

SFH250 Plastic Fiber Optic Photodiode Detector

SFH250V Plastic Connector Housing

Features

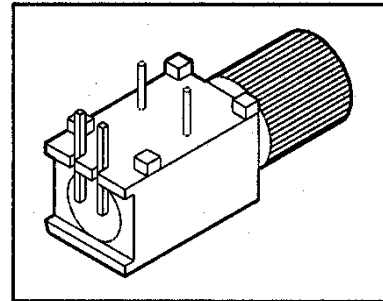
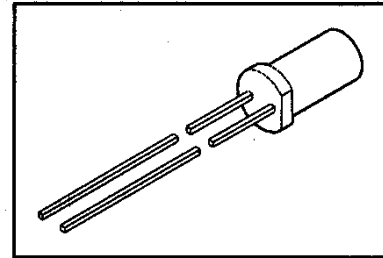
- 2.2 mm Aperture holds Standard 1000 Micron Plastic Fiber
- No Fiber Stripping Required
- Fast Switching Time
- Good Linearity
- Sensitive in visible and near IR Range
- Molded Microlens for Efficient Coupling

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
- Medical Instruments
- Automotive Electronics
- Light Barriers



Type	Ordering Code
SFH250	Q62702-P1012
SFH250V	Q62702-P0263

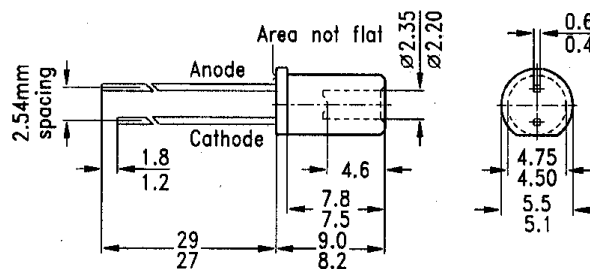
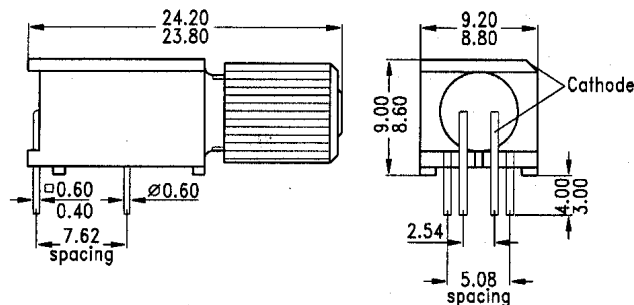
Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Operating Temperature Range	T_{OP}	-40 to +85	°C
Storage Temperature Range	T_{STG}	-55 to +100	°C
Junction Temperature	T_J	100	°C
Soldering Temperature (2 mm from case bottom $t \leq 5$ s)	T_S	260	°C
Maximum Temperature Cycling Without electrical operation Temperature Range -55 to +100°C	n_{cycl}	200	
Reverse Voltage	V_R	30	V
Power Dissipation	P_{TOT}	100	mW
Thermal Resistance, Junction/Air	R_{thJA}	750	K/W

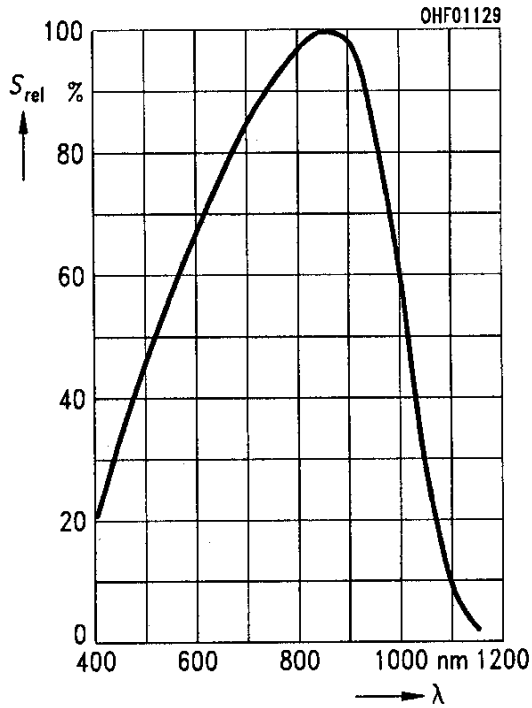
Characteristics ($T_A = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Maximum Photosensitivity Wavelength	$\lambda_{S\max}$	850	nm
Photosensitivity Spectral Range ($S=10\% S_{\max}$)	λ	400 to 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 ($R_L=50\ \Omega$, $V_R=30\text{ V}$, $\lambda=880\text{ nm}$)	t_R t_F	0.01 0.01	μs μs
Photo Current ($\Phi_{IN}=10\ \mu\text{W}$ coupled from the End of a Plastic fiber, $V_R=5\text{ V}$)	I_P I_P	3 (≥ 1.6) 4 (≥ 2.5)	μA μA
$\lambda=660\text{ nm}$ $\lambda=950\text{ nm}$			
Forward Voltage ($I_F=50\text{ mA}$)		2.1 (≤ 2.8)	V
Temperature Coefficient I_P $\lambda=560\text{ to }660\text{ nm}$	TC_I	-0.04	%/K
Temperature Coefficient I_P $\lambda=830\text{ nm}$	TC_I	0.04	%/K
Temperature Coefficient I_P $\lambda=950\text{ nm}$	TC_I	0.2	%/K

