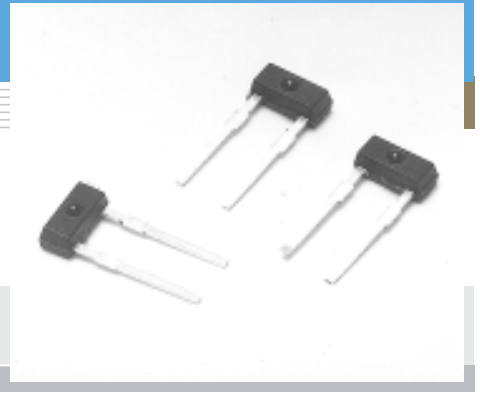


# Phototransistor

## S2829

### Subminiature package phototransistor



S2829 is a high sensitivity phototransistor molded into a visible-cut plastic package.

#### Features

- Subminiature plastic package with lens
- Visible-cut package
- High sensitivity: 1.0 mA (1000 lx)

#### Applications

- Tape start/end mark sensor for VTRs, cassette tape recorders, etc.
- Rotary encoders
- Touch screen

#### Absolute maximum ratings (Ta=25 °C)

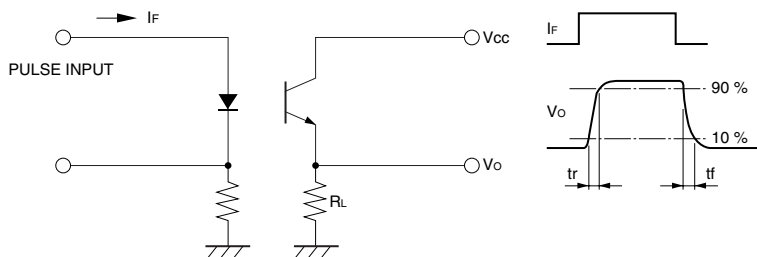
Parameter	Symbol	Value	Unit
Collector-emitter voltage	V <sub>CEO</sub>	35	V
Emitter-collector voltage	V <sub>ECO</sub>	4	V
Collector current	I <sub>c</sub>	20	mA
Collector dissipation	P <sub>c</sub>	80	mW
Operating temperature	T <sub>opr</sub>	-25 to +85	°C
Storage temperature	T <sub>stg</sub>	-40 to +100	°C
Soldering	-	260 °C, 3 s, at least 2.5 mm away from package surface	-

#### Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Photocurrent *	I <sub>c</sub>	V <sub>CE</sub> =5 V, 1000 lx	0.3	1.0	-	mA
Dark current	I <sub>CEO</sub>	V <sub>CE</sub> =20 V, 0 lx	-	-	100	nA
Collector-emitter saturation voltage	V <sub>CE (sat)</sub>	I <sub>c</sub> =0.3 mA, 1000 lx	-	-	0.4	V
Peak sensitivity wavelength	λ <sub>p</sub>		-	850	-	nm
Rise time	t <sub>r</sub>	V <sub>CC</sub> =5 V, I <sub>c</sub> =1 mA	-	2	-	μs
Fall time	t <sub>f</sub>	R <sub>L</sub> =100 Ω	-	3	-	μs

