

**Plastic Fiber Optic Transmitter Diode
Plastic Connector Housing**

**SFH750
SFH750V**

Features

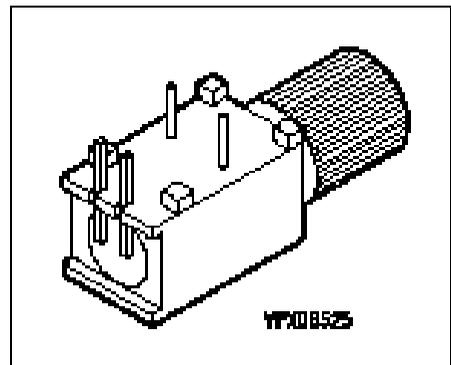
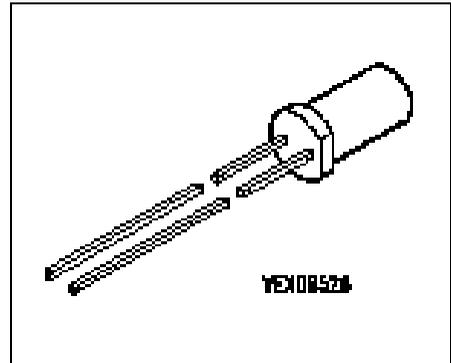
- 2.2 mm Aperture holds Standard 1000 Micron Plastic Fiber
- No Fiber Stripping Required
- Good Linearity (Forward current > 2 mA)
- Molded Microlens for Efficient Coupling

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
SFH750	Q62702-P1031
SFH750V	Q62702-P0266

Technical Data
Absolute Maximum Ratings

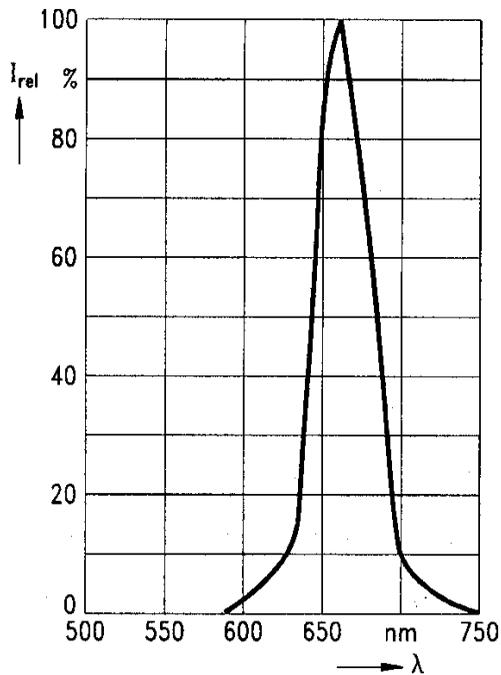
Parameter	Symbol	Limit Values		Unit
		min.	max.	
Operating Temperature Range	T_{OP}	-40	+85	°C
Storage Temperature Range	T_{STG}	-55	+100	
Junction Temperature	T_J		100	
Soldering Temperature (2 mm from case bottom, $t \leq 5$ s)	T_S		260	
Reverse Voltage	V_R		5	V
Forward Current	I_F		45	mA
Surge Current ($t \leq 10 \mu\text{s}$, $D = 0$)	I_{FSM}		1	A
Power Dissipation	P_{TOT}		150	mW
Thermal Resistance, Junction/Air	R_{thJA}		500	K/W

