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NTE30011, NTE30012, NTE30013 Light Emitting Diode (LED) PLCC Surface Mount

Description:

The NTE30011 thru NTE30013 are 3.5mm x 2.8mm chip LED lamps in a PLCC surface mount type package. The Super Bright Red source color device (NTE30011) is made with Gallium Arsenide Red Light Emitting Diode. The Super Bright Green source color device (NTE30012) is made with Gallium Phosphide Green Light Emitting Diode. The Yellow source color device (NTE30013) is made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

Features:

- Single Color
- Suitable for All SMT Assenbly and Solder Process
- Ideal for Backlighting

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

DC Forward Current, I_F	
NTE30011, NTE30013	30mA
NTE30012	25mA
Peak Forward Current (Note 1), $I_{F(\text{peak})}$	
NTE30011	155mA
NTE30012, NTE30013	140mA
Reverse Voltage, V_R	5V
Viewing Angle ($2\theta_{1/2}$)	120°
Power Dissipation, P_D	
NTE30011	100mW
NTE30012, NTE30013	105mW
Operating Temperature Range, T_{opr}	-40° to +85°C
Storage Temperature Range, T_{stg}	-40° to +85°C

Note 1. 1/10 Duty Cycle, 0.1ms Pulse Width.

Note 2. $\theta_{1/2}$ is the angle from optical centerline where the luminous intensity is 1/2 the optical center-line value.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Luminous Intensity	I_v	$I_F = 20\text{mA}$				
NTE30011			50	150	-	mcd
NTE30012			10	25	-	mcd
NTE30013			4	15	-	mcd

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage NTE30011	V_F	$I_F = 20\text{mA}$	–	1.85	2.5	V
NTE30012			–	2.2	2.5	V
NTE30013			–	2.1	2.5	V
Reverse Current	I_R	$V_R = 5\text{V}$	–	–	10	μA
Peak Emission Wave Length NTE30011	λ_P	$I_F = 20\text{mA}$	–	660	–	nm
NTE30012			–	565	–	nm
NTE30013			–	590	–	nm
Dominate Wavelength NTE30011	λ_D	$I_F = 20\text{mA}$	–	640	–	nm
NTE30012			–	568	–	nm
NTE30013			–	588	–	nm
Spectral Line Half Width NTE30011	$\Delta\lambda$	$I_F = 20\text{mA}$	–	45	–	nm
NTE30012			–	30	–	nm
NTE30013			–	35	–	nm
Capacitance NTE30011	C	$V_F = 0\text{V}, f = 1\text{MHz}$	–	45	–	pF
NTE30012			–	15	–	pF
NTE30013			–	20	–	pF

