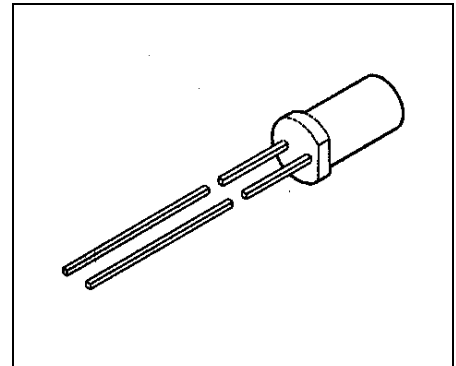


**Plastic Fiber Optic Photodiode Detector  
Plastic Connector Housing**

**SFH250  
SFH250V**

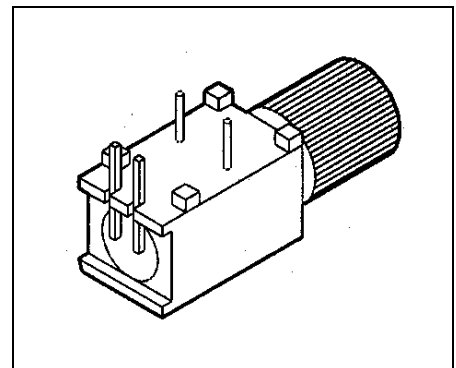
**Features**

- 2.2 mm Aperture holds Standard 1000 Micron Plastic Fiber
- No Fiber Stripping Required
- Fast Switching Time
- Good Linearity
- Sensitive in visible and near IR Range
- Molded Microlens for Efficient Coupling



**Plastic Connector Housing**

- Mounting Screw Attached to the Connector
- Interference Free Transmission from light-Tight Housing
- Transmitter and Receiver can be flexibly positioned
- No Cross Talk
- Auto insertable and Wave solderable
- Supplied in Tubes



**Applications**

- Household Electronics
- Power Electronics
- Optical Networks
- Light Barriers

Type	Ordering Code
SFH250	Q62702-P1012
SFH250V	Q62702-P0263

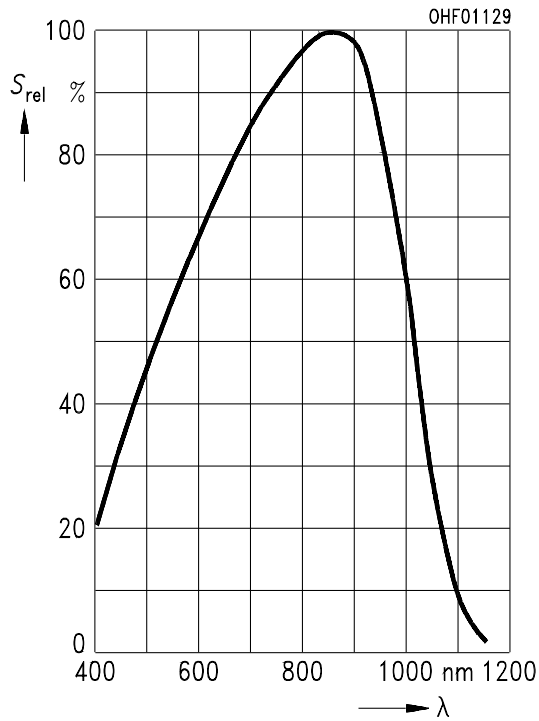
**Technical Data**
**Absolute Maximum Ratings**

Parameter	Symbol	Limit Values		Unit
		min.	max.	
Operating Temperature Range	$T_{OP}$	-40	+85	°C
Storage Temperature Range	$T_{STG}$	-40	+100	°C
Junction Temperature	$T_J$		100	°C
Soldering Temperature (2 mm from case bottom, $t \leq 5$ s)	$T_S$		260	°C
Reverse Voltage	$V_R$		30	V
Power Dissipation	$P_{TOT}$		100	mW
Thermal Resistance, Junction/Air	$R_{thJA}$		750	K/W

