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## NTE30180 Series LED, 3W, High Power 20mm x 20mm Star Base Aluminum PCB

**Features:**

- Water Clear Lens
- Available in White (W), Warm White (WW), Red (R), Green (G), and Blue (B) Colors

**Applications:**

- Decorative Lighting
- Architectural Lighting
- Residential Lighting
- Commercial Lighting
- Automotive Interiors



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

Power Dissipation (Note 1), $P_D$ .....	3W
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width), $I_F(\text{peak})$ .....	1000mA
Continuous Forward Current, $I_F$	
NTE30180-W, NTE30180-WW, NTE30180-G, NTE30180-B .....	750mA
NTE30180-R .....	800mA
Reverse Voltage, $V_R$ .....	5V
LED Junction Temperature, $J_T$ .....	+120°C
Operating Temperature Range, $T_{opr}$ .....	-40° to +85°C
Storage Temperature Range, $T_{opr}$ .....	-20° to +60°C

**\*\* These 3W star type LEDs are capable of producing a very high brightness. Please DO NOT look directly at them for any prolonged period of time.**

Note 1. 1W compatible if 400mA, 2.0 – 2.6V (Red) and 350mA, 3.0 – 3.6V (All other colors)

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Luminous Flux	$\Phi$	$I_F = 750\text{mA}$	210	230	250	Lm	
NTE30180-W			180	210	230	Lm	
NTE30180-WW		$I_F = 800\text{mA}$	70	90	110	Lm	
NTE30180-R			$I_F = 750\text{mA}$	70	80	110	Lm
NTE30180-G				15	20	25	Lm
NTE30180-B							
Viewing Angle	$2 \Theta 1/2$	$I_F = 800\text{mA}$	115	120	125	deg	
NTE30180-R Only			$I_F = 750\text{mA}$	115	120	125	deg
All Others							

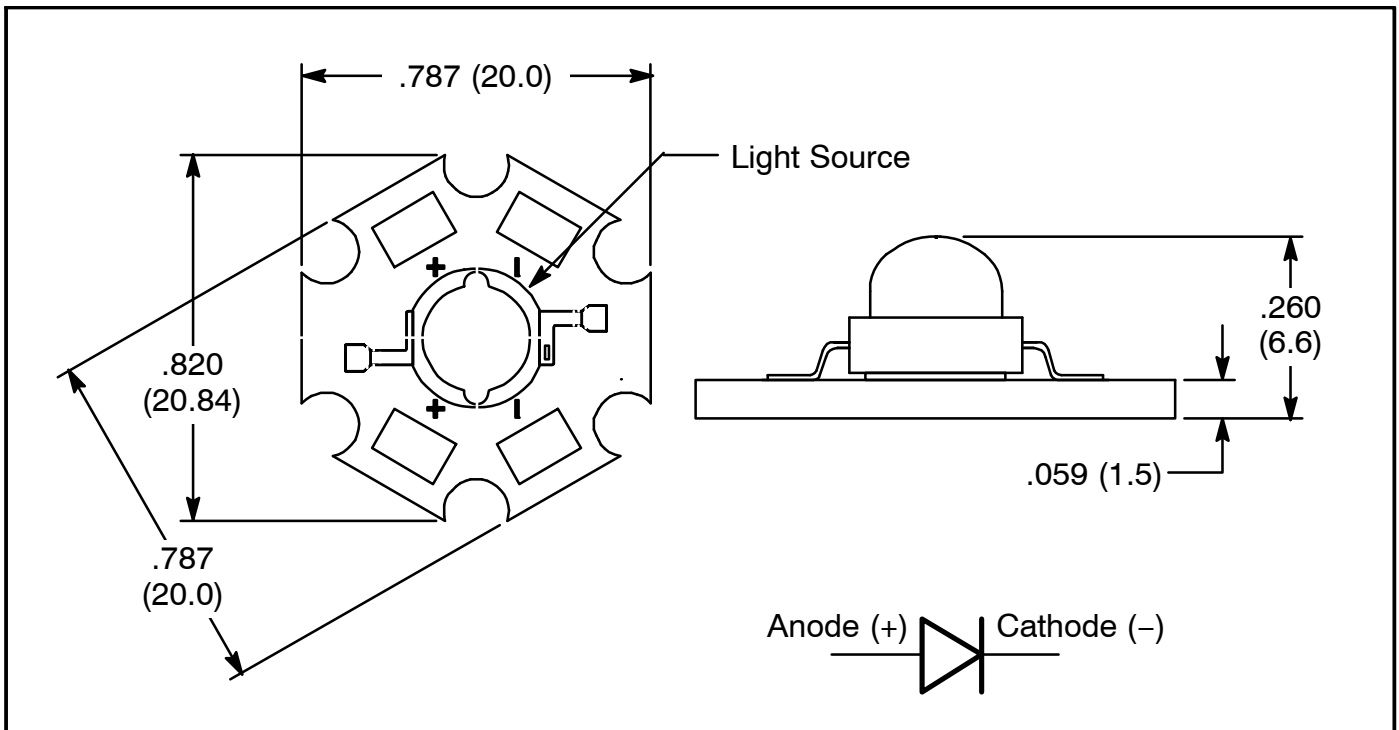


**Electrical/Optical Characteristics:** ( $T_A = +25^{\circ}\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage NTE30180-R Only	$V_F$	$I_F = 800\text{mA}$	2.2	2.5	2.8	V
All Others		$I_F = 750\text{mA}$	3.4	3.8	4.0	V
Reverse Current	$I_R$	$V_R = 5\text{V}$	-	-	10	$\mu\text{A}$
Color Rendering Index NTE30180-W & NTE30180-WW Only	$R_a$	$I_F = 750\text{mA}$	60	75	90	*
Color Temperature NTE30180-W	CCT	$I_F = 750\text{mA}$	5500	6000	6500	K
NTE30180-WW			3000	3150	3300	K
Wavelength NTE30180-R		$I_F = 800\text{mA}$	620	625	630	nm
NTE30180-G		$I_F = 750\text{mA}$	515	520	530	nm
NTE30180-B			460	465	470	nm
Junction Temperature NTE30180-R	$T_J$	$I_F = 800\text{mA}$	-	115	-	$^{\circ}\text{C}$
All Others		$I_F = 750\text{mA}$	-	115	-	$^{\circ}\text{C}$

**CAUTION!**

In high power LEDs, the maximum driving current falls in the 350 – 1000mA range. They are typically available in 1 – 5 watt packages, but can go up to 40W for multi-chip lamps. Commercially available 1W packages can produce in excess of 100 lumens/watt. Although our NTE 3W LEDs come mounted on an aluminum PCB, additional heatsinking may be required in some prolonged applications. A device can be destroyed if excess heat from the high power LED is not removed. High power LEDs are frequently used to replace incandescent bulbs in torches, or can be set in an array to form a powerful LED lamp.



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