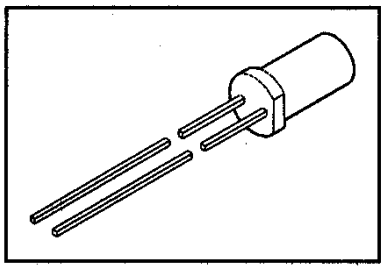
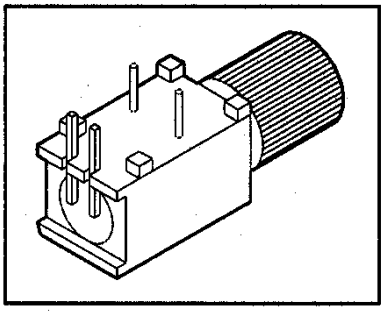
SFH450 Plastic Fiber Optic Transmitter Diode
SFH450V Plastic Connector Housing





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
- Medical Instruments
- Automotive Electronics
- Light Barriers

Type	Ordering Code
SFH450	Q62702-P1034
SFH450V	Q62702-P0265

Absolute Maximum Ratings

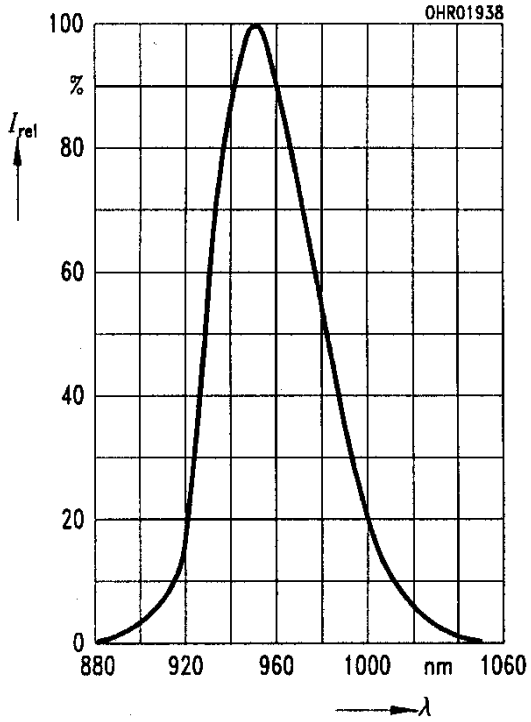
Parameter	Symbol	Value	Unit
Operating Temperature Range	T_{OP}	-40 to +85	°C
Storage Temperature Range	T_{STG}	-55 to +100	°C
Junction Temperature	T_J	100	°C
Soldering Temperature (2 mm from case bottom t≤5 s)	T_S	260	°C
Reverse Voltage	V_R	5	V
Forward Current	I_F	130	mA
Surge Current t≤10 µs, D=0	I_{FSM}	3.5	A
Power Dissipation	P_{TOT}	200	mW
Thermal Resistance, Junction/Air	R_{thJA}	375	K/W

Characteristics (T_A = 25°C)

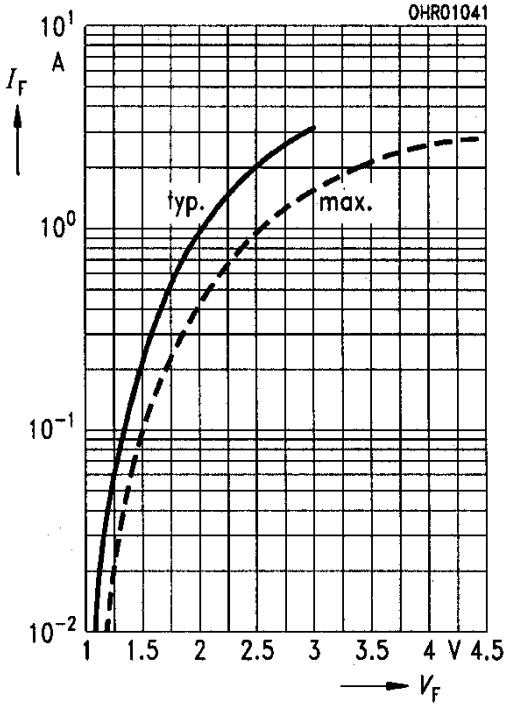
Parameter	Symbol	Value	Unit
Peak Wavelength	λ_{Peak}	950	nm
Spectral Bandwidth	$\Delta\lambda$	55	nm
Switching Times (R_G=50 Ω, $I_{F(LOW)}$=0.1 mA, $I_{F(HIGH)}$=50 mA) 10% to 90% 90% to 10%	 t_R t_F	 1 1	 µs µs
Capacitance (f=1 MHz, V_R=0 V)	C_O	40	pF
Forward Voltage (I_F=10 mA)	V_F	1.3 (≤ 1.5)	V
Output Power coupled into Plastic fiber (I_F=10 mA) see Note 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

Note 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.