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

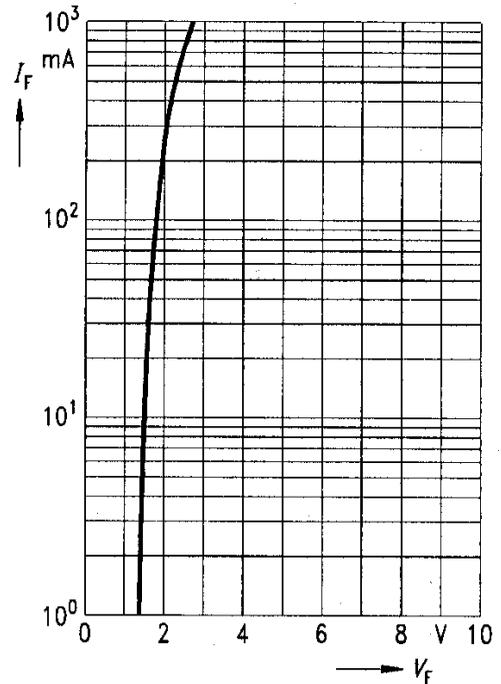
Parameter	Symbol	Value	Unit
Peak Wavelength	λ_{Peak}	660	nm
Spectral Bandwidth	$\Delta\lambda$	35	
Switching Times ($R_G = 50 \Omega$, $I_{F(\text{LOW})} = 0.1 \text{ mA}$, $I_{F(\text{HIGH})} = 50 \text{ mA}$) 10% to 90% 90% to 10%	t_R t_F	0.12 0.12	μs
Capacitance ($f = 1 \text{ MHz}$, $V_R = 0 \text{ V}$)	C_O	25	pF
Forward Voltage ($I_F = 10 \text{ mA}$)	V_F	1.6 (≤ 2.0)	V
Output Power Coupled into Plastic Fiber ($I_F = 10 \text{ mA}$) ¹⁾	Φ_{IN}	20 (≥ 6.3)	μW
Temperature Coefficient Φ_{IN}	TC_Φ	-0.8	%/K
Temperature Coefficient V_F	TC_V	-1.5	mV/K
Temperature Coefficient λ_{Peak}	TC_λ	0.17	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 be used for calculating the power budget for a fiber optic system with a long fiber because the numerical aperture of plastic 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 $I_{rel} = f(\lambda)$

