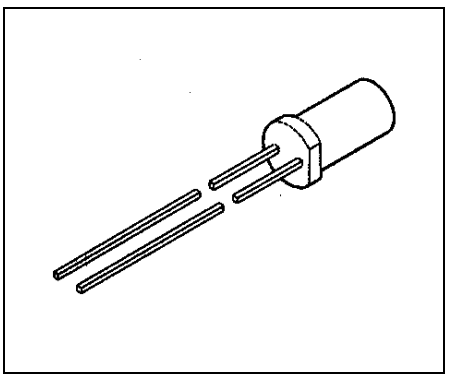
Plastic Fiber Optic Photodiode Detector SFH250
Plastic Connector Housing SFH250V

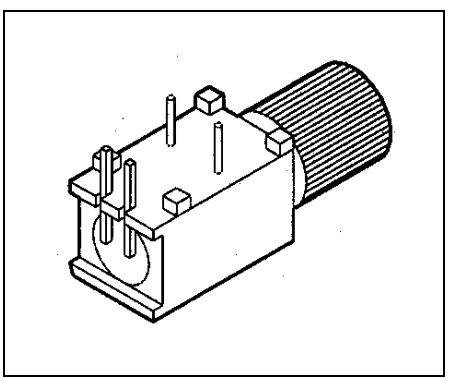
Features

- 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

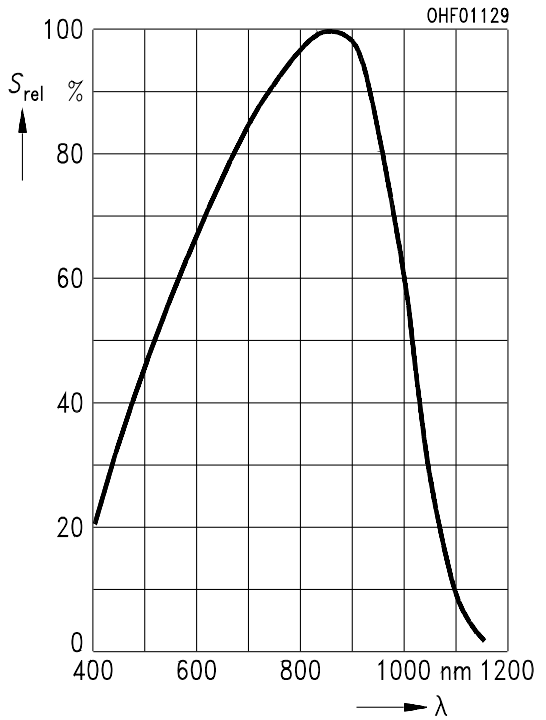
Absolute Maximum Ratings

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

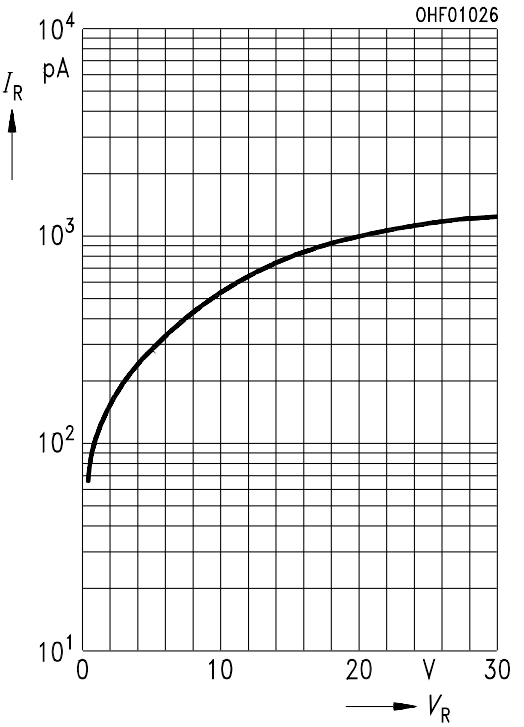
Characteristics (T_A = 25°C)

