



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	μA
NTE30019			-	-	5	μA
NTE30020		$V_R = 4\text{V}$	-	-	60	μA
Peak Emission Wave Length NTE30018	λ_P	$I_F = 20\text{mA}$	-	620	-	nm
NTE30019			-	462	-	nm
Dominate Wavelength NTE30018	λ_d (HUE)	$I_F = 20\text{mA}$, Note 4	-	615	-	nm
NTE30019			465	468	470	nm
Spectral Line Half Width (NTE30018 Only)	$\Delta\lambda$	$I_F = 20\text{mA}$	-	20	-	nm
Chromaticity Coordinates (NTE30020 Only)	x	$I_F = 20\text{mA}$	-	0.29	-	
	y		-	0.31	-	

Note 3. Tolerance: 30% measured with EXELTRON 2001

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

