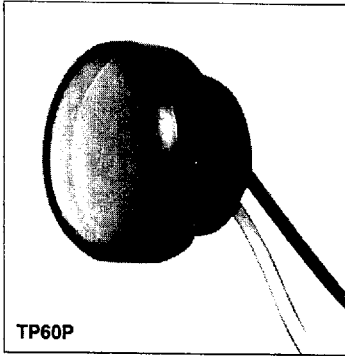


## Silicon Photovoltaic Cell



TP60P

### FEATURES

- For applications from 420 nm to 1120 nm
- Cathode=back contact
- Mounting by bolt/nut

### APPLICATIONS

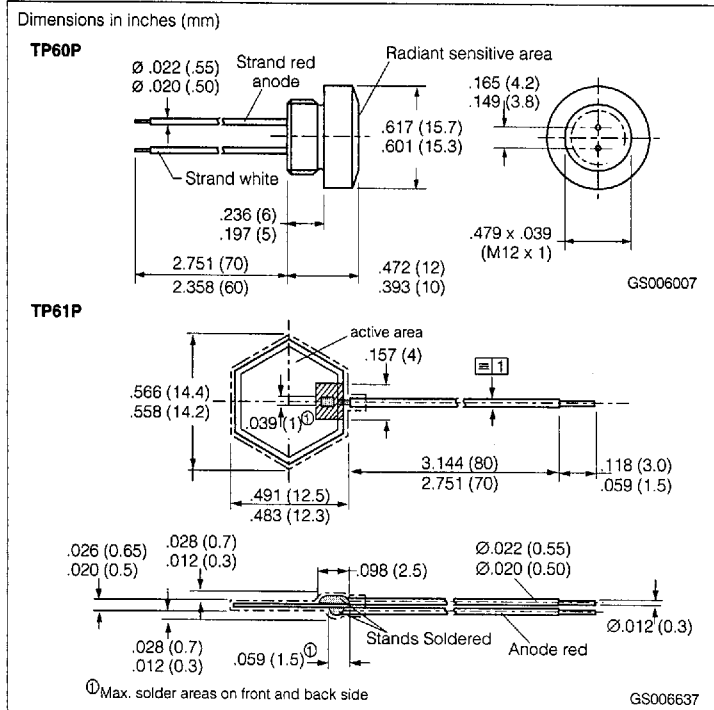
- For control and drive circuits
- Light pulse scanning
- Quantitative light measurements in near infrared and visible light range

### DESCRIPTION

The TP60/61P are silicon photovoltaic cells with the same electrical characteristics; they differ only in packaging. The anode (positive pole of the cell) is denoted by a red lead.

### Maximum Ratings

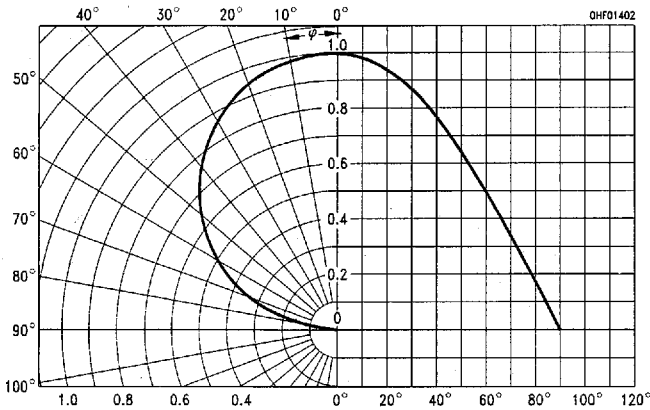
Operating/Storage Temperature Range ( $T_{OP}$   $T_{STG}$ ) ..... -55° to +100°C  
Reverse Voltage ( $V_R$ )..... 1 V



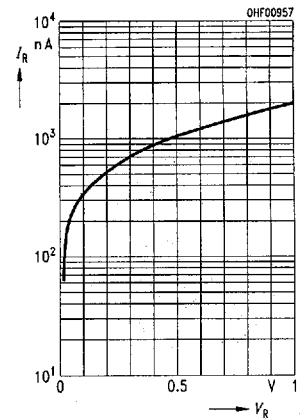
### Characteristics $T_A=25^\circ\text{C}$ , Standard Light A, $T=2856\text{ K}$

