



**MODEL 產品型號 : XL-PT324B**

### **Features**

Fast response time

High photo sensitivity

Pb free

The product itself will remain within RoHS compliant version

### **Descriptions**

XL-PT324B is a high speed and high sensitive NPN silicon phototransistor molded in a standard  $\Phi 3\text{mm}$  package.

Due to is black epoxy the device is sensitive to visible and infrared radiation.

### **Applications**

Infrared applied system

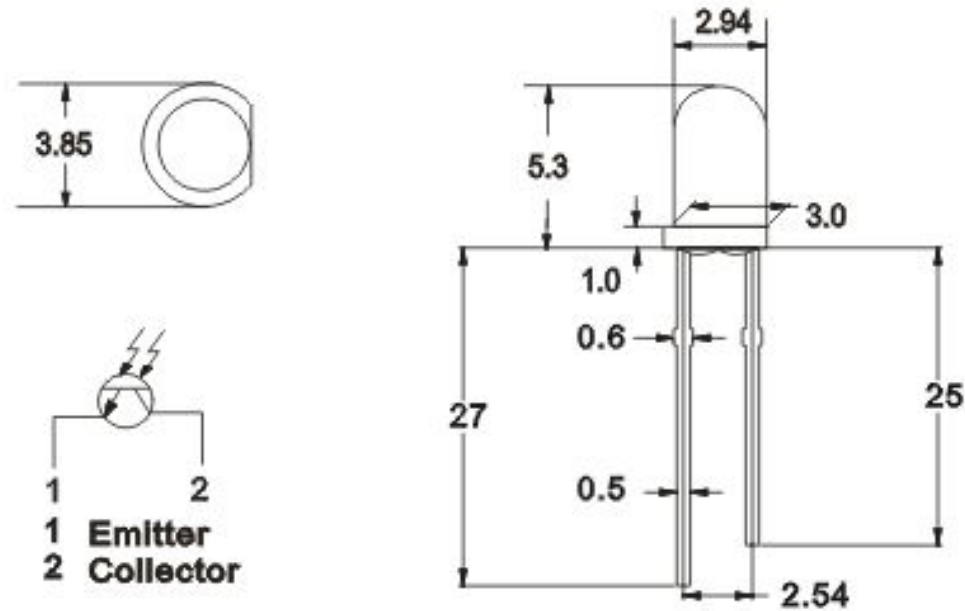
Optoelectronic switch

Camera

Printer

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**Package Dimension**



**NOTE:TOLERANCE $\pm$ 0.5mm**

**Notes:**

**All dimensions are in millimeters.**

**Tolerances unless dimensions  $\pm$ 0.25mm**

**Lead spacing is measure where the lead emerge from the package.**

**MODEL 產品型號：XL-PT324B****Absolute Maximum Ratings at Ta=25℃**

Parameter	Symbol	Rating	Unit
Power Dissipation at (or below) 25℃ Free Air Temperature	P <sub>c</sub>	75	mW
Collector-Emitter Voltage	V <sub>CEO</sub>	30	V
Emitter-Collector Voltage	V <sub>ECO</sub>	5	V
Collector Current	I <sub>c</sub>	20	mA
Operating Temperature	T <sub>opr</sub>	-25~+85	℃
Storage Temperature	T <sub>stg</sub>	-40~+85	℃
Soldering Temperature(1/16 inch from body for 5 seconds)	T <sub>sol</sub>	260	℃

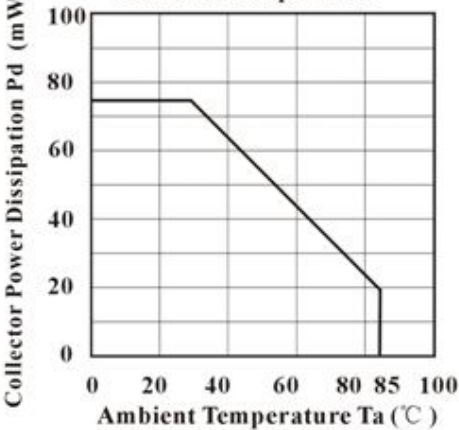
**MODEL 產品型號：XL-PT324B****Electrical Optical Characteristics**

