

## Plastic Fiber Optic Transmitter Diode Plastic Connector Housing

**SFH750**  
**SFH750V**

### Features

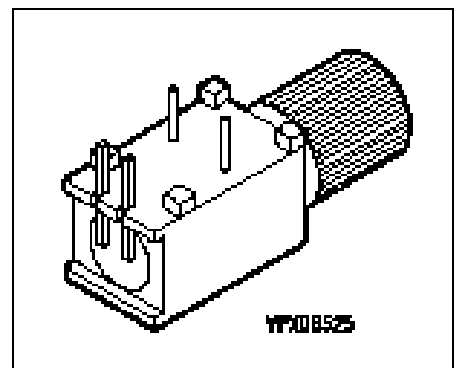
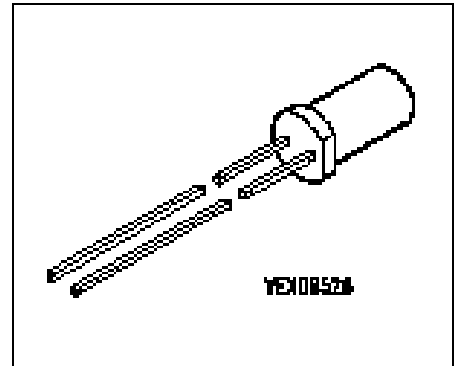
- 2.2 mm Aperture holds Standard 1000 Micron Plastic Fiber
- No Fiber Stripping Required
- Good Linearity (Forward current > 2 mA)
- Molded Microlens for Efficient Coupling

### 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**

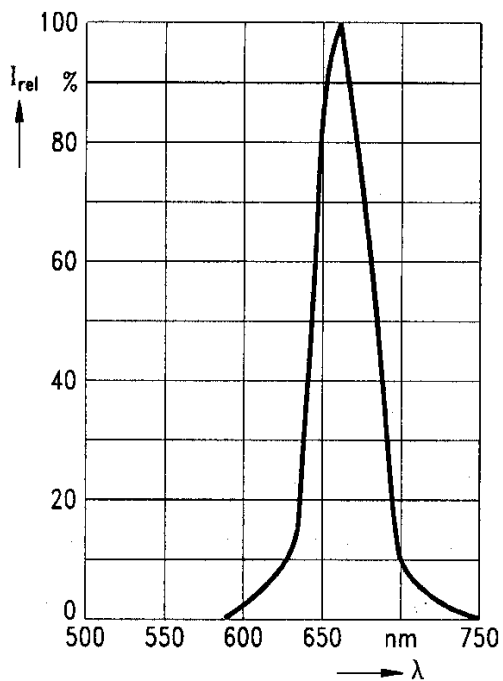
Parameter	Symbol	Limit Values		Unit
		min.	max.	
Operating Temperature Range	$T_{OP}$	-40	+85	°C
Storage Temperature Range	$T_{STG}$	-55	+100	
Junction Temperature	$T_J$		100	
Soldering Temperature (2 mm from case bottom, $t \leq 5$ s)	$T_S$		260	
Reverse Voltage	$V_R$		5	V
Forward Current	$I_F$		45	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** ( $T_A = 25^\circ\text{C}$ )