Parameter	Sym.	Value	Unit	Condition
Spectral Sensitivity	S	1 ( $\geq 0.7$ )	$\mu\text{A/lx}$	$V_R=0\text{ V}$
Wavelength, Max. Sensitivity	$\lambda_{S\text{max}}$	900	nm	
Sensitivity, Spectral Range	$\lambda$	400 to 1120		S=10% of $S_{\text{MAX}}$
Radiant Sensitive Area	A	1.3	$\text{cm}^2$	
Radiant Sensitive Shape		Sechseck hexagon		
Half Angle	$\varphi$	$\pm 60$	Deg.	
Dark Current	$I_R$	0.1 ( $\leq 2$ )	$\mu\text{A}$	$V_R=1\text{ V}$ , $E=0$
Spectral Sensitivity	$S_\lambda$	0.55	$\text{A/W}$	$\lambda=850\text{ nm}$
Quantum Yield	$\eta$	0.80	electrons photon	
Open Circuit Voltage	$V_O$	450 ( $\geq 270$ ) 430	mV	$E_V=1000\text{ lx}$ $E_E=0.5\text{ mW/cm}^2$ , $\lambda=850\text{ nm}$
Short Circuit Current	$I_{SC}$	1 ( $\geq 0.7$ )	mA	$E_V=1000\text{ lx}$
Rise and Fall Time, Photocurrent	$t_R$ , $t_F$	18	$\mu\text{s}$	$R_L=1\text{ k}\Omega$ , $V_R=1\text{ V}$ , $\lambda=850\text{ nm}$ , $I_P=50\text{ }\mu\text{A}$
Capacitance	$C_O$	11	nF	$V_R=0\text{ V}$ , $f=1\text{ MHz}$ , $E_V=0\text{ lx}$
Temperature Coefficient $V_O$	$TC_V$	-2.6	mV/K	
Temperature Coefficient $I_{SC}$	$TC_I$	0.12	%/K	

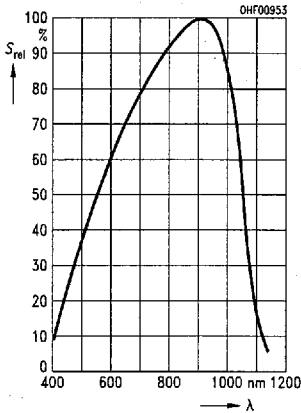
**Figure 1. Directional characteristic  $S_{REL}=f(\psi)$**



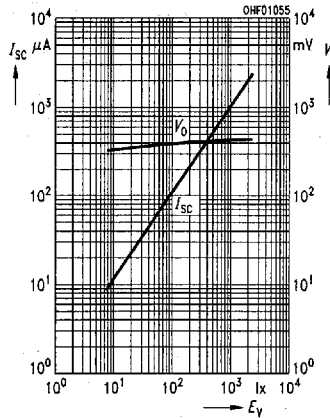
**Figure 6. Dark current  $I_R=f(V_R), E=0$**



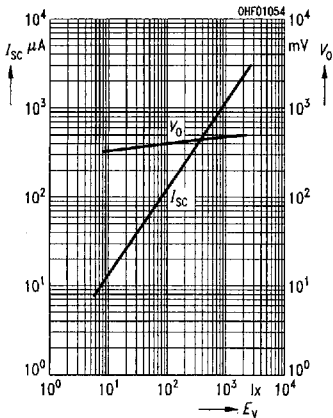
**Figure 2. Relative spectral sensitivity  $S_{REL}=f(\lambda)$**



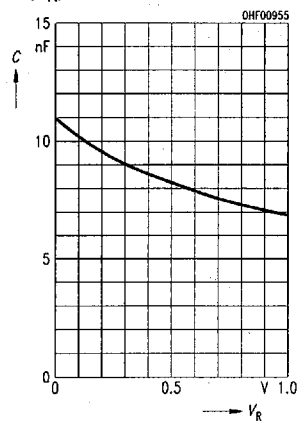
**Figure 4. Open circuit voltage—TP61P  $V_O=f(E_V)$  Short circuit voltage  $V_{SC}=f(E_V)$**



