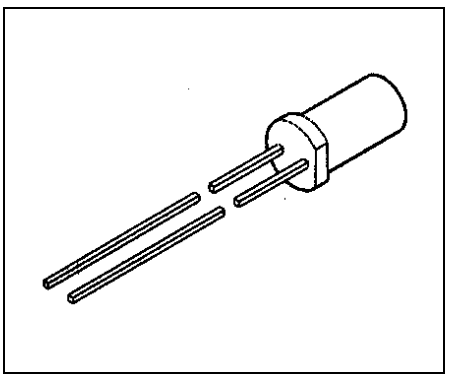
Plastic Fiber Optic Transmitter Diode — SFH450
Plastic Connector Housing — SFH450V

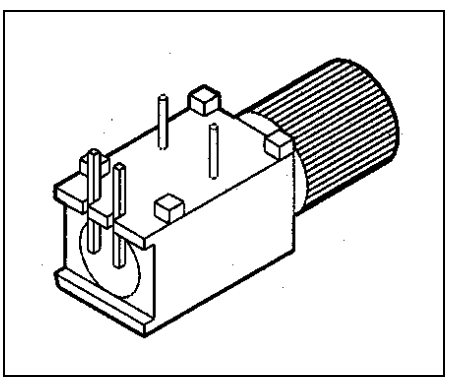
Features

- 2.2 mm Aperture holds Standard 1000 Micron Plastic Fiber
- No Fiber Stripping Required
- Good Linearity (Forward current > 2 mA)
- 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
SFH450	Q62702-P1034
SFH450V	Q62702-P0265

Technical Data

Absolute Maximum Ratings

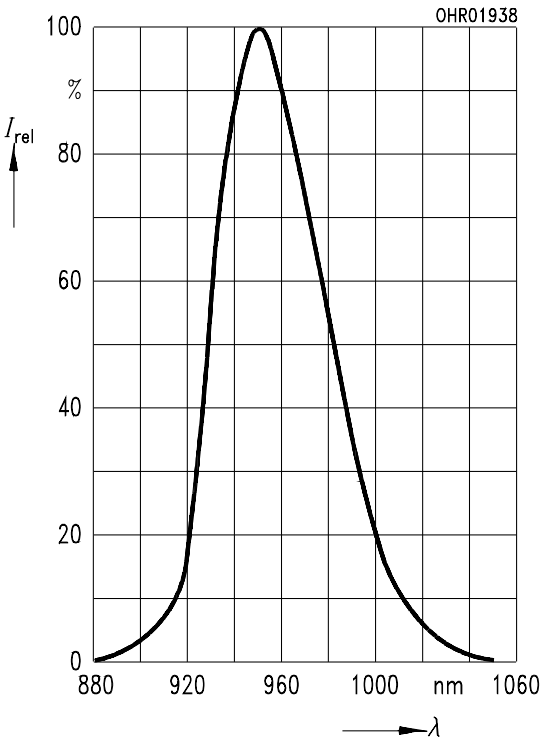
Parameter	Symbol	Limit Values		Unit
		min.	max.	
Operating Temperature Range	T_{OP}	–40	+85	°C
Storage Temperature Range	T_{STG}	–40	+100	°C
Junction Temperature	T_J		100	°C
Soldering Temperature (2 mm from case bottom, $t \leq 5$ s)	T_S		260	°C
Reverse Voltage	V_R		5	V
Forward Current	I_F		130	mA
Surge Current ($t \leq 10$ µs, $D = 0$)	I_{FSM}		3.5	A
Power Dissipation	P_{TOT}		200	mW
Thermal Resistance, Junction/Air	R_{thJA}		375	K/W

Characteristics (T_A = 25°C)

Parameter	Symbol	Value	Unit
Peak Wavelength	λ_{Peak}	950	nm
Spectral Bandwidth	$\Delta\lambda$	55	nm
Switching Times (R_G = 50 Ω, $I_{F(LOW)}$ = 0.1 mA, $I_{F(HIGH)}$ = 50 mA) 10% to 90% 90% to 10%	 t_R t_F	 1 1	µs
Capacitance (f = 1 MHz, V_R = 0 V)	C_O	40	pF
Forward Voltage (I_F = 10 mA)	V_F	1.3 (≤ 1.5)	V
Output Power Coupled into Plastic Fiber (I_F = 10 mA) [1)]	Φ_{IN}	90 (≥ 40)	µW
Temperature Coefficient Φ_{IN}	TC_Φ	–0.5	%/K
Temperature Coefficient V_F	TC_V	–1.5	mV/K
Temperature Coefficient λ_{Peak}	TC_λ	0.3	nm/K

