

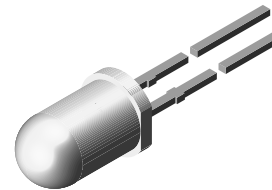
Ambient Light Sensor

Description

TEPT5600 is a silicon NPN epitaxial planar photo transistor in a standard T-1 3/4" plastic package. Peak of responsivity is in the visible spectrum. Infra-red spectrum is suppressed.

Features

- Responsivity adapted to human eye
- Wide angle of half sensitivity $\phi = \pm 20^\circ$
- Lead (Pb)-free component
- Component in accordance with RoHS 2002/95/EC and WEEE 2002/96/EC



94 8390

Applications

- Replacement of cadmium sulfide (CdS) photo resistors
- Ambient light sensor

Absolute Maximum Ratings

$T_{amb} = 25^\circ\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Collector emitter voltage		V_{CEO}	6	V
Emitter collector voltage		V_{ECO}	1.5	V
Collector current		I_C	20	mA
Total power dissipation	$T_{amb} \leq 55^\circ\text{C}$	P_{tot}	100	mW
Junction temperature		T_j	100	$^\circ\text{C}$
Operating temperature range		T_{amb}	- 40 to + 85	$^\circ\text{C}$
Storage temperature range		T_{stg}	- 40 to + 100	$^\circ\text{C}$
Soldering temperature	2 mm distance to package, $t \leq 3$ s	T_{sd}	260	$^\circ\text{C}$
Thermal resistance junction/ambient		R_{thJA}	450	K/W

Basic Characteristics

$T_{amb} = 25^\circ\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Collector emitter breakdown voltage	$I_C = 0.1$ mA	V_{CEO}	6			V
Collector dark current	$V_{CE} = 5$ V, $E = 0$	I_{CEO}		3	50	nA
Collector-emitter capacitance	$V_{CE} = 0$ V, $f = 1$ MHz, $E = 0$	C_{CEO}		16		pF
Photo current	$E_v = 20$ lx, CIE illuminant A, $V_{CE} = 5$ V	I_{PCE}	25	70	140	μA
	$E_v = 100$ lx, CIE illuminant A, $V_{CE} = 5$ V	I_{PCE}		350		μA
Angle of half sensitivity		ϕ		± 20		deg
Wavelength of peak sensitivity		λ_p		570		nm
Range of spectral bandwidth		$\lambda_{0.1}$		360 to 970		nm

