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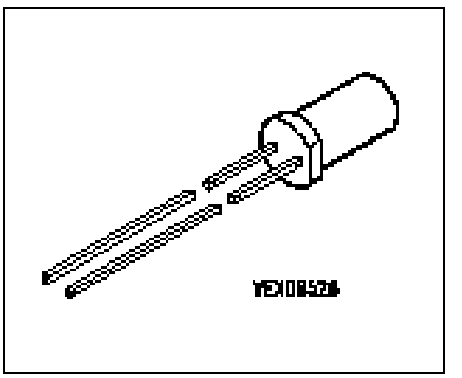
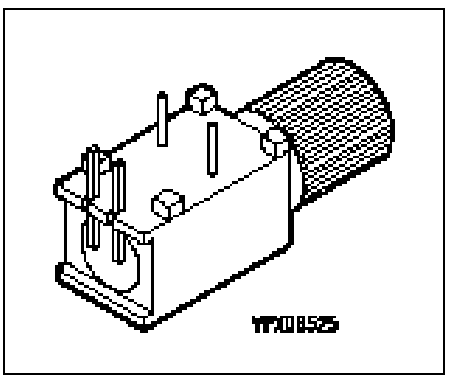
Plastic Fiber Optic Transmitter Diode — SFH757
Plastic Connector Housing — SFH757V





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

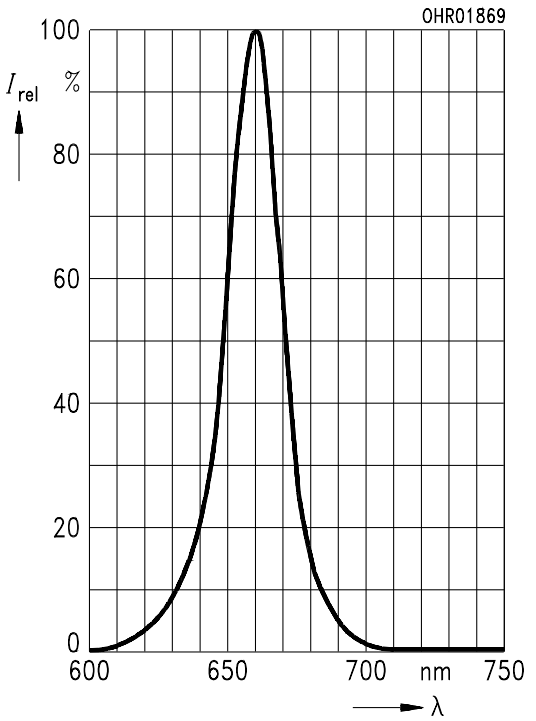
Parameter	Symbol	Limit Values		Unit
		min.	max.	
Operating Temperature Range	T_{OP}	–40	+80	°C
Storage Temperature Range	T_{STG}	–40	+100	°C
Junction Temperature	T_J		100	°C
Soldering Temperature (2 mm from case bottom, $t \leq 5$ s)	T_S		260	°C
Reverse Voltage	V_R		3	V
Forward Current	I_F		50	mA
Surge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

Characteristics (T_A = 25°C)

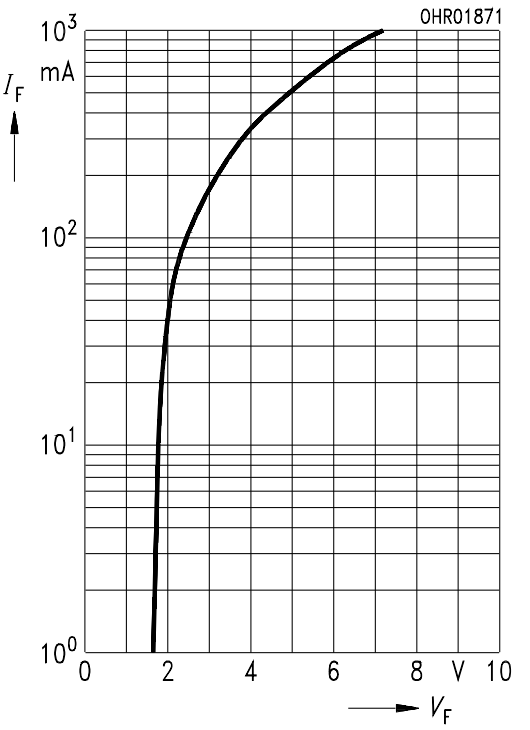
Parameter	Symbol	Value	Unit
Peak Wavelength	λ_{Peak}	650	nm
Spectral Bandwidth	$\Delta\lambda$	25	nm
Switching Times (R_L = 50 Ω, I_F = 50 mA) 10% …90% 90% … 10%	 t_R t_F	 15 (< 17) 18 (< 20)	ns
Capacitance (f = 1 MHz, V_R = 0 V)	C_O	30	pF
Forward Voltage (I_F = 50 mA)	V_F	2.1 (≤ 2.8)	V
Output Power Coupled into Plastic Fiber (I_F = 10 mA)[1)]	Φ_{IN}	150 (≥ 100)	µW
Temperature Coefficient Φ_{IN}	TC_Φ	–0.4	%/K
Temperature Coefficient V_F	TC_V	–3	mV/K
Temperature Coefficient λ_{Peak}	TC_λ	0.16	nm/K