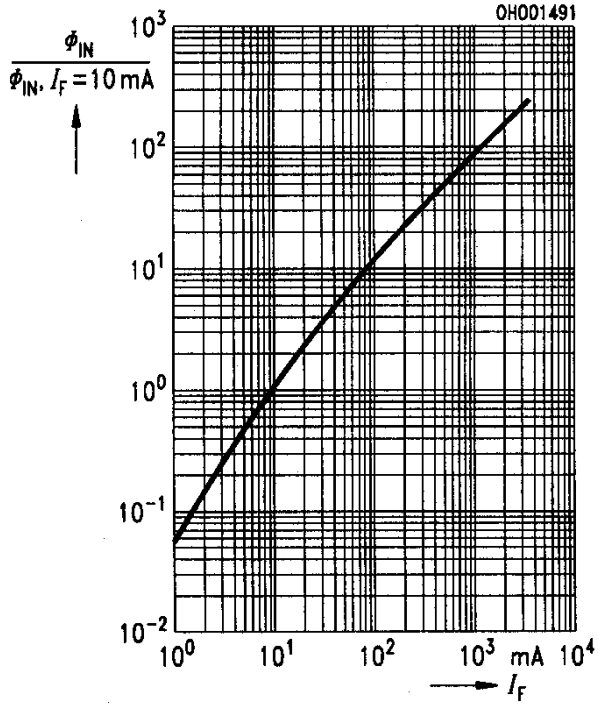
Relative spectral emission $I_{rel} = f(\lambda)$



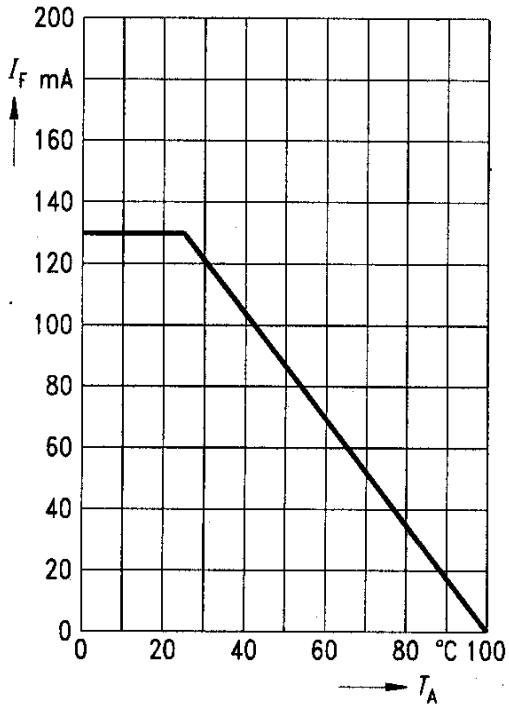
Forward current $I_F = f(V_F)$
single pulse, duration = 20 µs



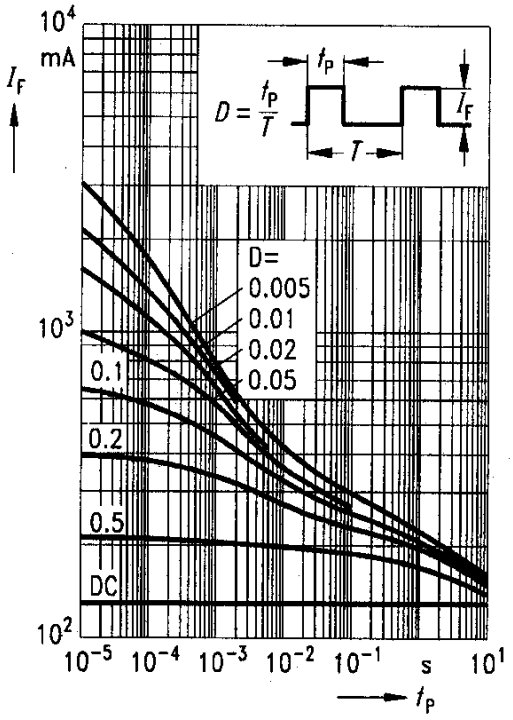
Relative output power $\Phi_{IN}/\Phi_{IN(10\ mA)} = f(I_F)$



Maximum permissible forward current
$I_F = f(T_A)$

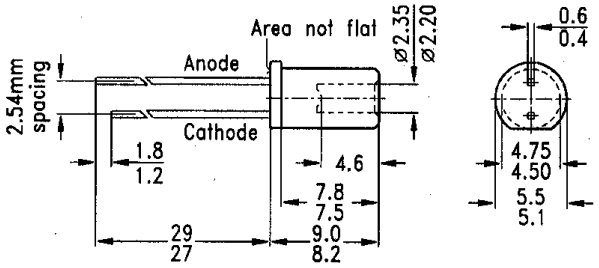


Permissible pulse load $I_F = f(t_p)$,
duty cycle D = parameter, T_A = 25 °C

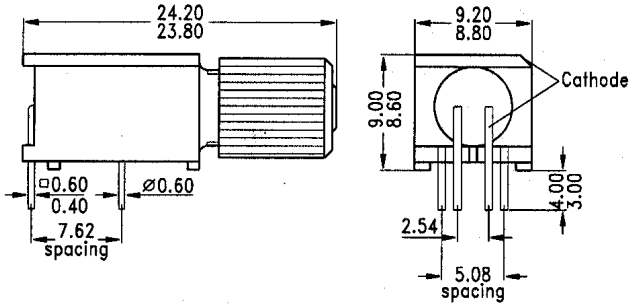


Package Outlines (dimensions in mm, unless otherwise specified)

SFH450



SFH450V



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