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Maximum Photosensitivity Wavelength	λ_{Smax}		850		nm
Photosensitivity Spectral Range (S = 10% S_{max})	λ	400		1100	nm
Dark Current (V_R = 20 V)	I_R		1 (≤ 10)		nA
Capacitance (f = 1 MHz, V_R = 0 V)	C_O		11		pF
Rise and Fall Times of Photo Current (R_L = 50 Ω, V_R = 30 V, λ = 880 nm) 10% to 90% 90% to 10%	 t_R t_F		 0.01 0.01		 µs
Photo Current (Φ_{IN} = 10 µW coupled from the end of a plastic fiber, V_R = 5 V) λ = 660 nm λ = 950 nm	 I_P		 3 (≥ 1.6) 4 (≥ 2.5)		 µA
Temperature Coefficient I_P λ = 560 to 660 nm	TC_I		–0.04		%/K
Temperature Coefficient I_P λ = 830 nm			0.04		
Temperature Coefficient I_P λ = 950 nm			0.2		

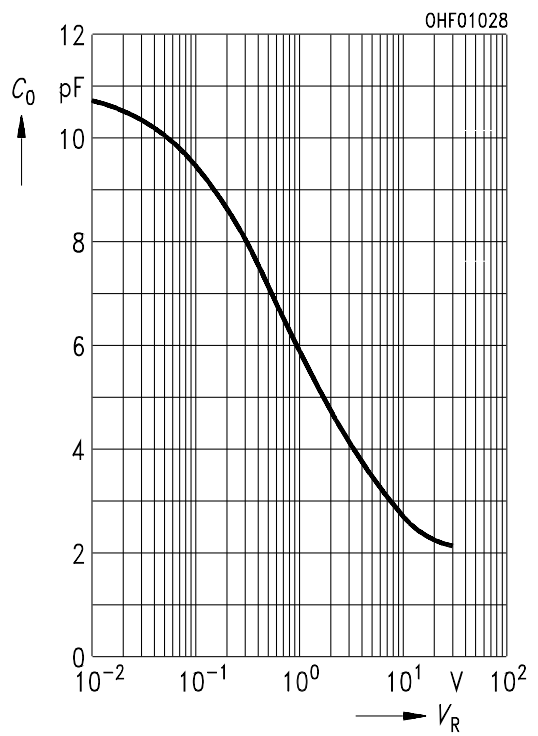
Relative Spectral Sensitivity $S_{rel} = f(\lambda)$



