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## NTE3120A Silicon NPN Phototransistor Detector Sidelooker Epoxy Package

**Features:**

- Spectral Range of Sensitivity: 450 to 1100nm Typ
- Package: Sidelooker, Epoxy
- Special: High Photosensitivity

**Applications:**

- A Variety of Manufacturing and Monitoring Applications
- Photointerrupters

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

Collector–Emitter Voltage, $V_{CE}$ .....	30V
Collector Current, $I_C$ .....	50mA
Collector Surge Current, $I_{CS}$ .....	100mA
Emitter–Collector Voltage, $V_{EC}$ .....	7V
Total Power Dissipation, $P_{tot}$ .....	100mW
Operating Temperature Range, $T_{opr}$ .....	$-40^\circ$ to $+100^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-40^\circ$ to $+100^\circ\text{C}$
Thermal Resistance, Junction–to–Ambient, $R_{thJA}$ .....	750K/W

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Peak Sensitivity Wavelength	$\lambda_{Smax}$		–	880	–	nm
Spectral Range of Sensitivity	$\lambda_{10\%}$		450	–	1100	nm
Radiant Sensitive Area	A		–	0.11	–	$\text{mm}^2$
Dimensions of Chip Area	L x W		.022 (0.55) x .022 (0.55)			in (mm)
Acceptance Half Angle	$\theta$		–	$\pm 35$	–	deg
Capacitance	$C_{CE}$	$V_{CE} = 0V, f = 1\text{MHz}, E = 0$	–	7.5	–	pF
Photocurrent	$I_{PCE}$	$\lambda = 950\text{nm}, E_e = 0.5\text{mW}/\text{cm}^2, V_{CE} = 5V$	250	–	–	$\mu\text{A}$
		$E_V = 1000 \text{ 1x, Std. Light A}, V_{CE} = 5V$	–	3200	–	$\mu\text{A}$
Dark Current	$I_{CEO}$	$V_{CE} = 20V, E = 0$	–	1	50	nA
Rise and Fall Time	$t_r, t_f$	$R_L = 1\text{k}\Omega, V = 5V, I_C = 1\text{mA}$	–	10	–	$\mu\text{s}$
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$		–	150	–	mV