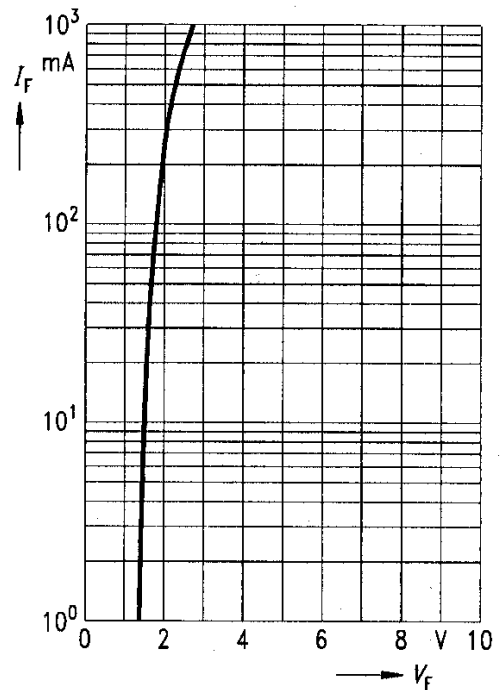
Parameter	Symbol	Value	Unit
Peak Wavelength	$\lambda_{\text{Peak}}$	660	nm
Spectral Bandwidth	$\Delta\lambda$	35	
Switching Times ( $R_G = 50\ \Omega$ , $I_{F(\text{LOW})} = 0.1\ \text{mA}$ , $I_{F(\text{HIGH})} = 50\ \text{mA}$ ) 10% to 90% 90% to 10%	$t_R$ $t_F$	0.12 0.12	$\mu\text{s}$
Capacitance ( $f = 1\ \text{MHz}$ , $V_R = 0\ \text{V}$ )	$C_O$	25	pF
Forward Voltage ( $I_F = 10\ \text{mA}$ )	$V_F$	1.6 ( $\leq 2.0$ )	V
Output Power Coupled into Plastic Fiber ( $I_F = 10\ \text{mA}$ ) <sup>1)</sup>	$\Phi_{\text{IN}}$	20 ( $\geq 6.3$ )	$\mu\text{W}$
Temperature Coefficient $\Phi_{\text{IN}}$	$TC_\Phi$	-0.8	%/K
Temperature Coefficient $V_F$	$TC_V$	-1.5	mV/K
Temperature Coefficient $\lambda_{\text{Peak}}$	$TC_\lambda$	0.17	nm/K

<sup>1)</sup> 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  $I_{\text{rel}} = f(\lambda)$**