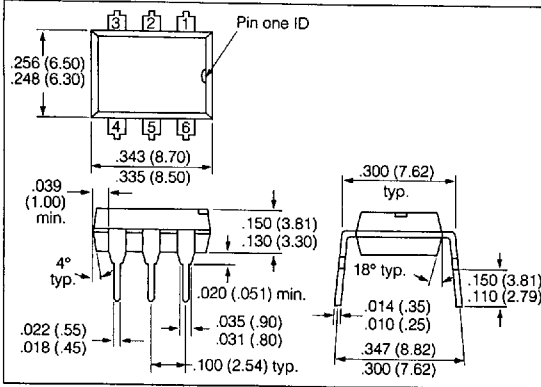
**Figure 3. Open circuit voltage—TP60P  $V_O=f(E_V)$  Short circuit voltage  $V_{SC}=f(E_V)$**



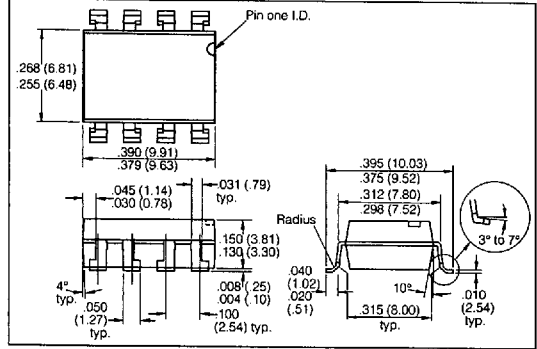
**Figure 5. Capacitance  $C=f(V_R), f=1 \text{ HM}, E=0$**



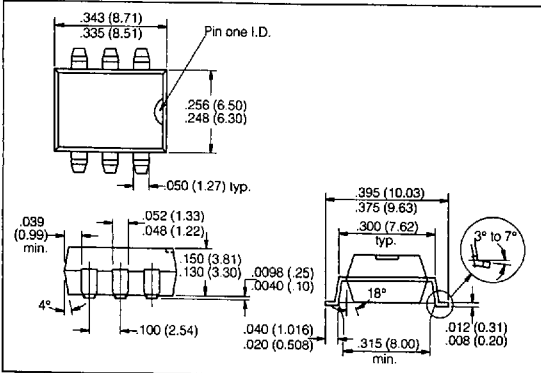
**Figure 1. 6-pin DIP**



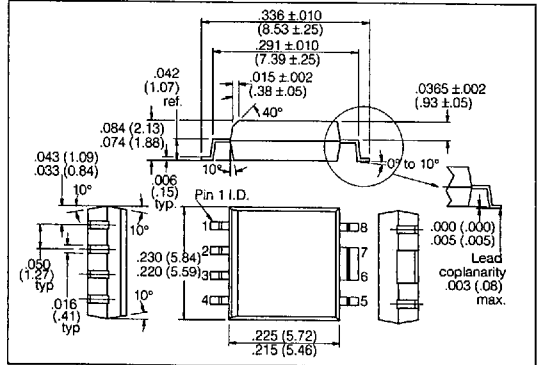
**Figure 4. 8-pin, SMD**



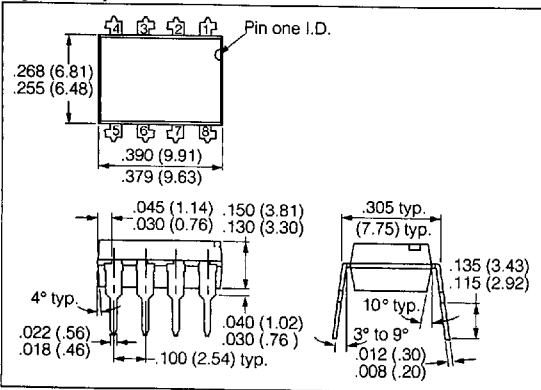
**Figure 2. 6-pin, SMD**



**Figure 5. 8-pin SOP (PCMCIA)**



**Figure 3. 8-pin DIP**



**Figure 6. 18-pin SOP (PCMCIA)**

