

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

**SFH250
SFH250V**

Features

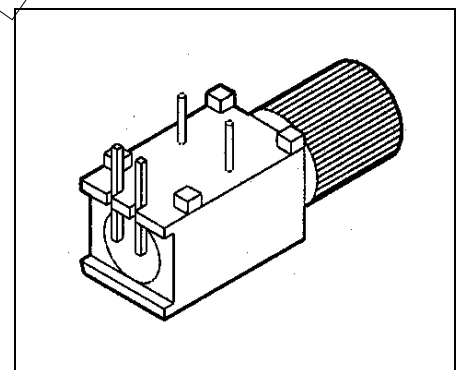
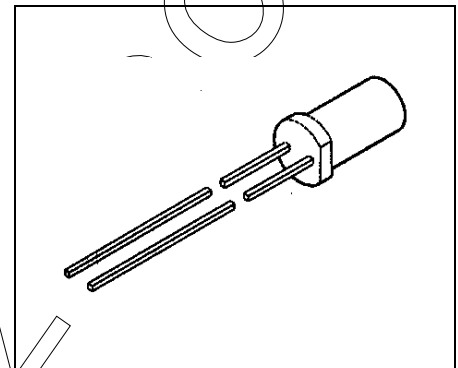
- 2.2 mm Aperture holds Standard 1000 Micron Plastic Fiber
- No Fiber Stripping Required
- Fast Switching Time
- Good Linearity
- Sensitive in visible and near IR Range
- Molded Microlens for Efficient Coupling

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

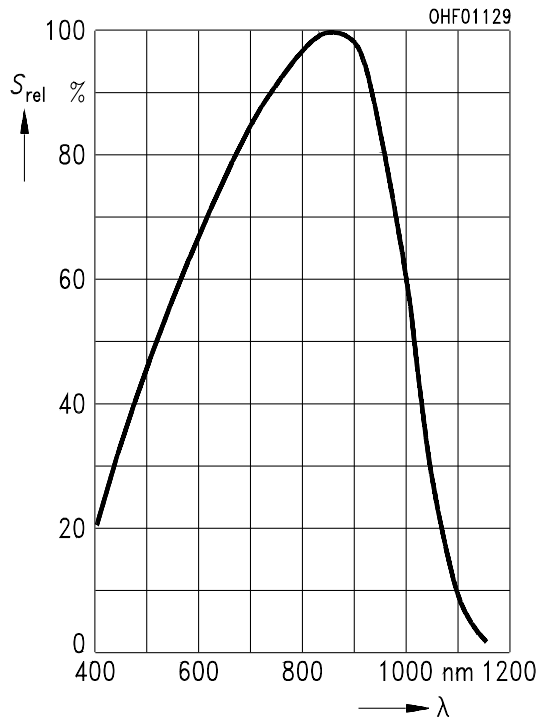
Technical Data
Absolute Maximum Ratings

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

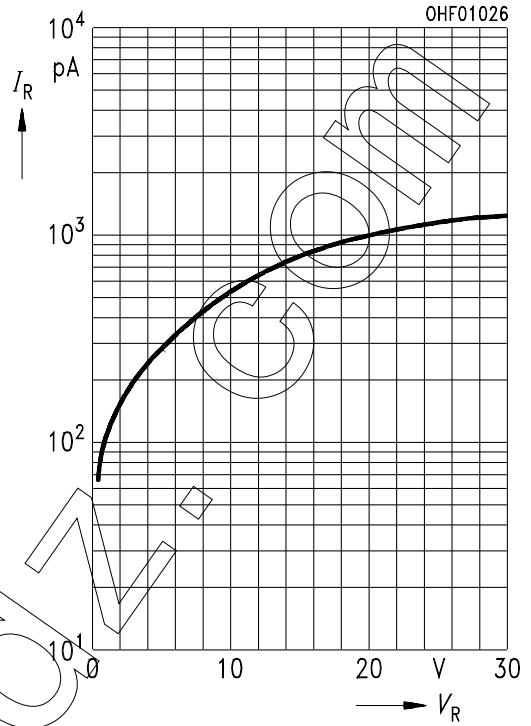
Characteristics ($T_A = 25^\circ\text{C}$)