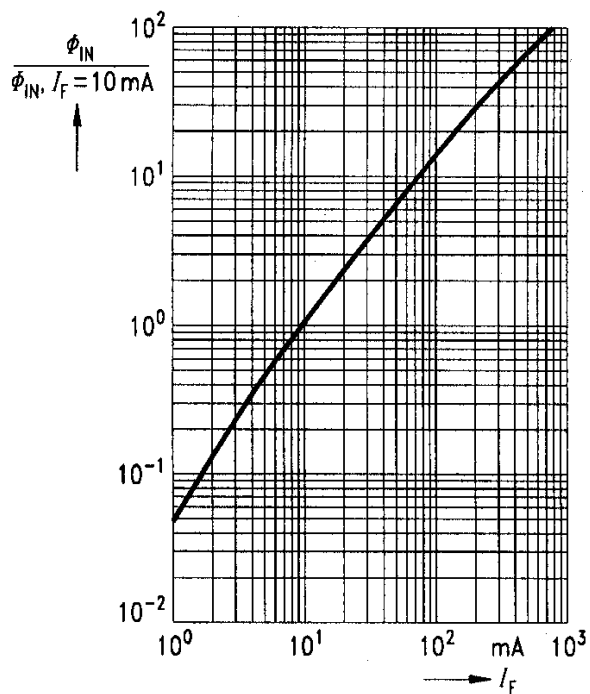


**Forward current  $I_F = f(V_F)$ ,  
single pulse, duration = 20  $\mu\text{s}$**

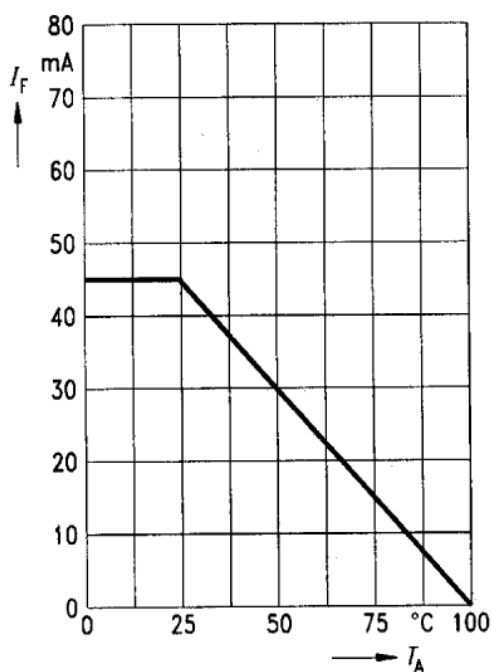


**Relative optical output power**

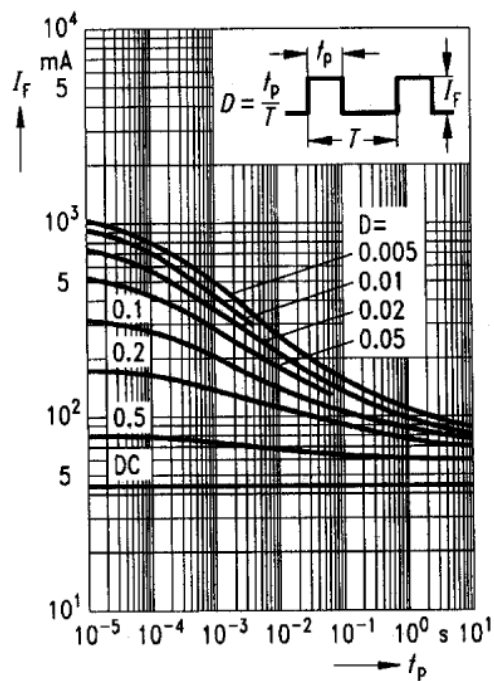
$$\Phi_{\text{IN}}/\Phi_{\text{IN}}(10 \text{ mA}) = f(I_F)$$



