

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

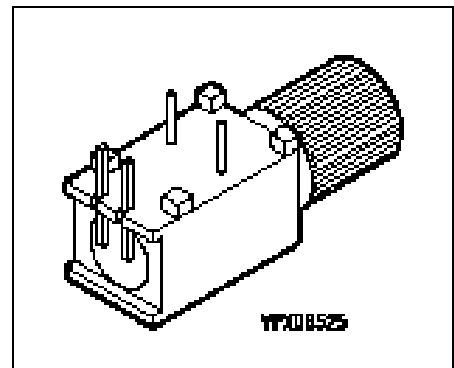
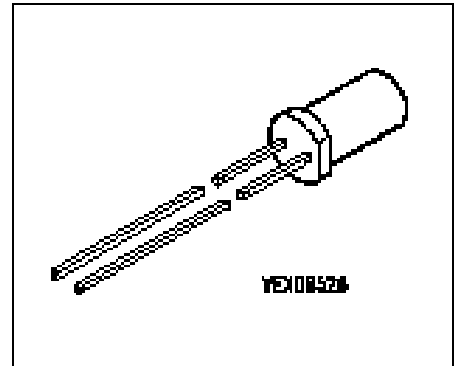
**SFH757  
SFH757V**

**Features**

- High speed transmitter for about 50 Mbit/s up to 100 Mbit/s (with peaking circuit)
- 2.2 mm aperture holds standard 1000 micron plastic fiber
- No fiber stripping required
- 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
SFH757	Q62702-P3526
SFH757V	Q62702-P3527

**Technical Data**
**Absolute Maximum Ratings**

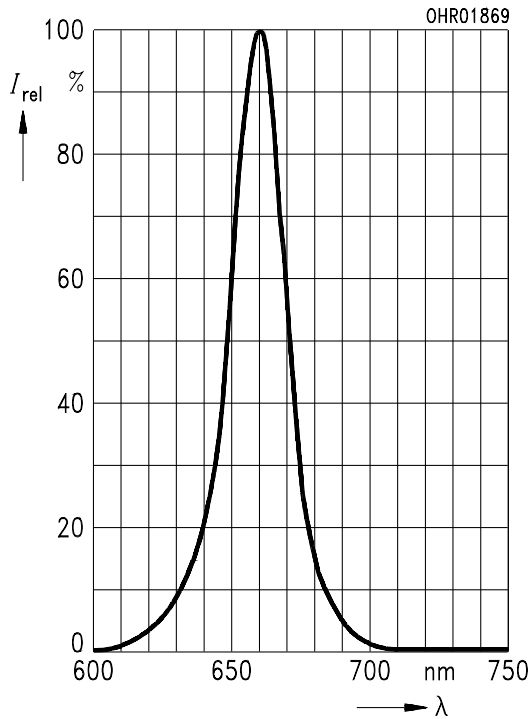
Parameter	Symbol	Limit Values		Unit
		min.	max.	
Operating Temperature Range	$T_{OP}$	-40	+80	°C
Storage Temperature Range	$T_{STG}$	-40	+100	°C
Junction Temperature	$T_J$		100	°C
Soldering Temperature (2 mm from case bottom, $t \leq 5$ s)	$T_S$		260	°C
Reverse Voltage	$V_R$		3	V
Forward Current	$I_F$		50	mA
Surge Current ( $t \leq 10 \mu\text{s}$ , $D = 0$ )	$I_{FSM}$		1	A
Power Dissipation	$P_{tot}$		120	mW
Thermal Resistance, Junction/Air	$R_{thJA}$		450	K/W

