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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
NTE3139 Only	120mW
Forward Current, I_F	
Continuous	
All Devices	25mA
NTE3138 Only	20mA
Peak (Note 1)	
All Devices	50mA
NTE3138 (Note 2), NTE3139 Only	100mA
Reverse Voltage, V_R	
All Devices	5V
NTE3139 Only	4V
LED Junction Temperature, T_J	+100°C
Operating Temperature Range, T_{opr}	
All Other Devices	-30° to +85°C
NTE3138 Only	-20° to +80°C
NTE3139 Only	-25° to +85°C
Storage Temperature Range, T_{stg}	
All Devices	-40° to +100°C
NTE3138 Only	-30° to +100°C
Lead Temperature (During Soldering, 0.62 (1.6mm) from case), T_L	
All Devices (3sec max)	+240°C
NTE3138 Only (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	2θ _{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	μA
NTE3139 Only			–	–	60	μA
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	λ_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 Only			–	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 Only)	τ	$I_F = 20\text{mA}$	–	30	–	ns

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

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

