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## NTE3133, NTE3135, NTE3136, NTE3138, NTE3139 Light Emitting Diode – 1.8mm Surface Mount Type

### Features:

- All Plastic Mold Type w/Water Clear Lens:
  - NTE3133 (Super Yellow-Green, AlGaP/GaAs)
  - NTE3135 (Orange, AlInGaP/GaAs)
  - NTE3136 (Super Orange, AlInGaP/GaAs)
  - NTE3138 (Super Red)
  - NTE3139 (Super Blue, GaAlAs/GaAlAs)

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

Power Dissipation, $P_D$	
All Devices	100mW
<b>NTE3139 Only</b>	120mW
Forward Current, $I_F$	
Continuous	
All Devices	25mA
<b>NTE3138 Only</b>	20mA
Peak (Note 1)	
All Devices	50mA
<b>NTE3138 (Note 2), NTE3139 Only</b>	100mA
Reverse Voltage, $V_R$	
All Devices	5V
<b>NTE3139 Only</b>	4V
LED Junction Temperature, $T_J$	+100°C
Operating Temperature Range, $T_{opr}$	
All Other Devices	-30° to +85°C
<b>NTE3138 Only</b>	-20° to +80°C
<b>NTE3139 Only</b>	-25° to +85°C
Storage Temperature Range, $T_{stg}$	
All Devices	-40° to +100°C
<b>NTE3138 Only</b>	-30° to +100°C
Lead Temperature (During Soldering, 0.62 (1.6mm) from case), $T_L$	
All Devices (3sec max)	+240°C
<b>NTE3138 Only</b> (5sec max)	+260°C

- Note 1.  $t_p = 1\mu\text{sec}$  pulse, 0.3% duty cycle  
 Note 2.  $t_p \leq 100\mu\text{sec}$  pulse,  $\leq 1\%$  duty cycle

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
View Angle of Half Power All Devices	2 $\theta$ 1/2	$I_F = 20\text{mA}$	-	24	-	Degree
NTE3138			-	25	-	Degree
Forward Voltage NTE3133	$V_F$	$I_F = 20\text{mA}$	-	2.20	2.40	V
NTE3135, NTE3136			-	2.00	2.60	V
NTE3138			2.0	-	2.2	V
NTE3139			-	3.5	4.0	V
Reverse Current	$I_R$	$V_R = 5\text{V}$	-	-	10	$\mu\text{A}$
NTE3139 <b>Only</b>			-	-	60	$\mu\text{A}$
Luminous Intensity NTE3133	$I_V$	$I_F = 20\text{mA}$ (Note 3)	450	900	-	mcd
NTE3135, NTE3136			900	1300	-	mcd
NTE3138			800	1200	-	mcd
NTE3139			750	1500	-	mcd
Peak Emission Wavelength NTE3133	$\lambda_p$	$I_F = 20\text{mA}$	-	575	-	nm
NTE3135, NTE3136			-	620	-	nm
NTE3138			655	660	665	nm
NTE3139			-	468	-	nm
Dominate Wavelength NTE3133	$\lambda_{d(\text{HUE})}$	$I_F = 20\text{mA}$ (Note 4)	-	572	-	nm
NTE3135, NTE3136			-	615	-	nm
NTE3139			470	472	475	nm
Spectrum Width of Half Valve	$\Delta\lambda$	$I_F = 20\text{mA}$	-	20	-	nm
NTE3139 <b>Only</b>			-	30	-	nm
Terminal Capacitance NTE3133	$C_t$	$V = 0\text{V}, F = 1\text{MHz}$	-	35	-	pF
NTE3135, NTE3136			-	15	-	pF
Optic Rise Time (NTE3139 <b>Only</b> )	$\tau$	$I_F = 20\text{mA}$	-	30	-	ns

Note 3. Tolerance: 30%, measured using Exeltron 2001.

Note 4. The dominate wavelength,  $\lambda_d$ , is derived from the CIE Chromaticity Diagram and represents the color of the device.

