



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



NTE30018 thru NTE30020 Light Emitting Diode (LED) 0603 Surface Mount

Features:

- NTE30018: Super Bright Orange (AlInGaP/GaAs)
- NTE30019: Super Bright Blue
- NTE30020: Super Bright White
- 1.6mm x 0.8mm (0603) SMT LED, 0.75mm Thickness
- Low Power Consumption
- Wide Viewing Angle
- Ideal for Backlight and Indicator Applications

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

DC Forward Current, I_F		
NTE30018	25mA	
NTE30019, NTE30020	20mA	
Peak Forward Current (Note 1), $I_{F(\text{peak})}$		
NTE30018	50mA	
NTE30019, NTE30020	100mA	
Reverse Voltage, V_R		
NTE30018	5V	
NTE30019, NTE30020	4V	
Power Dissipation, P_D		
NTE30018	100mW	
NTE30019, NTE30020	120mW	
Electrostatic Discharge (NTE30019 & NTE30020 Only), ESD		150V
LED Junction Temperature, T_J		
NTE30018, NTE30020	+100°C	
NTE30019	+125°C	
Operating Temperature Range, T_{opr}		
NTE30018, NTE30019	-30° to +85°C	
NTE30020	-25° to +85°C	
Storage Temperature Range, T_{stg}		
NTE30018, NTE30019	-40° to +85°C	
NTE30020	-30° 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	$2\theta_{1/2}$	$I_F = 20\text{mA}$	-	140	-	degrees
Luminous Intensity	I_V	$I_F = 20\text{mA}$, Note 2	35	75	-	mcd
NTE30018			28	52	-	mcd
NTE30020			200	370	-	mcd

Note 2. Tolerance: 30% measured with EXELTRON 2001

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage NTE30018	V_F	$I_F = 20\text{mA}$	-	2.0	2.4	V
NTE30019			-	3.5	4.0	V
NTE30020			-	3.5	4.2	V
Reverse Current NTE30018	I_R	$V_R = 5\text{V}$	-	-	10	μA
NTE30019, NTE30020		$V_R = 4\text{V}$	-	-	60	μA
Peak Emission Wave Length NTE30018	λ_P	$I_F = 20\text{mA}$	-	620	-	nm
NTE30019			-	468	-	nm
Dominate Wavelength NTE30018	λ_d (HUE)	$I_F = 20\text{mA}$, Note 3	-	615	-	nm
NTE30019			465	470	480	nm
Spectral Line Half Width NTE30018	$\Delta\lambda$	$I_F = 20\text{mA}$	-	20	-	nm
NTE30019			-	45	-	nm
Chromaticity Coordinates (NTE30020 Only)	x	$I_F = 20\text{mA}$	-	0.29	-	
	y		-	0.31	-	

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