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

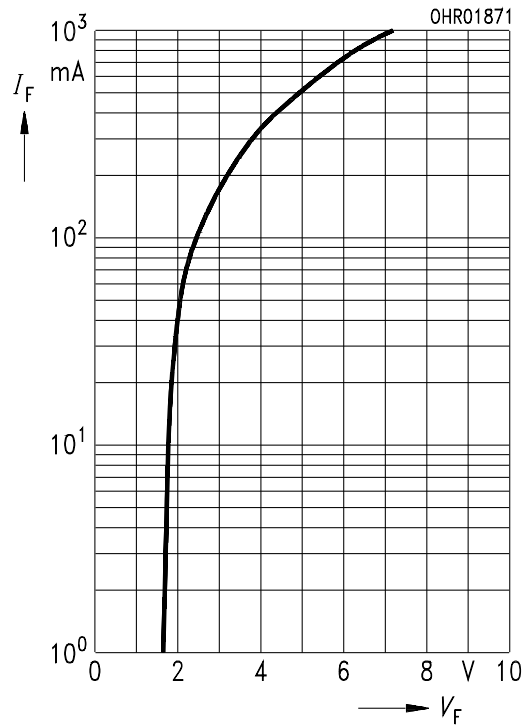
Parameter	Symbol	Value	Unit
Peak Wavelength	$\lambda_{\text{Peak}}$	650	nm
Spectral Bandwidth	$\Delta\lambda$	25	nm
Switching Times ( $R_L = 50 \Omega$ , $I_F = 50 \text{ mA}$ ) 10% ...90% 90% ... 10%	$t_R$ $t_F$	15 (< 17) 18 (< 20)	ns
Capacitance ( $f = 1 \text{ MHz}$ , $V_R = 0 \text{ V}$ )	$C_O$	30	pF
Forward Voltage ( $I_F = 50 \text{ mA}$ )	$V_F$	2.1 ( $\leq 2.8$ )	V
Output Power Coupled into Plastic Fiber ( $I_F = 10 \text{ mA}$ ) <sup>1)</sup>	$\Phi_{\text{IN}}$	150 ( $\geq 100$ )	$\mu\text{W}$
Temperature Coefficient $\Phi_{\text{IN}}$	$TC_\Phi$	-0.4	%/K
Temperature Coefficient $V_F$	$TC_V$	-3	mV/K
Temperature Coefficient $\lambda_{\text{Peak}}$	$TC_\lambda$	0.16	nm/K

<sup>1)</sup> The output power coupled into plastic fiber is measured with a large area detector at the end of a short length of 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 decreases on the first meters. Therefore the fiber seems to have a higher attenuation over the first few meters compared with the specified value.

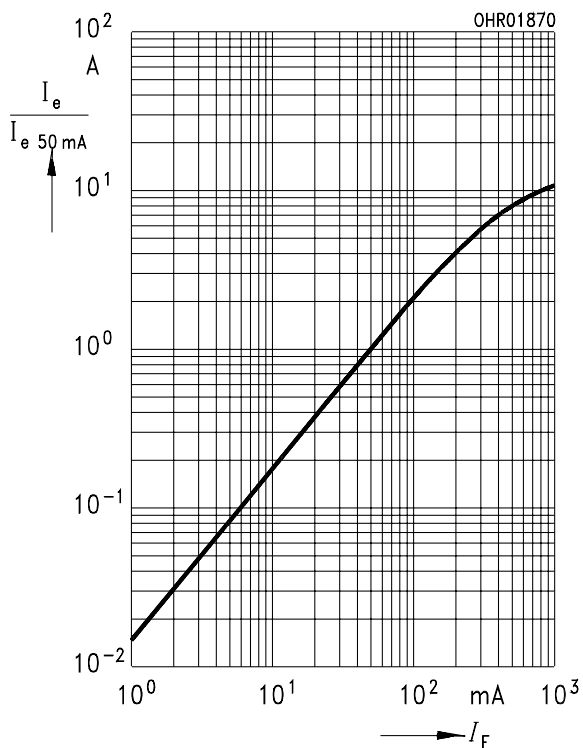
**Relative Spectral Emission  $I_{rel} = f(\lambda)$**



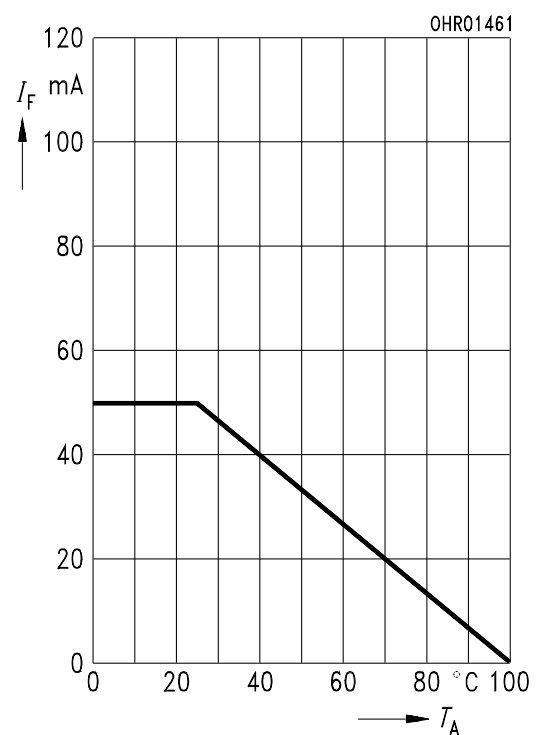
**Forward Current  $I_F = f(V_F)$**   
single pulse, duration = 20  $\mu$ s