[1)] 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.

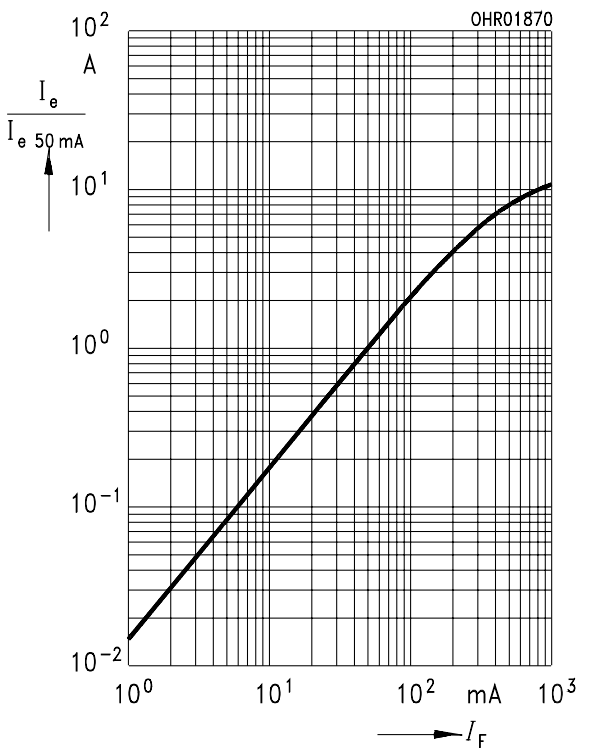
Relative Spectral Emission $I_{rel} = f(\lambda)$



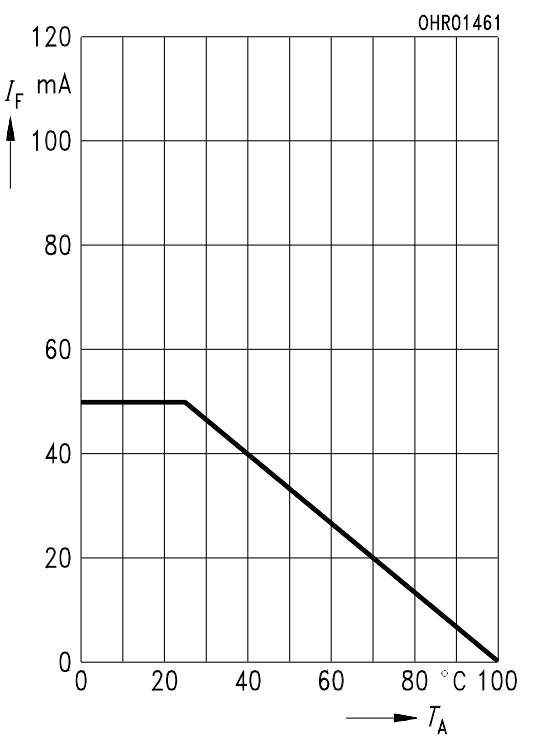
Forward Current $I_F = f(V_F)$
single pulse, duration = 20 µs