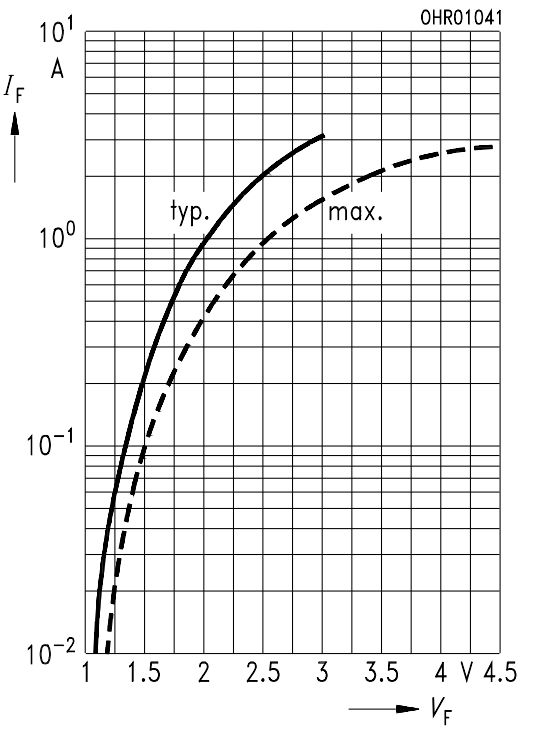
1) The output power coupled into plastic fiber is measured with a large area detector after a short fiber (about 30 cm). This value must not used for calculating the power budget for a fiber optic system with a long fiber because the numerical aperture of plastics fibers is decreasing on the first meters. Therefore the fiber seems to have compared with the specified value a higher attenuation on the first meters.