**Relative Output Power  $I_e/I_{e(50\text{ mA})} = f(I_F)$**   
single pulse, duration = 20  $\mu$ s

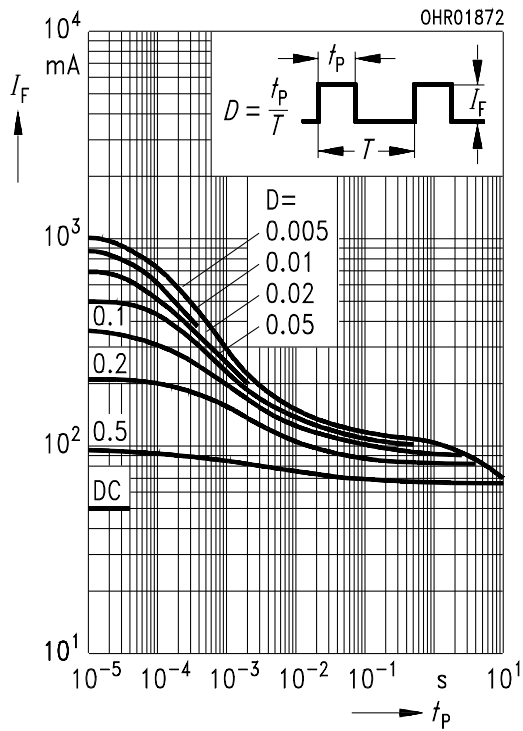


**Maximum Permissible Forward Current  $I_F = f(T_A), R_{thJA} = 450\text{ K/W}$**



**Permissible Pulse Handling Capability**

$I_F = f(t_p)$ , duty cycle  $D =$  parameter,  
 $T_A = 25^\circ\text{C}$



Package Outlines

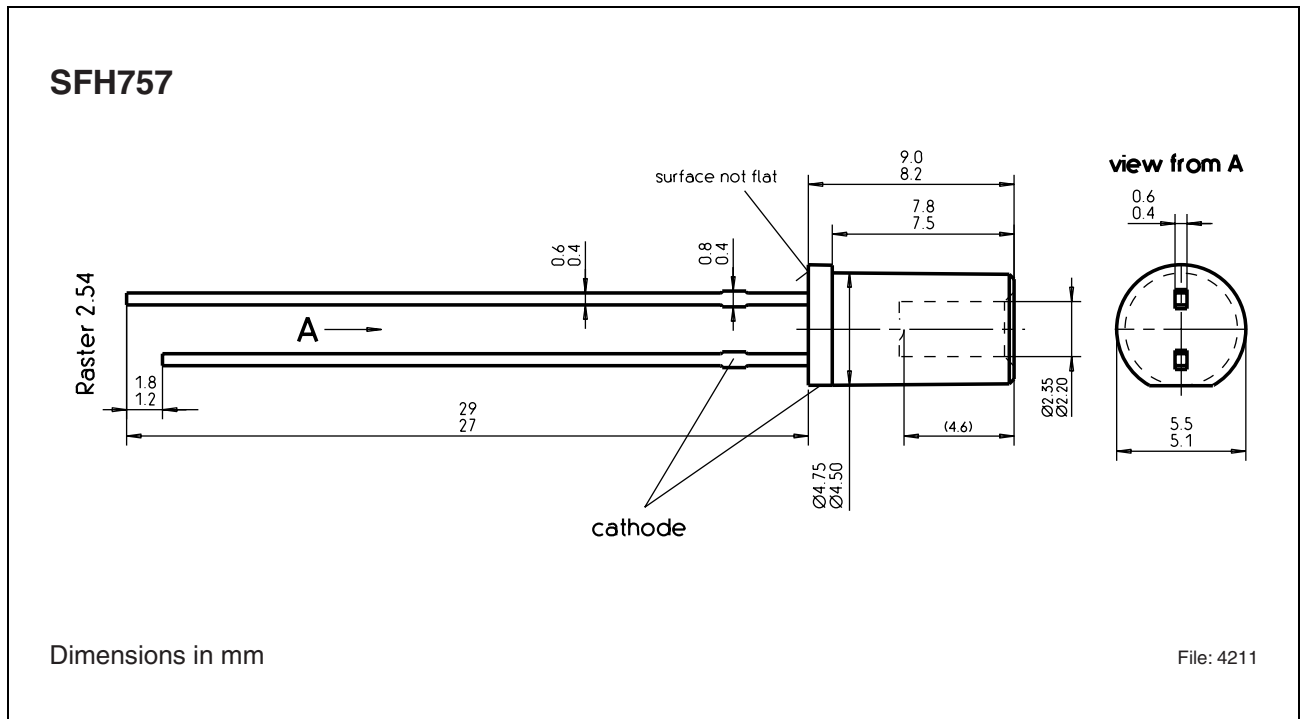


Figure 1

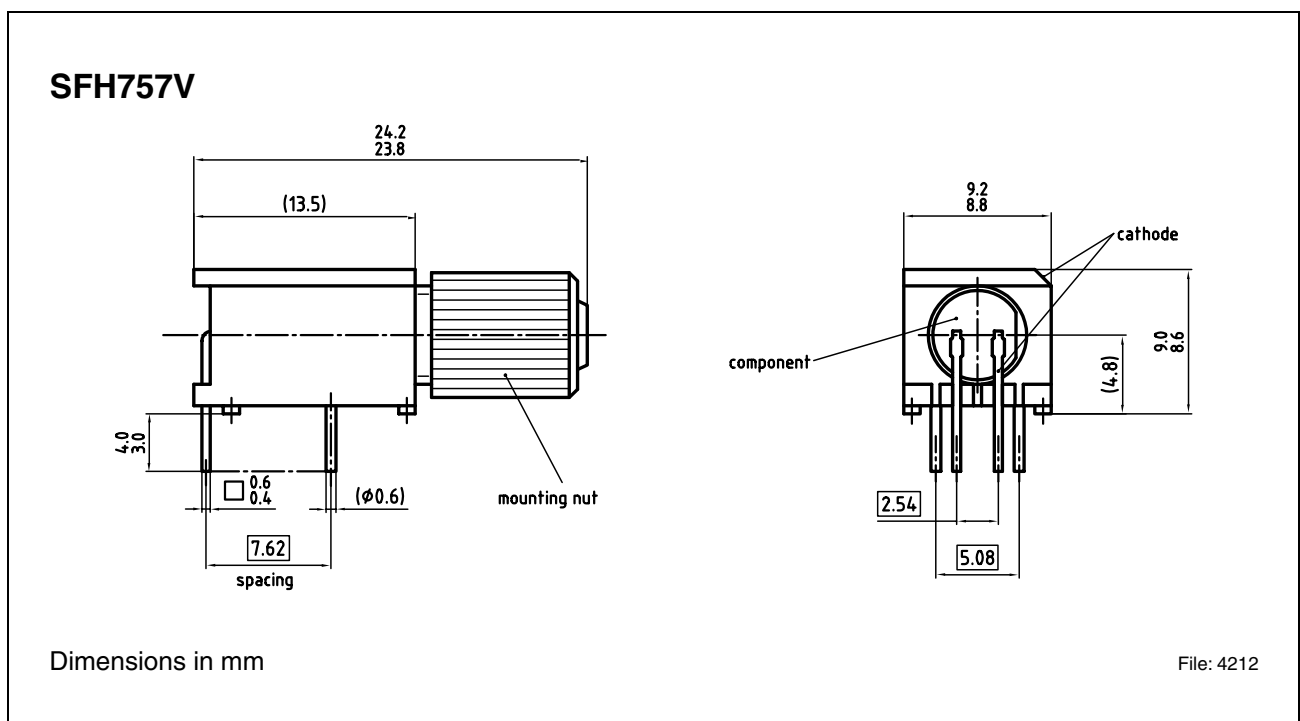


Figure 2

---

**SFH757**  
**SFH757V**

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

DS1

---

Previous Version:           2002-03-14

---

**Edition 2004-03-19**

**Published by Infineon Technologies AG,  
St.-Martin-Strasse 53,  
81669 München, Germany**

**© Infineon Technologies AG 2004.  
All Rights Reserved.**

**Attention please!**

The information herein is given to describe certain components and shall not be considered as a guarantee of characteristics.

Terms of delivery and rights to technical change reserved.

We hereby disclaim any and all warranties, including but not limited to warranties of non-infringement, regarding circuits, descriptions and charts stated herein.

**Information**

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office ([www.infineon.com](http://www.infineon.com)).

**Warnings**

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office.

Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.