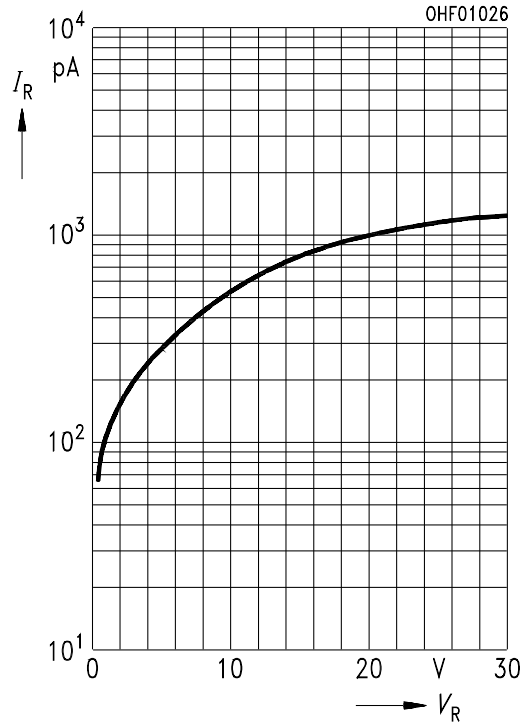
**Characteristics** ( $T_A = 25^\circ\text{C}$ )

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Maximum Photosensitivity Wavelength	$\lambda_{S_{\max}}$		850		nm
Photosensitivity Spectral Range ( $S = 10\% S_{\max}$ )	$\lambda$	400		1100	nm
Dark Current ( $V_R = 20\text{ V}$ )	$I_R$		1 ( $\leq 10$ )		nA
Capacitance ( $f = 1\text{ MHz}$ , $V_R = 0\text{ V}$ )	$C_O$		11		pF
Rise and Fall Times of Photo Current ( $R_L = 50\ \Omega$ , $V_R = 30\text{ V}$ , $\lambda = 880\text{ nm}$ ) 10% to 90% 90% to 10%	$t_R$ $t_F$		0.01 0.01		$\mu\text{s}$
Photo Current ( $\Phi_{IN} = 10\ \mu\text{W}$ coupled from the end of a plastic fiber, $V_R = 5\text{ V}$ ) $\lambda = 660\text{ nm}$ $\lambda = 950\text{ nm}$	$I_P$		3 ( $\geq 1.6$ ) 4 ( $\geq 2.5$ )		$\mu\text{A}$
Temperature Coefficient $I_P$ $\lambda = 560\text{ to }660\text{ nm}$	$TC_1$		-0.04		%K
Temperature Coefficient $I_P$ $\lambda = 830\text{ nm}$			0.04		
Temperature Coefficient $I_P$ $\lambda = 950\text{ nm}$			0.2		

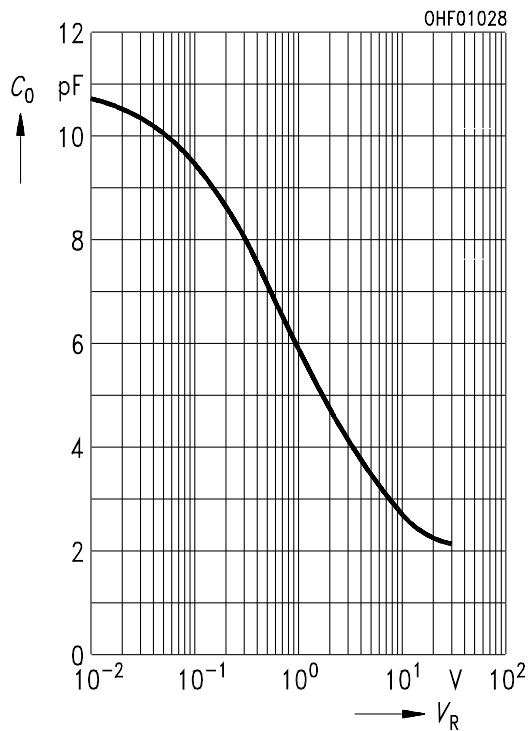
Relative Spectral Sensitivity  $S_{rel} = f(\lambda)$



