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NTE3020 thru NTE3023
Light Emitting Diode (LED)

Description:

The NTE3020 through NTE3023 LEDs offer a variety of lens effects and color availability. The Red (NTE3020) source color device is made with Gallium Arsenide Phosphide on Gallium Arsenide Red Light Emitting Diode. The High Efficiency Red (NTE3022) and Orange (NTE3023) source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode. The Yellow (NTE3021) source color device is made with Gallium Arside Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

Features:

- Low Power Consumption
- High Efficiency
- IC Compatible/Low Current Requirements
- Versatile mounting on P.C. board or panel
- Reliable and Rugged

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Power Dissipation, P_D
- NTE3020 . . . . . 80mW
- NTE3021 . . . . . 60mW
- NTE3022 . . . . . 100mW
- NTE3023 . . . . . 100mW

Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width), $I_{F(Peak)}$
- NTE3020 . . . . . 200mA
- NTE3021 . . . . . 80mA
- NTE3022 . . . . . 120mA
- NTE3023 . . . . . 120mA

Continuos Forward Current, I_F
- NTE3020 . . . . . 40mA
  - Derate Linearly Above 25°C . . . . . 0.5mA/°C
- NTE3021 . . . . . 20mA
  - Derate Linearly Above 25°C . . . . . 0.25mA/°C
- NTE3022 . . . . . 30mA
  - Derate Linearly Above 25°C . . . . . 0.4mA/°C
- NTE3023 . . . . . 30mA
  - Derate Linearly Above 25°C . . . . . 0.4mA/°C

Reverse Voltage, V_R 5V
Operating Temperature Range, T_A . . . . . −55° to +100°C
Storage Temperature Range, T_{stg} . . . . . −55° to +100°C
Lead Temperature (During Soldering, .063 in. (1.6mm) from Body for 5sec), T_L . . . . . +260°C

Electrical/Optical Characteristics: (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Luminous Intensity	I_V	I_F = 10mA, Note 1				mcd
NTE3020			0.3	0.8	–	
All Other Devices			2.5	8.7	–	
Viewing Angle	$2\Theta^1/_2$	Note 2	–	36	–	deg.
Peak Emission Wavelength	λP					nm
NTE3020			–	655	–	
NTE3021			–	585	–	
NTE3022, NTE3023			–	635	–	
Spectral Line Half Width	$\Delta\lambda$					nm
NTE3020			–	24	–	
NTE3021			–	35	–	
NTE3022, NTE3023			–	40	–	
Forward Voltage	V_F	I_F = 20mA				V
NTE3020			–	1.7	–	
NTE3021			–	2.1	2.8	
NTE3022			–	2.0	–	
NTE3023			–	2.0	2.8	
Reverse Current	I_R	V_R = 5V	–	–	100	μA
Capacitance	C	V_F = 0, f = 1MHz				pF
NTE3020			–	30	–	
NTE3021			–	15	–	
NTE3022, NTE3023			–	20	–	

Note 1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commission Internationale De L′Eclairage) eye−response curve.

Note 2. $\Theta^1/_2$ is the off−axis angle at which the liminous intensity is half the axial luminous intensity.