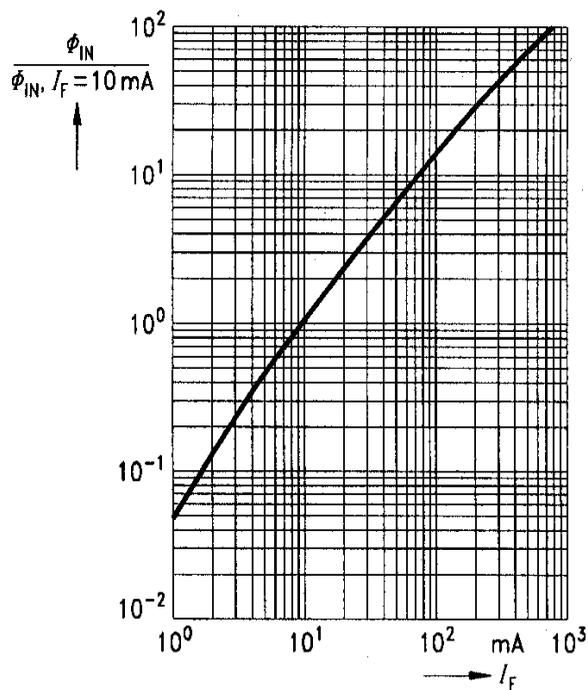


Forward current $I_F = f(V_F)$,
single pulse, duration = 20 μ s

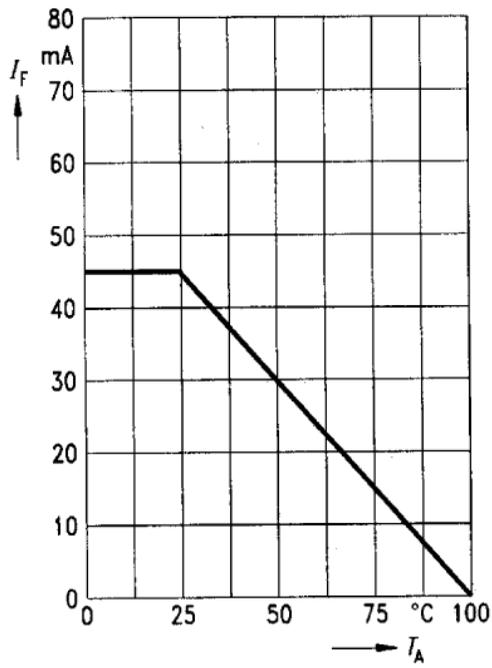


Relative optical output power

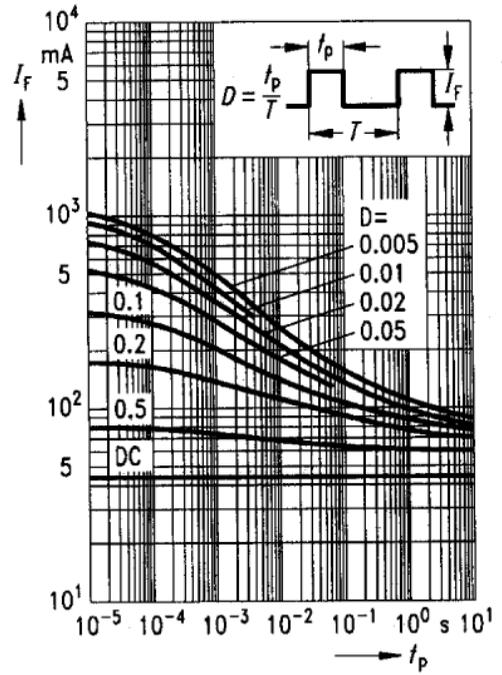
$$\frac{\Phi_{IN}}{\Phi_{IN}(10 \text{ mA})} = f(I_F)$$