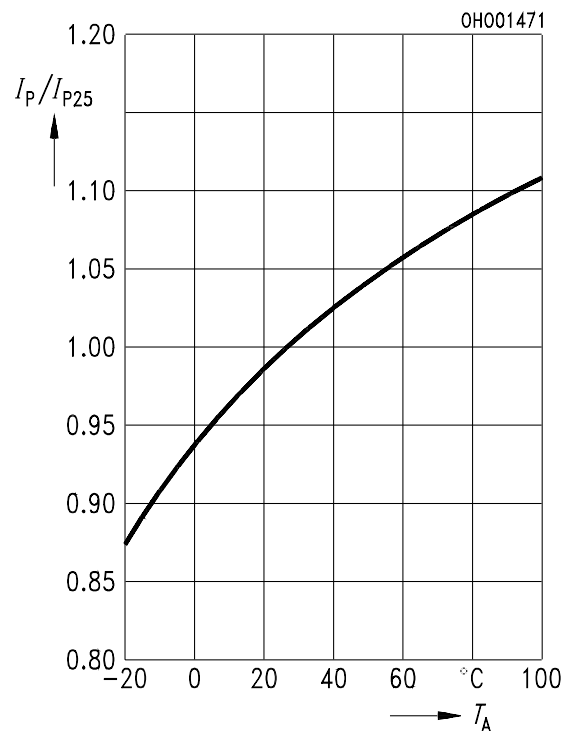
Dark Current  $I_R = f(V_R), T_A = 25^\circ\text{C}$



