:** ( $T_A = +25^{\circ}\text{C}$  unless otherwise specified)

DC Forward Current, $I_F$	
NTE30081 .....	30mA
NTE30082, NTE30083, NTE30084 .....	25mA
NTE30085 .....	20mA
Peak Forward Current (Note 1), $I_{F(\text{peak})}$	
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 <b>Only</b> ), 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:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Viewing Angle of Half Power NTE30083	$2\theta_{1/2}$	$I_F = 20\text{mA}$	-	140	-	degrees
All Other Devices			-	120	-	degrees
Luminous Intensity NTE30081	$I_V$	$I_F = 20\text{mA}$ , 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	$V_F$	$I_F = 20\text{mA}$	-	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	$I_R$	$V_R = 4\text{V}$	-	-	60	$\mu\text{A}$
All Other Devices		$V_R = 5\text{V}$	-	-	10	$\mu\text{A}$
Peak Emission Wave Length NTE30081	$\lambda_P$	$I_F = 20\text{mA}$	-	660	-	nm
NTE30082			-	570	-	nm
NTE30083			-	595	-	nm
NTE30084			-	635	-	nm
NTE30085			-	468	-	nm
Dominate Wavelength NTE30081	$\lambda_d$ (HUE)	$I_F = 20\text{mA}$ , Note 3	-	643	-	nm
NTE30082			-	567	-	nm
NTE30083			-	592	-	nm
NTE30084			-	626	-	nm
NTE30085			-	470	-	nm
Spectral Line Half Width NTE30081, NTE30082	$\Delta\lambda$	$I_F = 20\text{mA}$	-	30	-	nm
NTE30083, NTE30084			-	20	-	nm
NTE30085			-	45	-	nm
Terminal Capacitance (NTE30081 <b>Only</b> )	$C_t$	$V = 0\text{V}$ , $f = 1\text{MHz}$	-	18	-	pF
Response Frequency (NTE30081 <b>Only</b> )	$F_c$		-	4	-	MHz

Note 2. Tolerance: 30% measured with EXELTRON 2001

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