Relative Spectral Emission $I_{rel} = f(\lambda)$

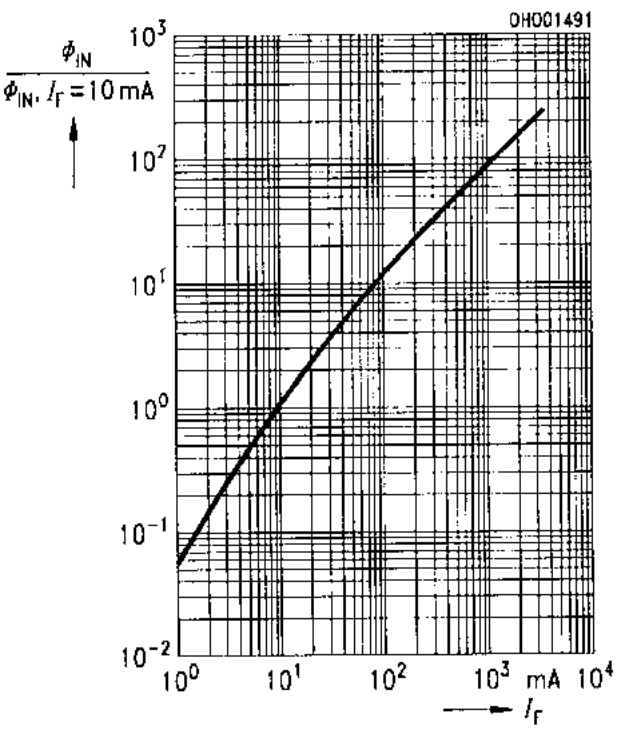


Forward Current $I_F = f(V_F)$

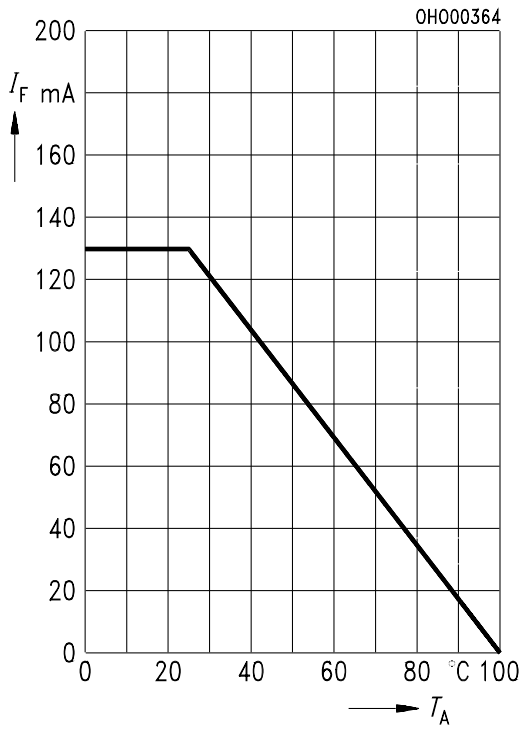
single pulse, duration = 20 µs



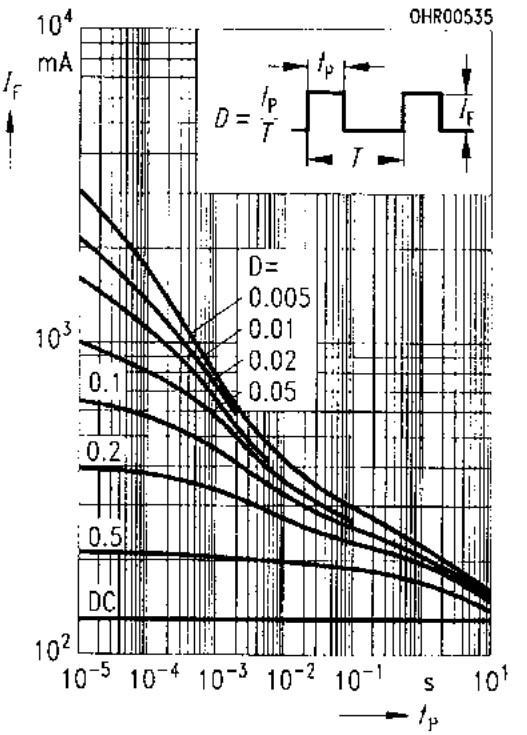
Relative Output Power $\Phi_{IN}/\Phi_{IN(10\,mA)} = f(I_F)$



Maximum Permissible Forward Current $I_F = f(T_A)$

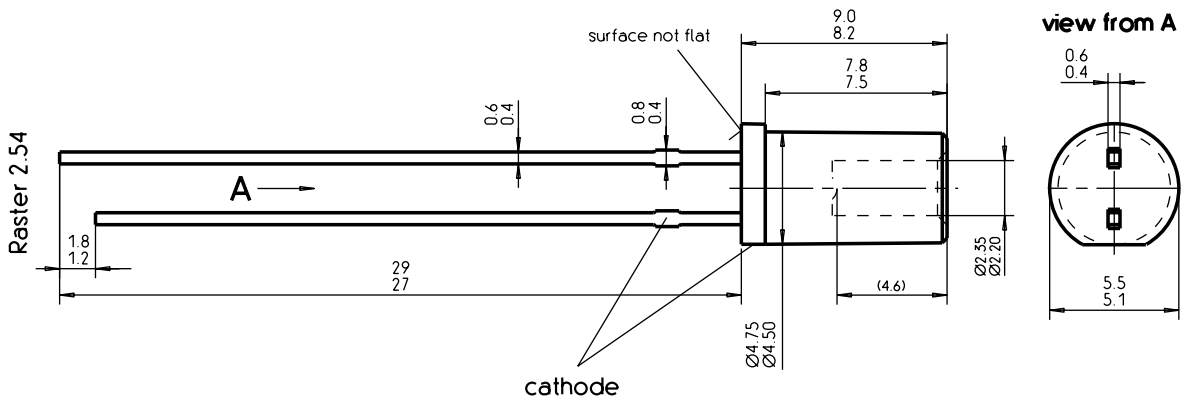


Permissible Pulse Load $I_F = f(t_P)$, duty cycle D = parameter, T_A = 25°C



Package Outlines

SFH450

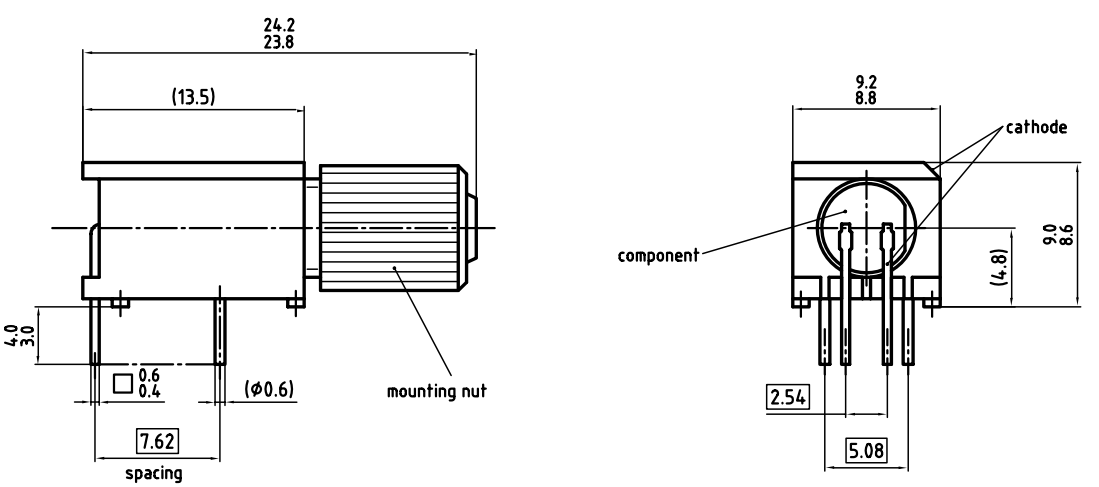


Dimensions in mm

File: 4205

Figure 1

SFH450V



Dimensions in mm

File: 4206

Figure 2

SFH450
SFH450V

Revision History:	**2004-03-19**	DS1
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