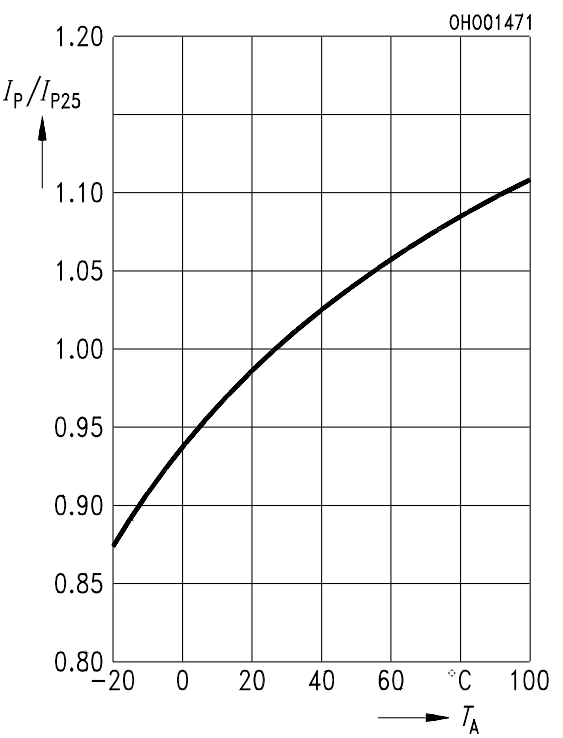
Dark Current $I_R = f(V_R)$, T_A = 25°C



Capacitance $C_0 = f(V_R), f$ = 1 MHz, E_V = 0

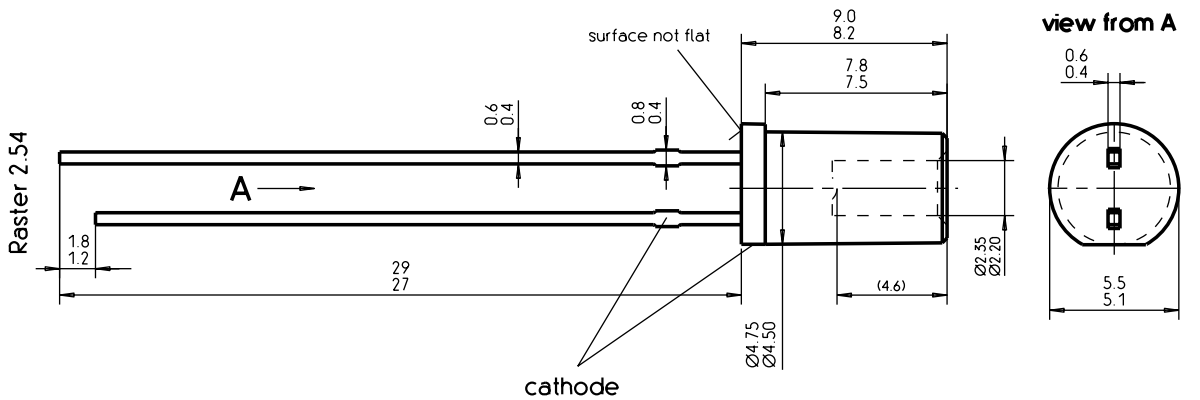


Photocurrent $I_P/I_{P25} = f(T_A)$, λ = 950 nm



Package Outlines

SFH250

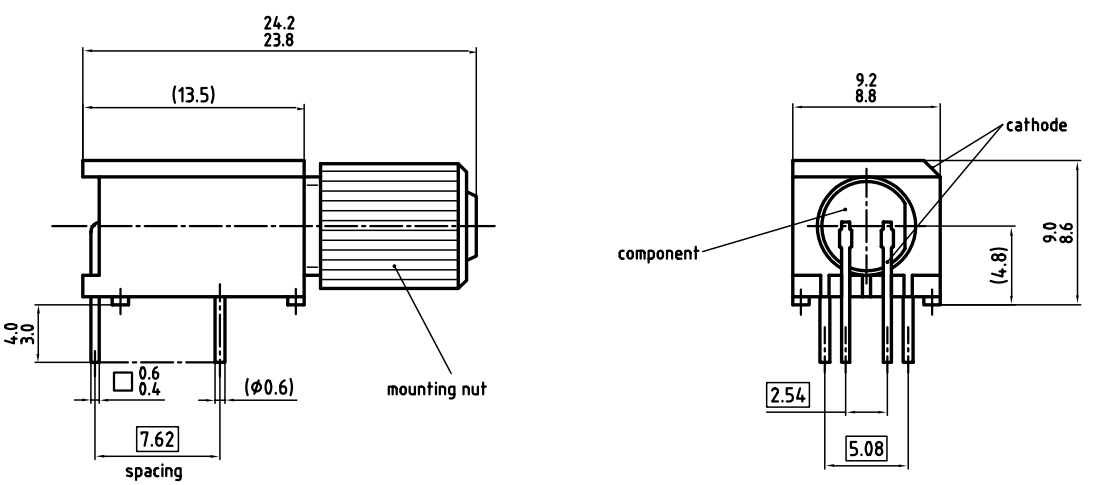


Dimensions in mm

File: 4201

Figure 1

SFH250V



Dimensions in mm

File: 4202

Figure 2

SFH250
SFH250V

Revision History:	**2004-03-19**	DS1
Previous Version:	2002-03-14	

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