Parameter		Symbol	Min.	Typ.	Max.	Unit	Test Condition
Collector Dark Current		$I_{CEO}$			100	nA	$V_{CE}=20V$ $H=0\text{mw/cm}^2$
On State Collector Current		$I_{C(on)}$	0.7	2.0			$H=1\text{mW/cm}^2$ $V_{CE}=5V$
Emitter-Collector Breakdown Voltage		$BV_{CEO}$	30		100	V	$I_C=100\mu A$ $I_B=0$
Collector - Emitter Breakdown Voltage		$BV_{ECO}$	6.5			V	$I_C=100\mu A$ $I_B=0$
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$			0.2	V	$I_C=2\text{mA}$ $I_B=100\mu A$
Current gain		$h_{FE}$	1000		1800	$\mu A$	$V_{CE}=5V$ $I_C=2\text{mA}$
Wavelength of Peak Sensitivity		$\lambda_p$		940		nm	
Range of Spectral Bandwidth		$\lambda_{0.5}$	700		1100	nm	
Response Time	Rise Time	$t_r$		15		$\mu S$	$V_{CE}=5V$ $I_C=1\text{mA}$ $R_L=1000\Omega$
	Fall Time	$t_f$		15		$\mu S$	
Half sensitivity angle		$\Delta\lambda$		$\pm 15$		deg	
Collector-Capacitance		$C_{CB}$	5.4	6.4	7.4	$P_F$	$F=1\text{MHz}$ , $V_{CB}=3V$

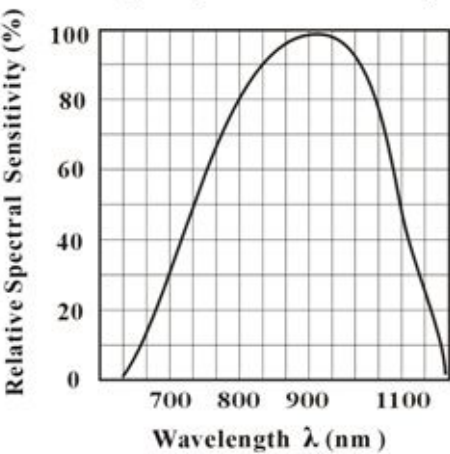
**MODEL 產品型號: XL-PT324B**

**Typical Electrical-Optical Characteristics Curves**

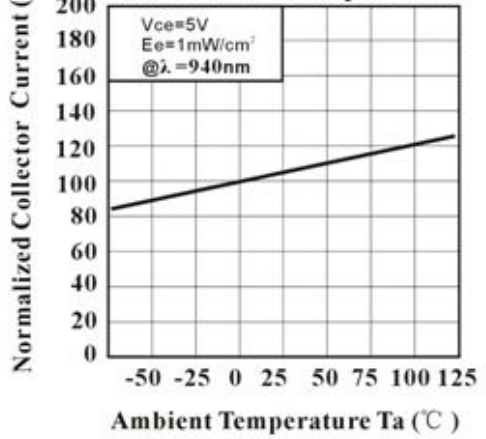
**Fig.1 Collector Power Dissipation vs. Ambient Temperature**



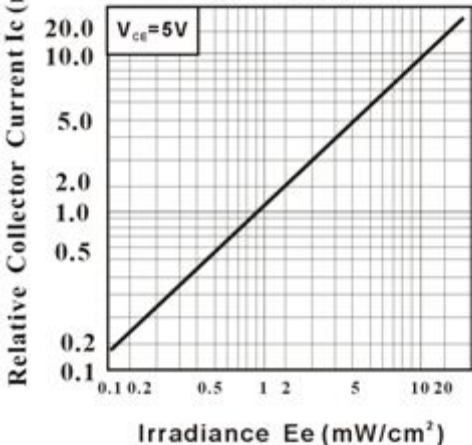
**Fig.2 Spectral Sensitivity**



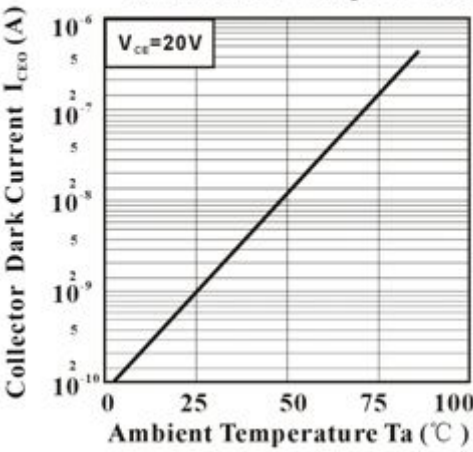
**Fig.3 Normalized Collector Current Vs. Ambient Temperature**



**Fig.4 Relative Collector Current Vs. Irradiance**



**Fig.5 Collector Dark Current Vs. Ambient Temperature**



**Fig.6 Collector Current vs. Collector-Emitter Voltage**

