



ELECTRONICS, INC.  
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## 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
- Low Power Consumption
- Wide Viewing Angle, Water Clear Lens
- 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 .....	30mA
NTE30020 .....	20mA
Peak Forward Current (Note 1, Note 2), $I_{F(\text{peak})}$	
NTE30018 .....	50mA
NTE30019, NTE30020 .....	100mA
Reverse Voltage, $V_R$	
NTE30018, NTE30019 .....	5V
NTE30020 .....	4V
Power Dissipation, $P_D$	
NTE30018 .....	100mW
NTE30019 .....	90mW
NTE30020 .....	120mW
Electrostatic Discharge (HBM), ESD	
NTE30019 .....	2000V
NTE30020 .....	150V
LED Junction Temperature, $T_J$	
NTE30018, NTE30020 .....	+100°C
NTE30019 .....	+115°C
Operating Temperature Range, $T_{opr}$	
NTE30018 .....	-30° to +85°C
NTE30019, NTE30020 .....	-25° to +85°C
Storage Temperature Range, $T_{stg}$	
NTE30018 .....	-40° to +85°C
NTE30019, 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.  
 Note 2. 1/8 Duty Cycle,  $f = 1\text{Khz}$  (NTE30019 Only).

Rev. 8-22



**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 NTE30018, NTE30020	$2\theta_{1/2}$	$I_F = 20\text{mA}$	-	140	-	degrees
NTE30019			-	120	-	degrees
Luminous Intensity NTE30018	$I_V$	$I_F = 20\text{mA}$ , Note 3	35	75	-	mcd
NTE30019			120	-	250	mcd
NTE30020			200	370	-	mcd
Forward Voltage NTE30018	$V_F$	$I_F = 20\text{mA}$	-	2.0	2.4	V
NTE30019			2.8	3.0	3.4	V
NTE30020			-	3.5	4.2	V
Reverse Current NTE30018	$I_R$	$V_R = 5\text{V}$	-	-	10	$\mu\text{A}$
NTE30019			-	-	5	$\mu\text{A}$
NTE30020		$V_R = 4\text{V}$	-	-	60	$\mu\text{A}$
Peak Emission Wave Length NTE30018	$\lambda_P$	$I_F = 20\text{mA}$	-	620	-	nm
NTE30019			-	462	-	nm
Dominate Wavelength NTE30018	$\lambda_d$ (HUE)	$I_F = 20\text{mA}$ , Note 4	-	615	-	nm
NTE30019			465	468	470	nm
Spectral Line Half Width (NTE30018 <b>Only</b> )	$\Delta\lambda$	$I_F = 20\text{mA}$	-	20	-	nm
Chromaticity Coordinates (NTE30020 <b>Only</b> )	x	$I_F = 20\text{mA}$	-	0.29	-	
	y		-	0.31	-	

Note 3. Tolerance: 30% measured with EXELTRON 2001

Note 4. The dominate wavelength,  $\lambda_d$ , is derived from the CIE Chromatic Diagram and represents the color of the device.