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

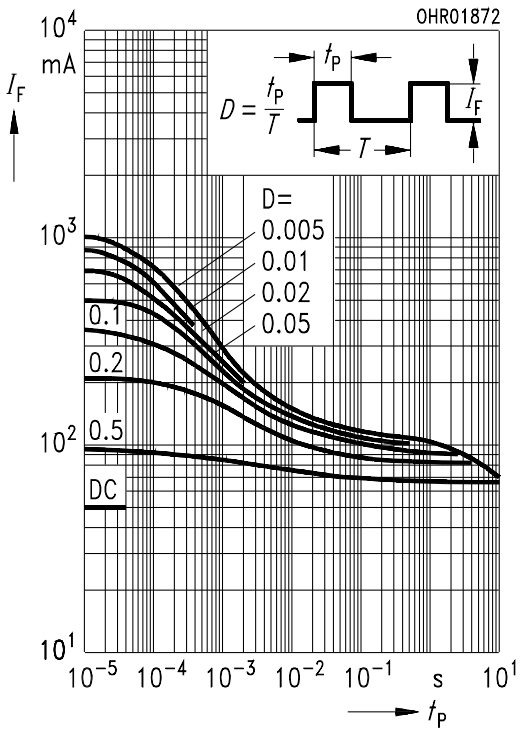


Maximum Permissible Forward Current
$I_F = f(T_A)$, R_{thJA} = 450 K/W



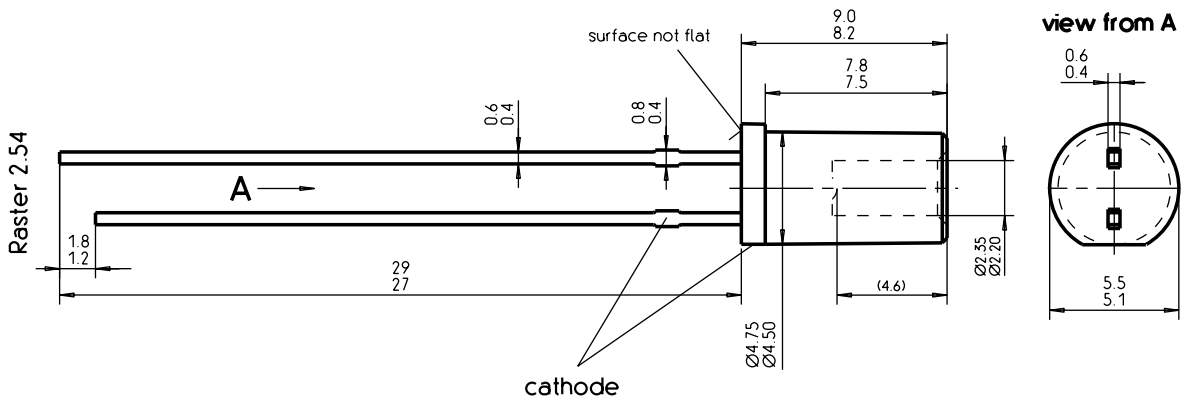
Permissible Pulse Handling Capability

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



Package Outlines

SFH757

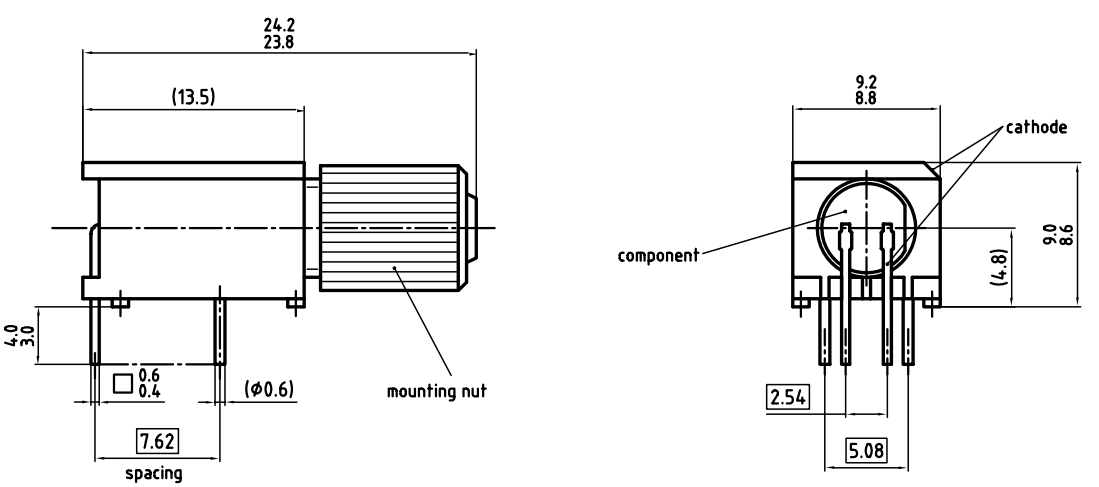


Dimensions in mm

File: 4211

Figure 1

SFH757V



Dimensions in mm

File: 4212

Figure 2

SFH757
SFH757V

Revision History:	**2004-03-19**	DS1
Previous Version:	2002-03-14	

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