Capacitance  $C_0 = f(V_R), f = 1 \text{ MHz}, E_V = 0$



Photocurrent  $I_P/I_{P25} = f(T_A), \lambda = 950 \text{ nm}$



Package Outlines

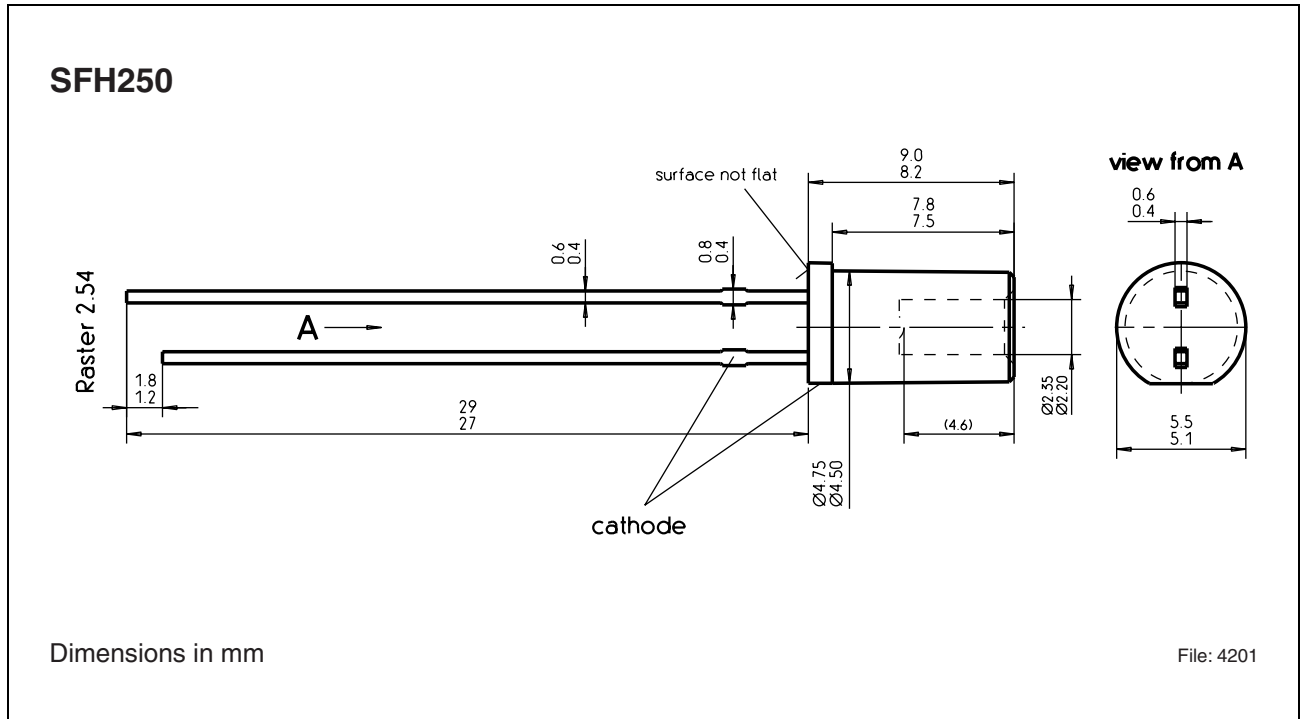


Figure 1

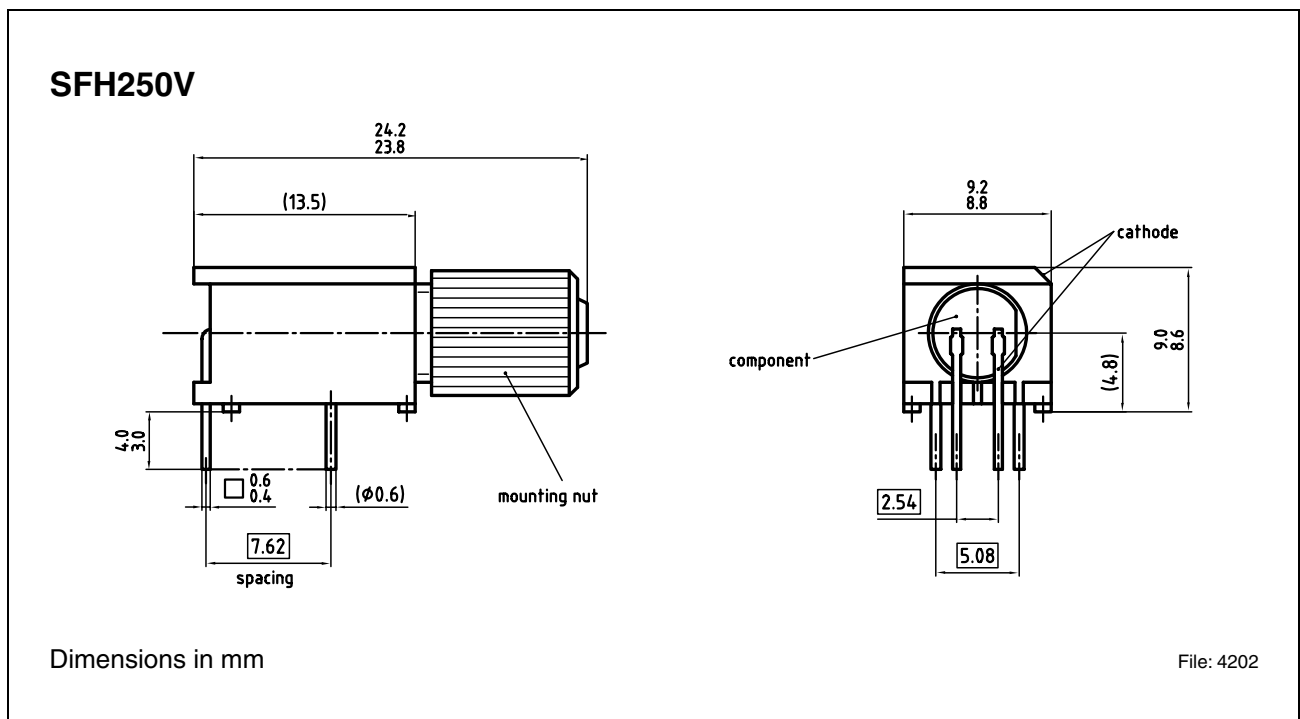


Figure 2

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**SFH250**  
**SFH250V****Revision History:**      **2004-03-19**

DS1

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**Previous Version:**      2002-03-14

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