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Maximum Photosensitivity Wavelength	$\lambda_{S_{\max}}$		850		nm
Photosensitivity Spectral Range ($S = 10\% S_{\max}$)	λ	400		1100	nm
Dark Current ($V_R = 20\text{ V}$)	I_R		1 (≤ 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		μs
Photo Current ($\Phi_{\text{IN}} = 10\ \mu\text{W}$ coupled from the end of a plastic fiber, $V_R = 5\text{ V}$) $\lambda = 660\text{ nm}$ $\lambda = 950\text{ nm}$	I_P		3 (≥ 1.6) 4 (≥ 2.5)		μA
Temperature Coefficient I_P $\lambda = 560\text{ to }660\text{ nm}$	TC		-0.04		%/K
Temperature Coefficient I_P $\lambda = 830\text{ nm}$			0.04		
Temperature Coefficient I_P $\lambda = 950\text{ nm}$			0.2		

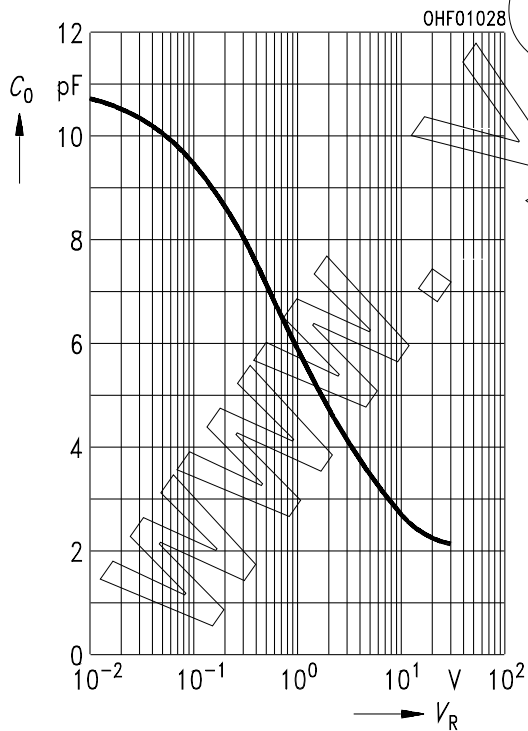
Relative Spectral Sensitivity $S_{rel} = f(\lambda)$



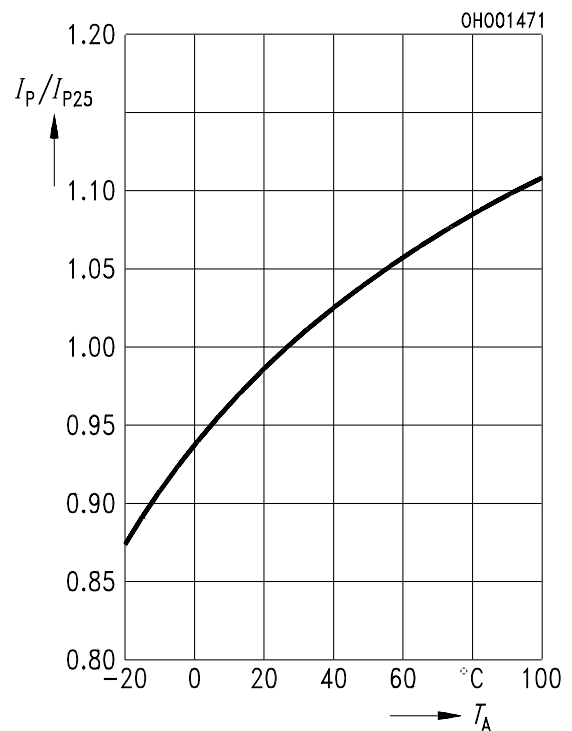
Dark Current $I_R = f(V_R), T_A = 25^\circ\text{C}$



