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NTE3169, NHTE3170, NTE3171 Square Light Emitting Diode – 5mm

Description:

The NTE3169 (Bright Red) source color is made with Gallium Phosphide on a Gallium Phosphide Red Light Emitting Diode. The NTE3170 (Green) is made with Gallium Phosphide on a Gallium Phosphide Green Light Emitting Diode and the NTE3171 (Yellow) is made with Gallium Arsenide Phosphide on a Gallium Phosphide Yellow Light Emitting Diode.

Features:

- Low Power Consumption
- Uniform Light Emittance
- I.C Compatible
- Long Life Solid State Reliability

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

Power Dissipation	
NTE3169	40mW
Derate Linear from $+25^\circ\text{C}$	0.2mA/ $^\circ\text{C}$
NTE3170	100mW
Derate Linear from $+25^\circ\text{C}$	0.4mA/ $^\circ\text{C}$
NTE3171	60mW
Derate Linear from $+25^\circ\text{C}$	0.25mA/ $^\circ\text{C}$
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	
NTE3169	60mA
NTE3170	120mA
NTE3171	80mA
Continuous Forward Current	
NTE3169	15mA
NTE3170	30mA
NTE3171	20mA
Reverse Voltage	5V
Storage and Operating Temperature Range	-55° to $+100^\circ\text{C}$
Lead Soldering Temperature (1.6mm From Body for 5 seconds.)	$+260^\circ\text{C}$

Note 1. **NTE3171** is a **discontinued** device and **no longer available**.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Viewing Angle	$2\theta_{1/2}$	Note 2	-	150	-	deg.
Luminous Intensity NTE3170, NTE3171	I_V	$I_F = 10\text{mA}$ (Note 3)	0.5	1.7	-	mcd
NTE3169			0.2	0.6	-	mcd
Peak Emission Wavelength NTE3169	λ_{peak}	Measuremeant @ Peak	-	697	-	nm
NTE3170			-	565	-	nm
NTE3171			-	585	-	nm
Spectral Line Half Width NTE3169	$\Delta\lambda$		-	90	-	nm
NTE3170			-	30	-	nm
NTE3171			-	35	-	nm
Forward Voltage	V_F	$I_F = 20\text{mA}$	-	2.1	2.8	V
Reverse Current	I_R	$V_R = 5\text{V}$	-	-	100	μA
Capacitance NTE3169	C	$V_F = 0, f = 1\text{MHz}$	-	55	-	pF
NTE3170			-	35	-	pF
NTE3171			-	15	-	pF

Note 2. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity

Note 3. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.