Typical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

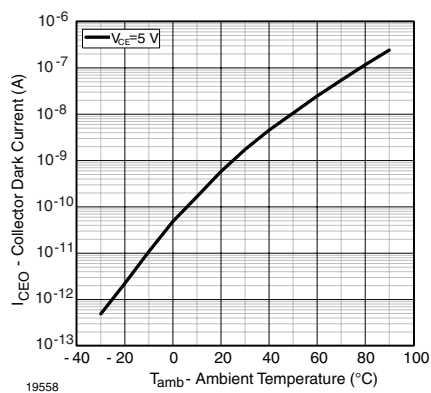


Figure 1. Collector Dark Current vs. Ambient Temperature

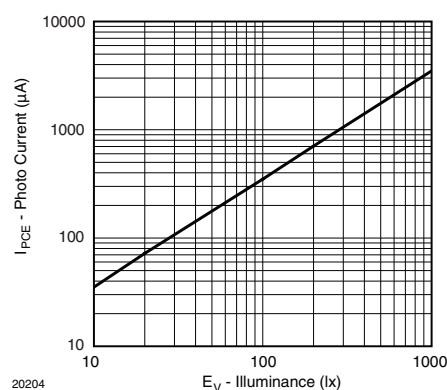


Figure 4. Photo Current vs. Illuminance

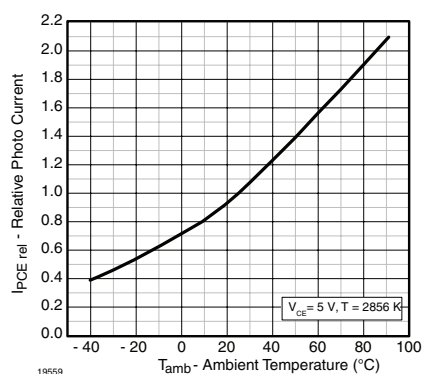


Figure 2. Relative Photo Current vs. Ambient Temperature

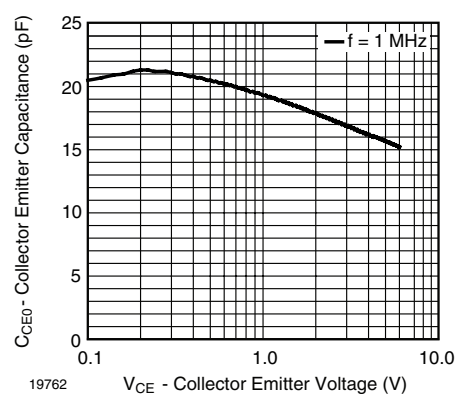


Figure 5. Collector Emitter Capacitance vs. Collector Emitter Voltage

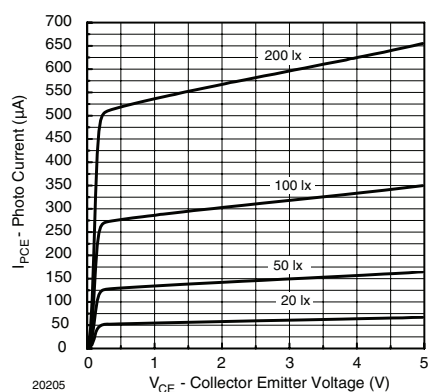


Figure 3. Photo Current vs. Collector Emitter Voltage

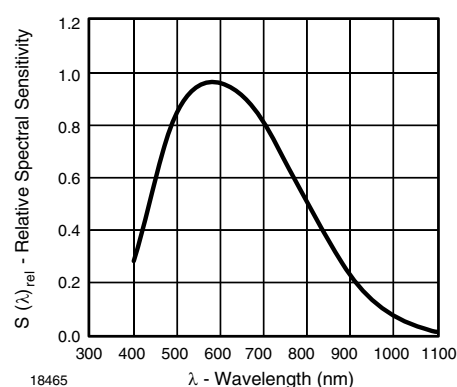


Figure 6. Relative Spectral Sensitivity vs. Wavelength

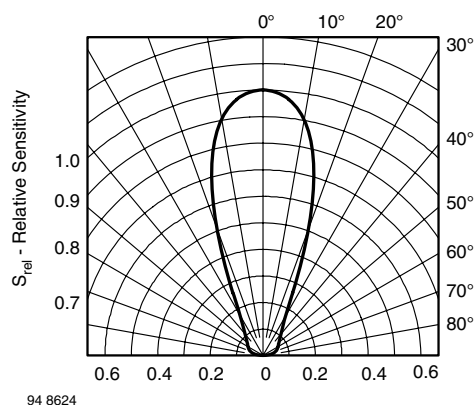
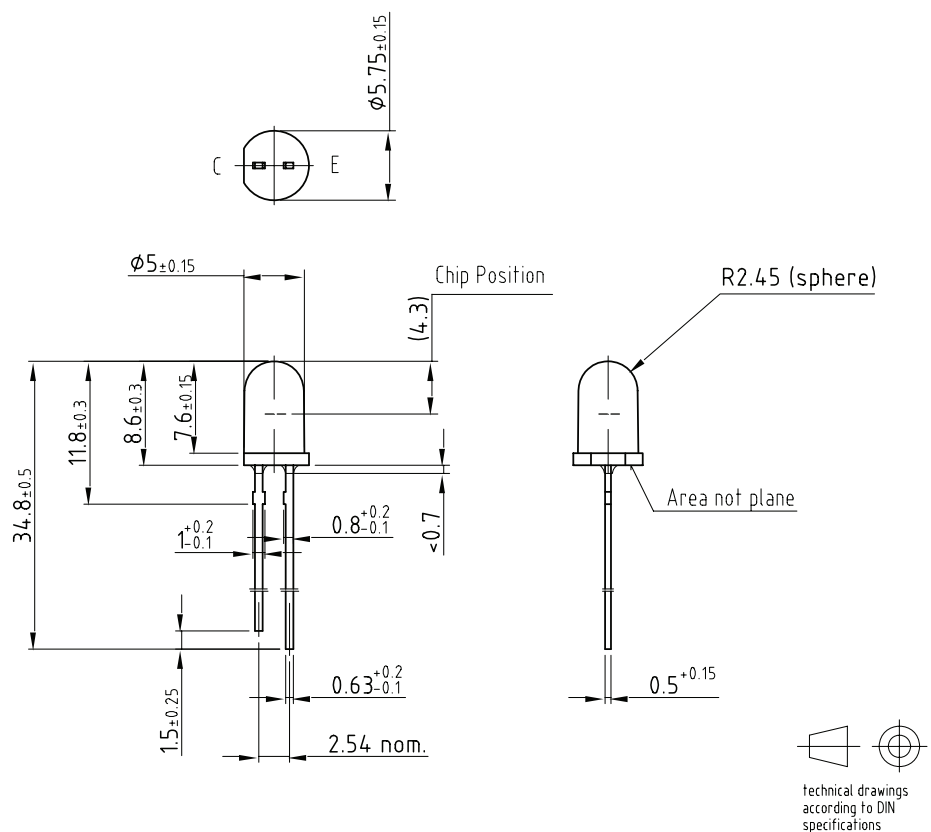


Figure 7. Relative Radiant Sensitivity vs. Angular Displacement

Package Dimensions



All dimensions in mm

Drawing refers to following types: TEPT 5600

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96 12199



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It is the policy of Vishay Semiconductor GmbH to

1. Meet all present and future national and international statutory requirements.
2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

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1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively
2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA
3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

Vishay Semiconductor GmbH can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

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Vishay Semiconductor GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany



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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: org@lifeelectronics.ru

www.lifeelectronics.ru