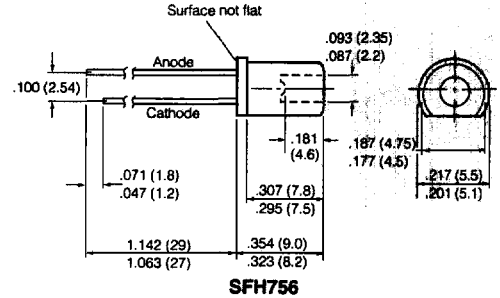
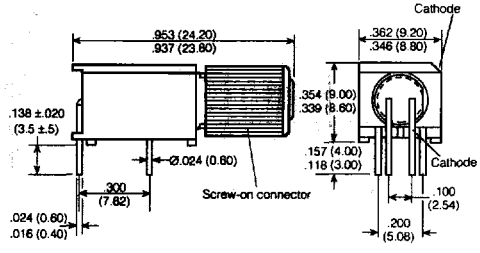
SIEMENS

5 mm LED PACKAGE SFH756
PLASTIC CONNECTOR HOUSING SFH756V
Plastic Fiber Optic Emitter

Dimensions in inches (mm)



SFH756



SFH756V

FEATURES

- **2.2 mm aperture holds standard 1000 micron plastic fiber**
- **No fiber stripping required**
- **Good linearity**
- **Molded microlens for efficient coupling**
- **SFH756V only**
  - **Plastic connector housing**
  - **Mounting screw attached to connector**
  - **Interference free transmission from light-tight housing**
  - **Transmitter and receiver: flexible positioning**
  - **No cross talk**
  - **Auto inseratable and wave solderable**
  - **Supplied in tubes**

APPLICATIONS

- **Household electronics**
- **Power electronics**
- **Optical networks**
- **Medical instruments**
- **Automotive electronics**
- **Light barriers**
- **Motor controls**

Maximum Ratings

Operating and Storage Temperature Range (T_{OP}, T_{STG}) ..... −55 to +100°C
Junction Temperature (T_J) ..... 100°C
Soldering Temperature (2 mm from case bottom) (T_S) t≤5 s ..... 260°C
Reverse Voltage (V_R) ..... 3 V
Forward Current (I_F) ..... 50 mA
Surge Current t≤10 µs, D=0 (I_{FSM}) ..... 1 A
Power Dissipation (P_{TOT}) T_A=25°C ..... 120 mW
Thermal Resistance, Junction to Air (R_{thJA}) ..... 450 K/W

Characteristics T_A=25°C

Parameter	Symbol	Value	Unit	Condition
Peak Wavelength	λ_{Peak}	660	nm	
Spectral Bandwidth	$\Delta\lambda$	25		
Switching Times 10% to 90% and 90% to 10%	t_R, t_F	0.1	µs	R_L=50 Ω, I_F=50 mA
Capacitance	C_0	30	pF	f=1 mHz, V_R=0 V
Forward Voltage	V_F	2.1 (≤2.8)	V	I_F=50 mA
Output Power Coupled into Plastic Fiber[1]	Φ_{IN}	200 (≥100)	µW	I_F=10 mA
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	

Note

1. The output power coupled into plastic fiber is measured using 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 fiber decreases in the first few meters. Therefore the fiber seems to display higher attenuation over the first few meters than specified.

See Appnotes 40, 41, 43 for application information.

Figure 1. Relative spectral emission
$I_{rel}=f(\lambda)$

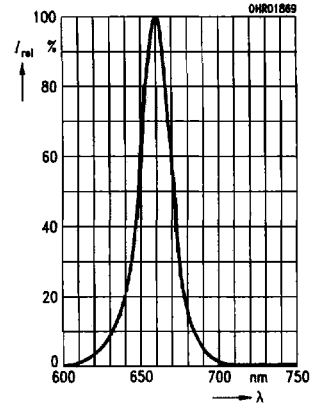


Figure 2. Max. permissible forward current $I_F=f(T_A)$, $R_{thJA}=450$ K/W

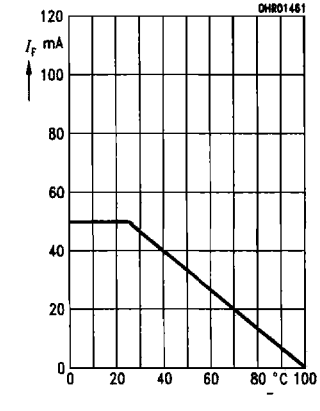


Figure 3. Relative output power
$I_e/I_e(50\ mA)=f(I_F)$ single pulse, duration=20µs

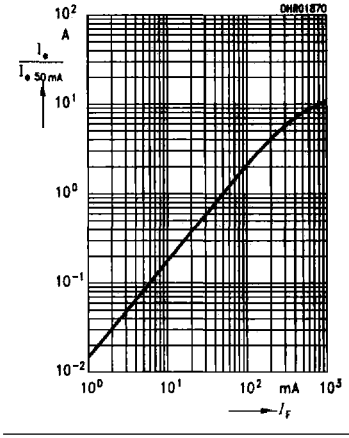


Figure 4. Forward current
IF=f(VF) Single pulse t=20 µs

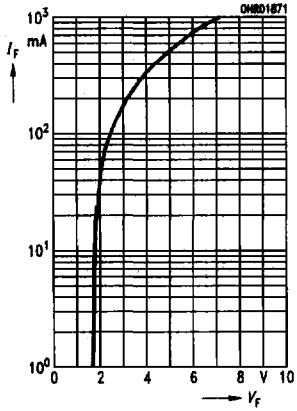


Figure 5. Permissible pulse handling capability $I_F=f(t_p)$, $T_A=25°C$, duty cycle D= Parameter