\* Measured with a CIE standard "A" light source at 2856 K

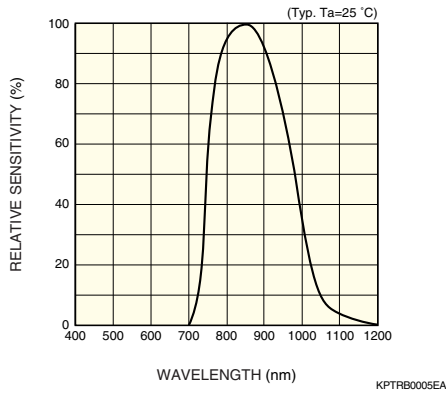
#### Response time measurement circuit



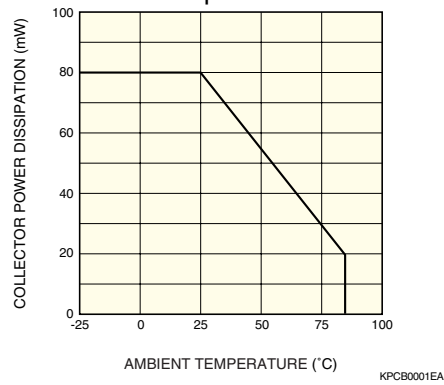
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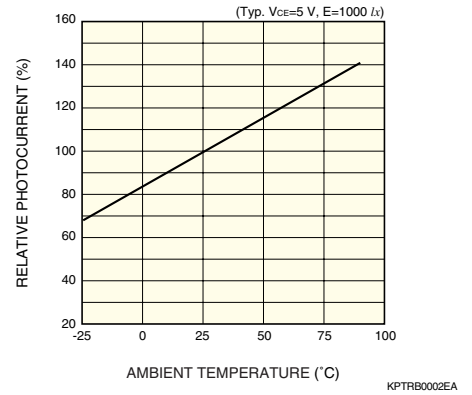
## Spectral response



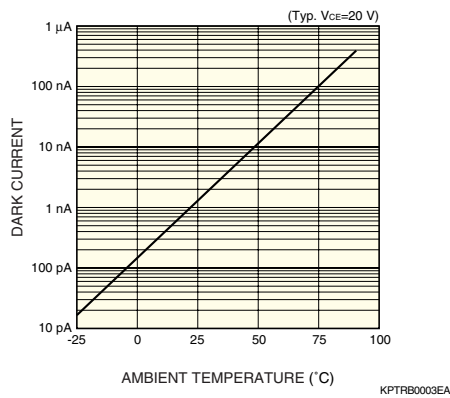
## Collector power dissipation vs. ambient temperature



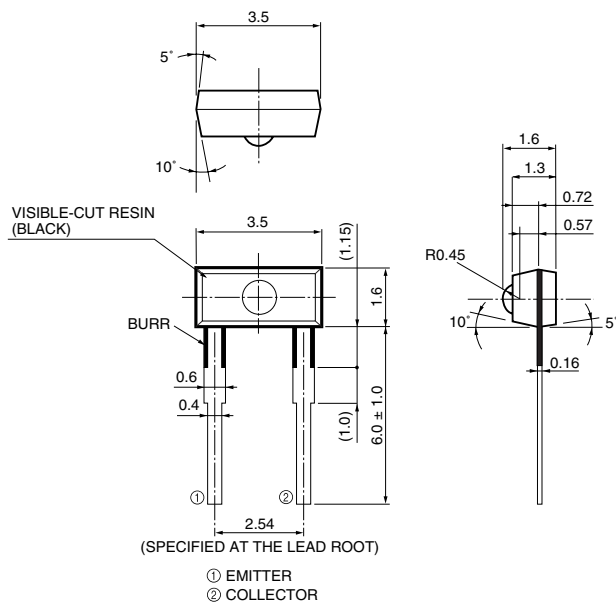
## Photocurrent vs. ambient temperature



## Dark current vs. ambient temperature



## Dimensional outline (unit: mm)



Tolerance unless otherwise noted:  $\pm 0.2$ ,  $\pm 2^\circ$   
 Shaded area indicates burr.  
 Values in parentheses are not guaranteed,  
 but for reference.

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# HAMAMATSU

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HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Higashi-ku, Hamamatsu City, 435-8558 Japan, Telephone: (81) 53-434-3311, Fax: (81) 53-434-5184, <http://www.hamamatsu.com>

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, P.O.Box 6910, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1) 908-231-0960, Fax: (1) 908-231-1218

Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49) 08152-3750, Fax: (49) 08152-2658

France: Hamamatsu Photonics France S.A.R.L.: 19, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: 33-(1) 69 53 71 00, Fax: 33-(1) 69 53 71 10

United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Twin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, Telephone: (44) 1707-294888, Fax: (44) 1707-325777

North Europe: Hamamatsu Photonics Norden AB: Smidevågen 12, SE-171 41 Solna, Sweden, Telephone: (46) 8-509-031-00, Fax: (46) 8-509-031-01

Italy: Hamamatsu Photonics Italia S.R.L.: Strada della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39) 02-935-81-733, Fax: (39) 02-935-81-741