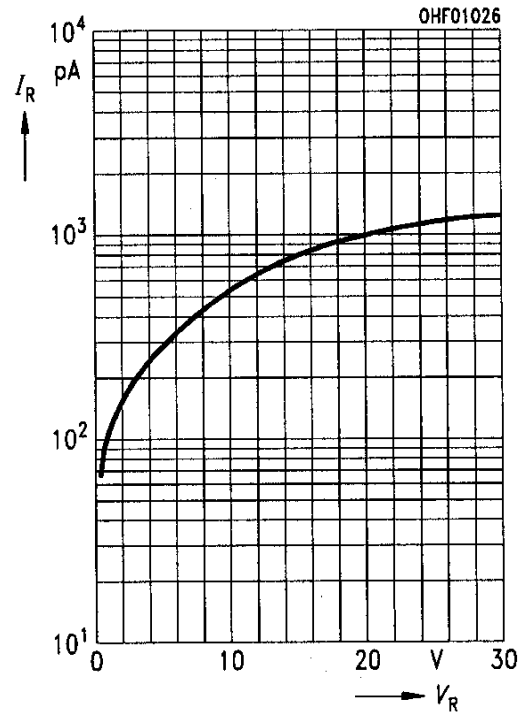
Package Outlines (dimensions in mm, unless otherwise specified)

SFH250

SFH250V


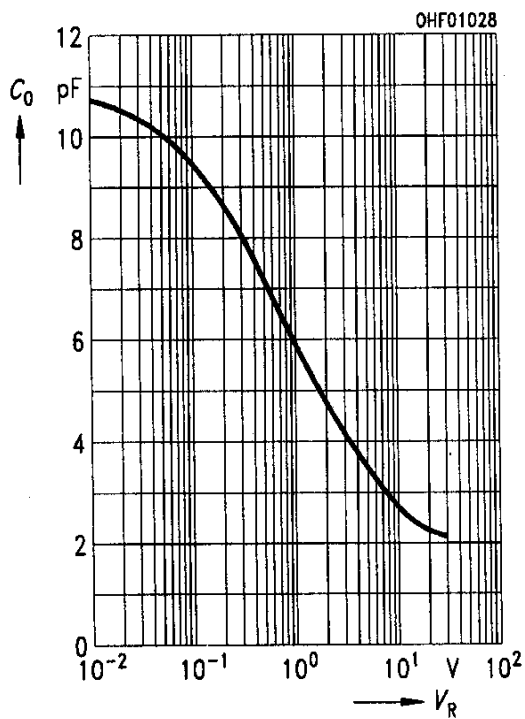
Relative spectral sensitivity $S_{rel} = f(\lambda)$



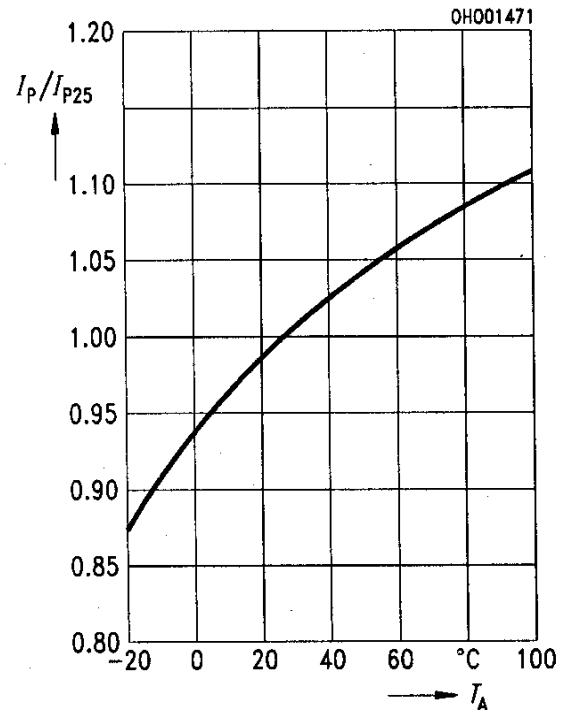
Dark current $I_R = f(V_R), T_A = 25^\circ\text{C}$



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



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



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