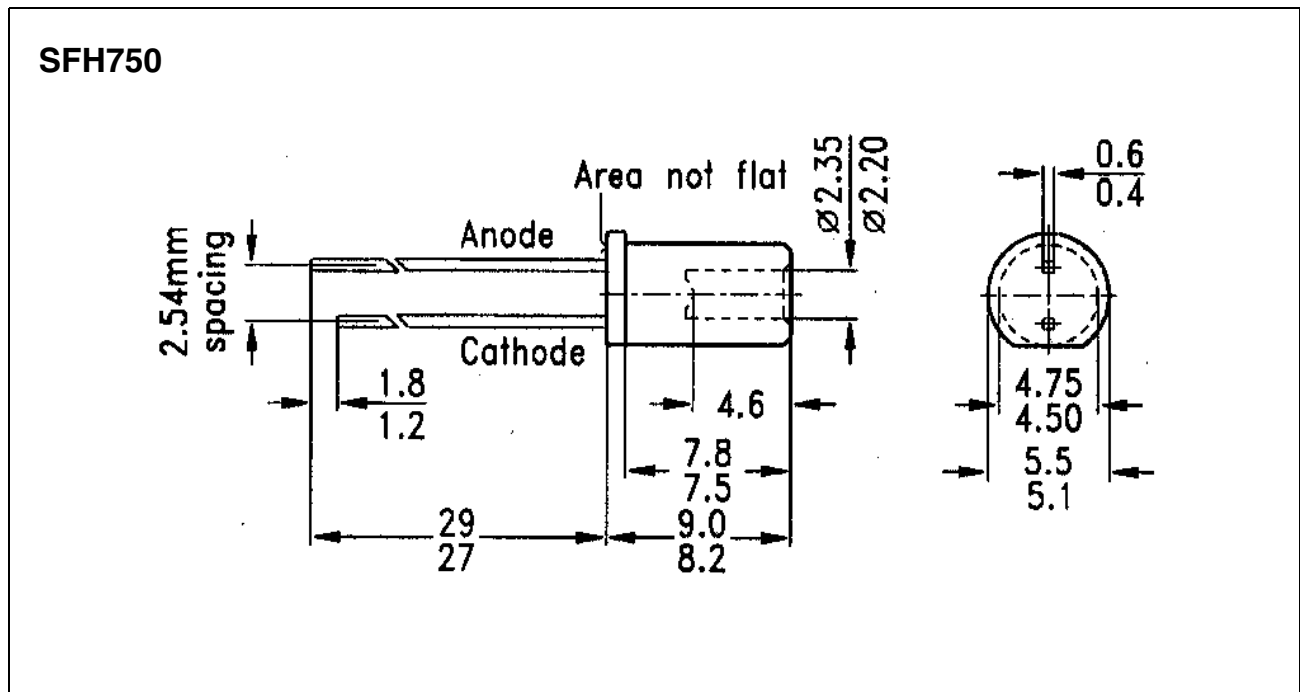
$$I_F = f(T_A)$$



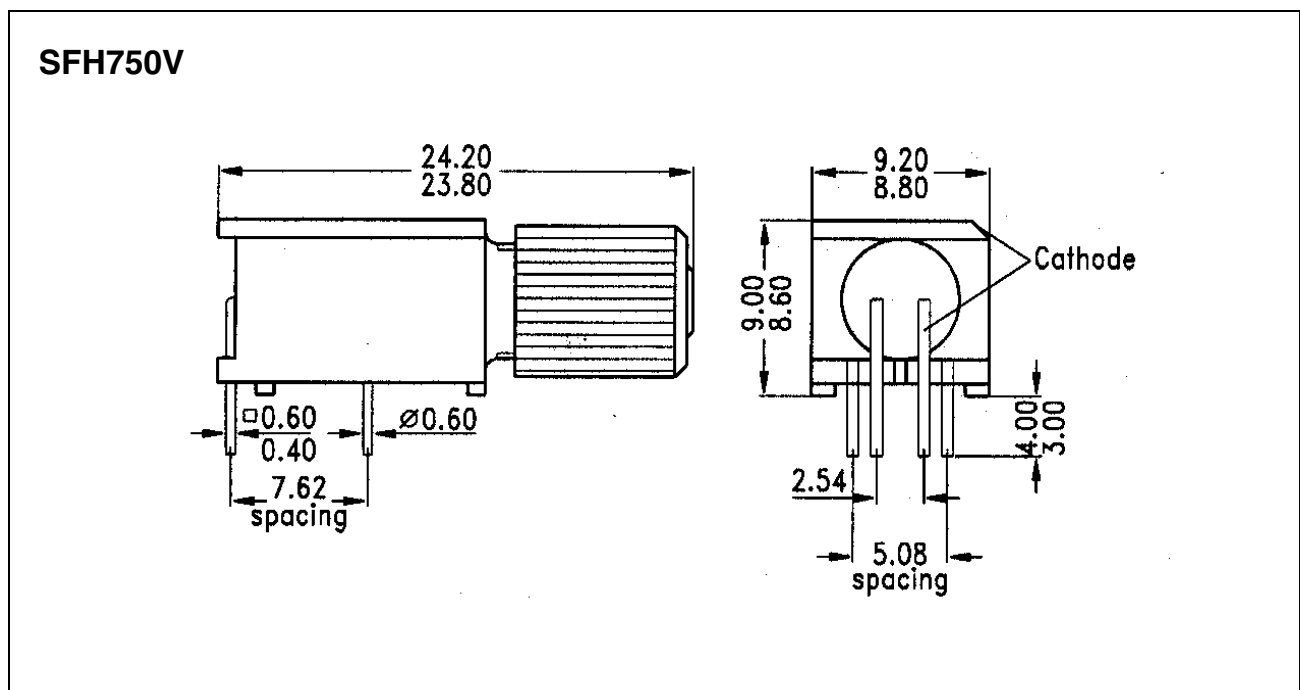
duty cycle  $D =$  parameter,  $T_A = 25^\circ\text{C}$



**Package Outlines**



**Figure 1**



**Figure 2**

(dimensions in mm, unless otherwise specified)

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**SFH750****SFH750V****Revision History: 2002-04-24****DS0**

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Previous Version:

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

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