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NTE30022 thru NTE30024 Light Emitting Diode (LED) 0805 Surface Mount

Features:

- NTE30022: Super Bright Orange (AlInGaP/GaAs)
- NTE30023: Super Bright Blue
- NTE30024: Super Bright White
- 2.0mm x 1.2mm (0805) 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		
NTE30022	.....	25mA
NTE30023, NTE30024	.....	20mA
Peak Forward Current (Note 1), $I_{F(\text{peak})}$		
NTE30022	.....	50mA
NTE30023, NTE30024	.....	100mA
Reverse Voltage, V_R		
NTE30022	.....	5V
NTE30023, NTE30024	.....	4V
Power Dissipation, P_D		
NTE30022	.....	100mW
NTE30023, NTE30024	.....	120mW
Electrostatic Discharge (NTE30023, NTE30024 Only), ESD	.....	150V
LED Junction Temperature, T_J		
NTE30022, NTE30024	.....	+100°C
NTE30023	.....	+125°C
Operating Temperature Range, T_{opr}		
NTE30022, NTE30023	.....	-30° to +85°C
NTE30024	.....	-25° to +85°C
Storage Temperature Range, T_{stg}		
NTE30022, NTE30023	.....	-40° to +85°C
NTE30024	.....	-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				
NTE30022			35	70	-	mcd
NTE30023			30	52	-	mcd
NTE30024			350	600	-	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 NTE30022	V_F	$I_F = 20\text{mA}$	-	2.0	2.4	V
NTE30023			-	3.5	4.0	V
NTE30020			-	3.5	4.2	V
Reverse Current NTE30022	I_R	$V_R = 5\text{V}$	-	-	10	μA
NTE30023, NTE30024		$V_R = 4\text{V}$	-	-	60	μA
Peak Emission Wave Length NTE30022	λ_P	$I_F = 20\text{mA}$	-	620	-	nm
NTE30023			-	468	-	nm
Dominate Wavelength NTE30022	λ_d (HUE)	$I_F = 20\text{mA}$, Note 3	-	615	-	nm
NTE30023			465	470	480	nm
Spectral Line Half Width NTE30022	$\Delta\lambda$	$I_F = 20\text{mA}$	-	20	-	nm
NTE30023			-	45	-	nm
Chromaticity Coordinates (NTE30024 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.

