



ELECTRONICS, INC.

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## NTE30014, NTE30015, NTE30016 Light Emitting Diode (LED)

### Description:

The NTE30014 thru NTE30016 are Right Angle LED Indicators in a T-1 (3mm) type package. The High Efficiency Red source color device (NTE30014) is made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode. The Green source color device (NTE30015) is made with Gallium Phosphide Green Light Emitting Diode. The Yellow source color device (NTE30016) is made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

### Features:

- Pre-Trimmed Leads for PC Board Mounting
- I.C. Compatible
- Black Case Enhances Contrast Ratio
- Wide Viewing Angle
- High Reliability

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

DC Forward Current, $I_F$		
NTE30014, NTE30016	.....	30mA
NTE30015	.....	25mA
Peak Forward Current (Note 1), $I_{F(\text{peak})}$		
NTE30014	.....	160mA
NTE30015, NTE30016	.....	140mA
Reverse Voltage, $V_R$	.....	5V
Viewing Angle ( $2\theta_{1/2}$ )	.....	$60^\circ$
Power Dissipation, $P_D$	.....	105mW
Operating Temperature Range, $T_{\text{opr}}$	.....	$-40^\circ$ to $+85^\circ\text{C}$
Storage Temperature Range, $T_{\text{stg}}$	.....	$-40^\circ$ to $+85^\circ\text{C}$
Lead Temperature (During Soldering, 2mm Below Package Base, 5sec), $T_L$	.....	$+260^\circ\text{C}$

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 centerline value.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Luminous Intensity NTE30014, NTE30015	$I_V$	$I_F = 10\text{mA}$	8	20	-	mcd
NTE30016			5	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 NTE30014, NTE30015	$V_F$	$I_F = 20\text{mA}$	-	2.0	2.5	V
NTE30016			-	2.1	2.5	V
Reverse Current	$I_R$	$V_R = 5\text{V}$	-	-	10	$\mu\text{A}$
Peak Emission Wave Length NTE30014	$\lambda_P$	$I_F = 20\text{mA}$	-	627	-	nm
NTE30015			-	565	-	nm
NTE30016			-	590	-	nm
Dominate Wavelength NTE30014	$\lambda_D$	$I_F = 20\text{mA}$	-	625	-	nm
NTE30015			-	568	-	nm
NTE30016			-	588	-	nm
Spectral Line Half Width NTE30014	$\Delta\lambda$	$I_F = 20\text{mA}$	-	45	-	nm
NTE30015			-	30	-	nm
NTE30016			-	35	-	nm
Capacitance NTE30014, NTE30015	C	$V_F = 0\text{V}, f = 1\text{MHz}$	-	15	-	pF
NTE30016			-	20	-	pF