$I_F = f(T_A)$



duty cycle $D =$ parameter, $T_A = 25\text{ °C}$



Package Outlines

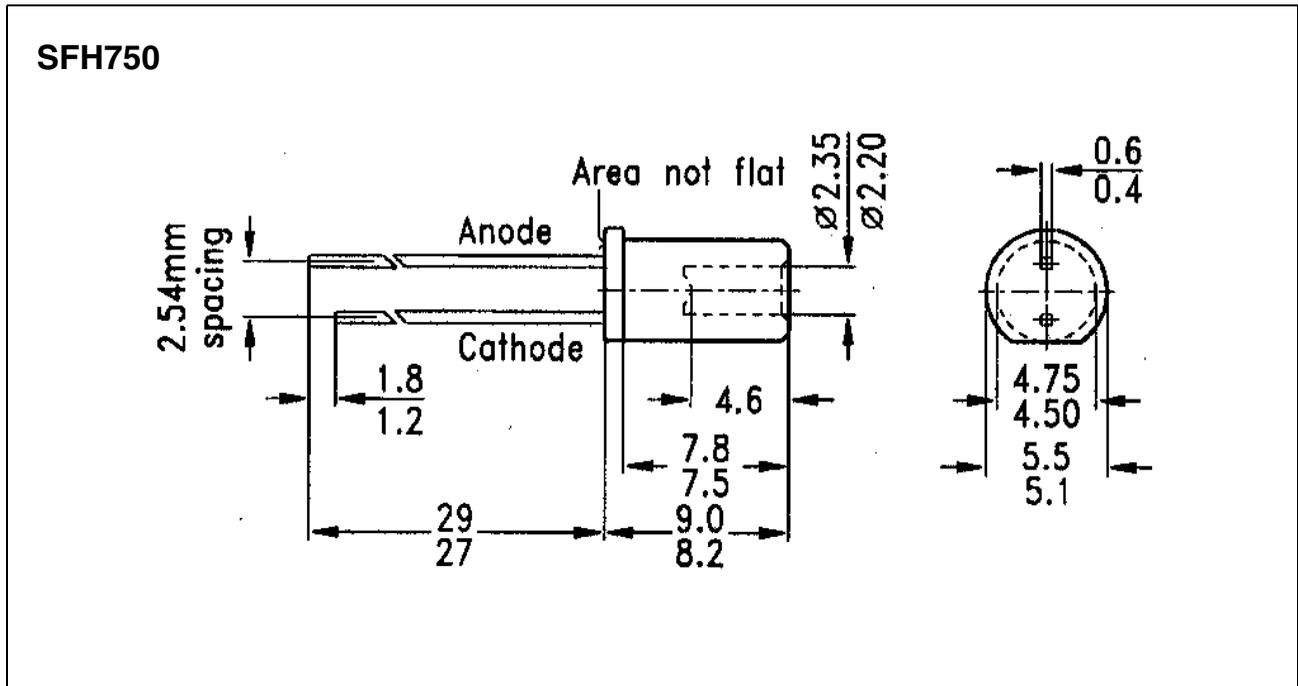


Figure 1

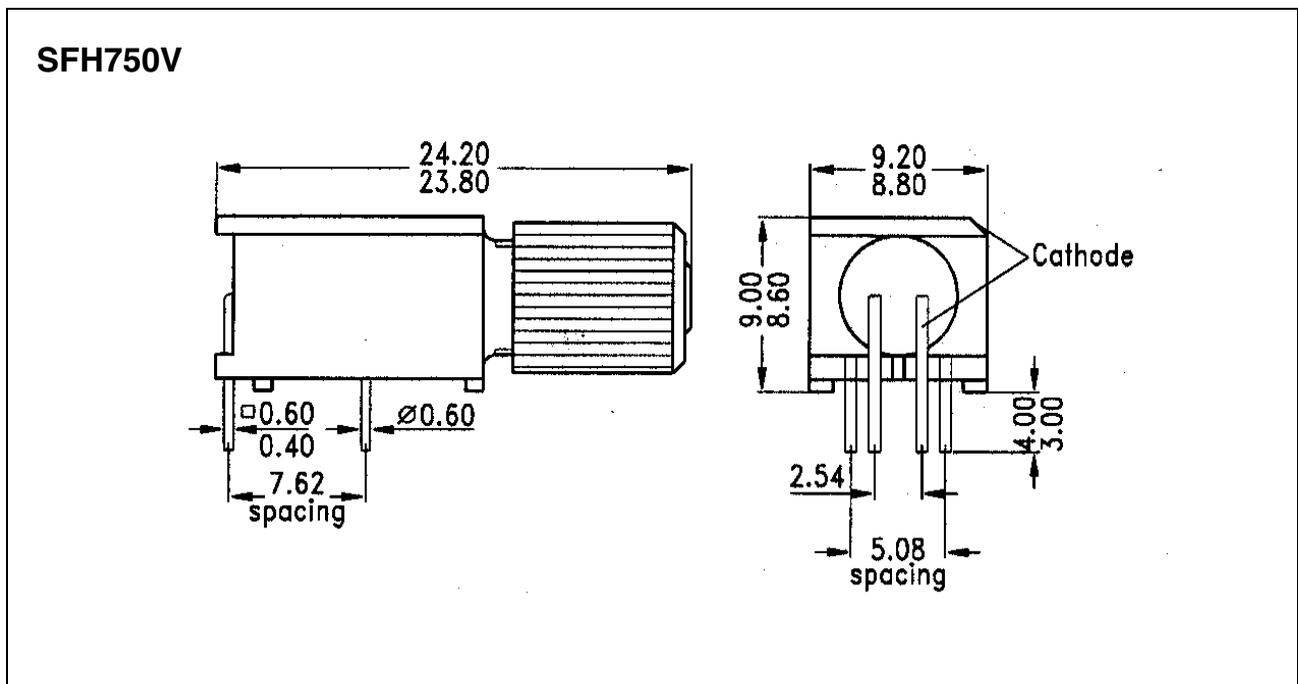


Figure 2

(dimensions in mm, unless otherwise specified)

SFH750

SFH750V

Revision History: 2002-04-24

DS0

Previous Version:

Page	Subjects (major changes since last revision)
	Document's layout has been changed: 2002-Aug.

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Edition 2002-04-24

**Published by Infineon Technologies AG,
St.-Martin-Strasse 53,
D-81541 München, Germany**

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