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

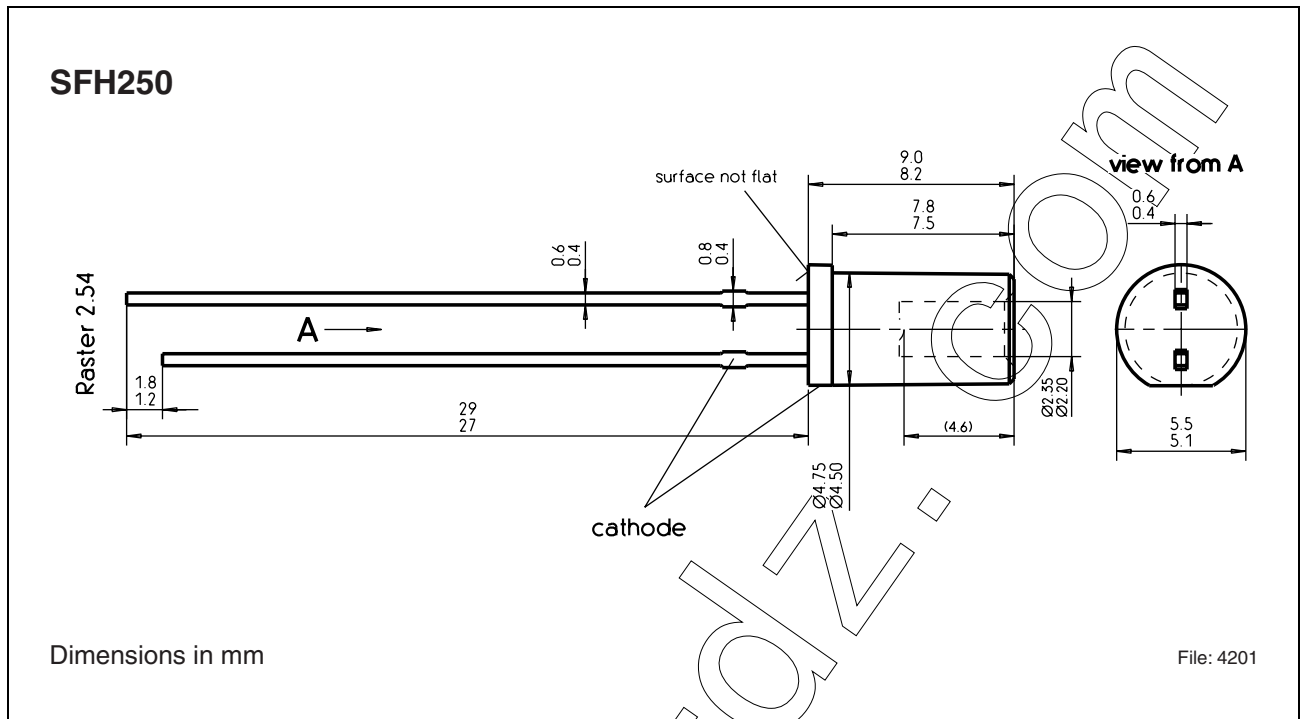


Figure 1

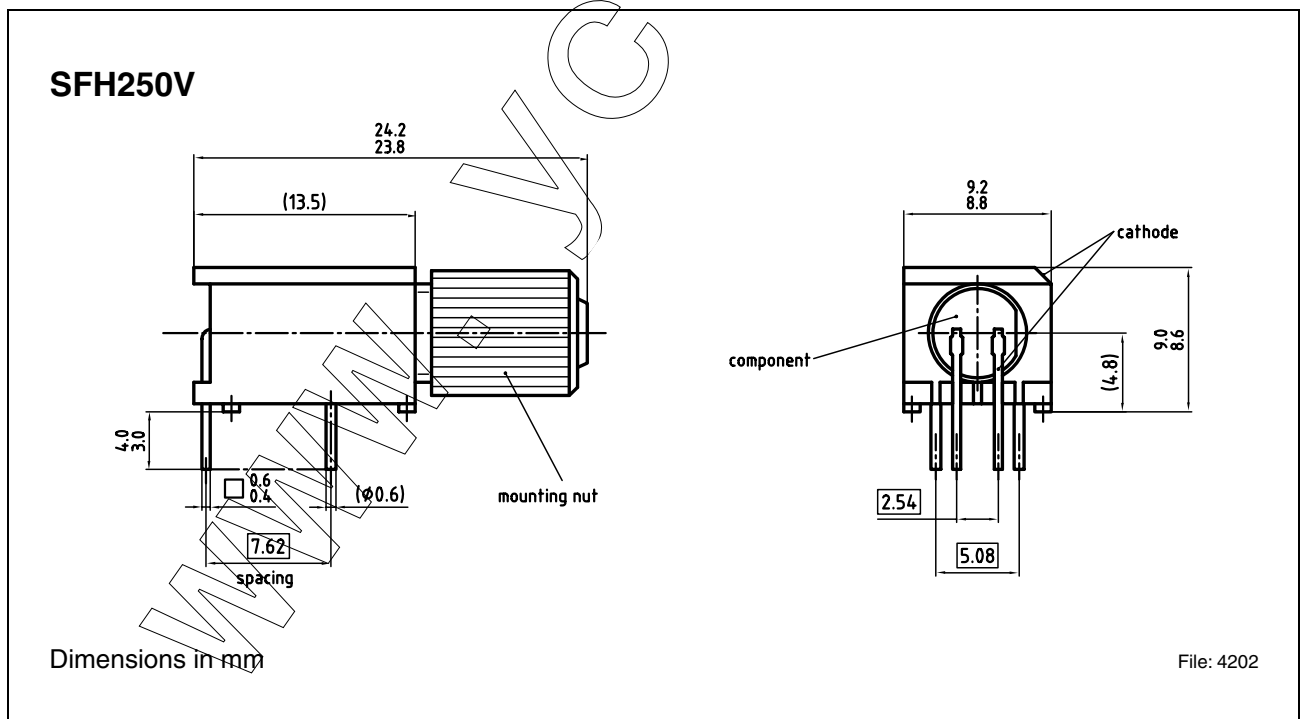


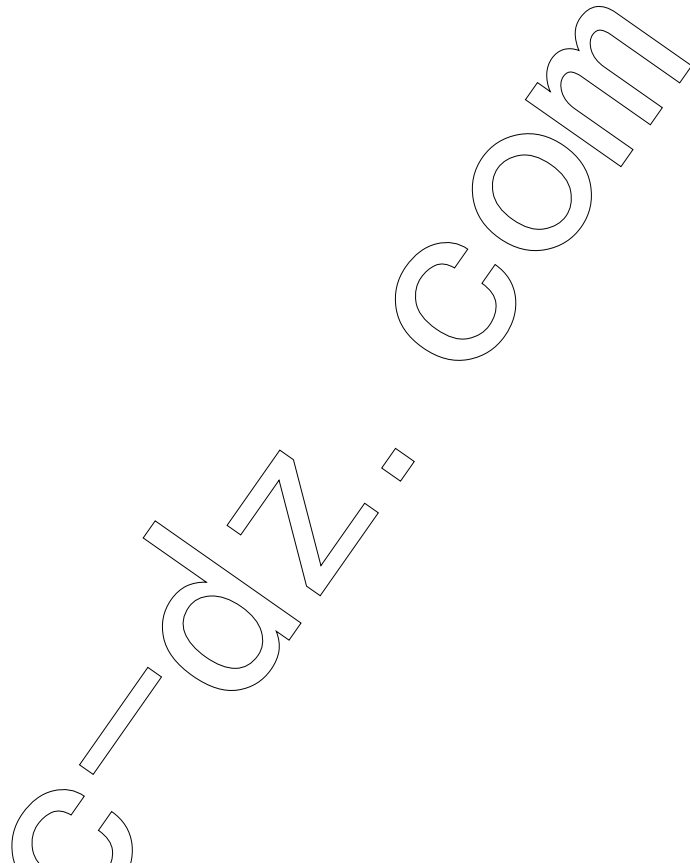
Figure 2

SFH250
SFH250V

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

DS1

Previous Version: 2002-03-14



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