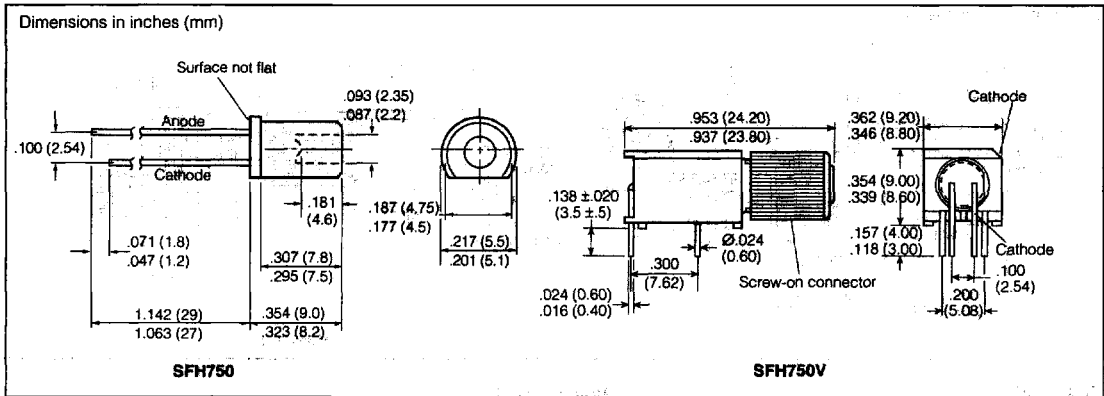


SIEMENS

T1³/₄ (5 mm) LED PACKAGE SFH750
PLASTIC CONNECTOR HOUSING SFH750V
Plastic Fiber Optic Emitter



FEATURES

- 2.2 mm aperture holds standard 1000 micron plastic fiber
- No fiber stripping required
- Good linearity
- Sensitive in visible and near IR range
- Molded micro lens for efficient coupling
- SFH750V only
 - Plastic connector housing
 - Mounting screw attached to 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
- Motor control

Maximum Ratings

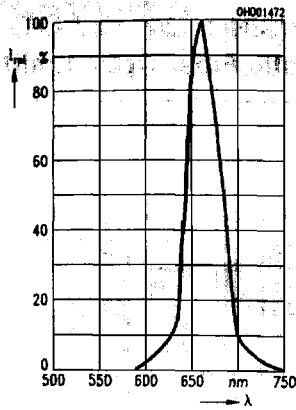
Operating and Storage
 Temperature Range (T_{OP} , T_{STG}) -55° to 100°C
 Junction Temperature (T_J) 100°C
 Soldering Temperature
 (2 mm from case bottom) (T_S) \leq 5 s 260°C
 Reverse Voltage (V_R) 5 V
 Forward Current, (I_F) 45 mA
 Surge Current (I_{FSM}) \leq 10 μ sec, $D=0$ 1 A
 Power Dissipation (P_{TOT}) 150 mW
 Thermal Resistance, Junction/Air (R_{thJA}) 500 K/W

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

Parameter	Symbol	Value	Unit	Condition
Peak Wavelength	λ_{PEAK}	660	nm	
Spectral Bandwidth	$\Delta\lambda$	35		
Switching Times 10% to 90% and 90% to 10%	t_R t_F	0.12 0.05	μ s	$R_L=47 \Omega$, $I_F=10 \text{ mA}$
Capacitance	C_0	25	pF	$f=1 \text{ MHz}$, $V_R=0 \text{ V}$
Forward Voltage	V_F	1.6 (≤ 2.0)	V	$I_F=10 \text{ mA}$
Output Power Coupled into Plastic Fiber (1 mm core diameter), distance lens to fiber ≤ 0.1 mm, polished fiber	Φ_{IN}	9 (≥ 25)	μ W	
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	

See Appnotes 40, 41, 43 for application information.

**Figure 1. Relative spectral emission- V
 $I_{REL}=f(\lambda)$ SFH750**



**Figure 4. Permissible pulse load $I_F=f(T_A)$
duty cycle D =parameter, $T_A=25^\circ C$**

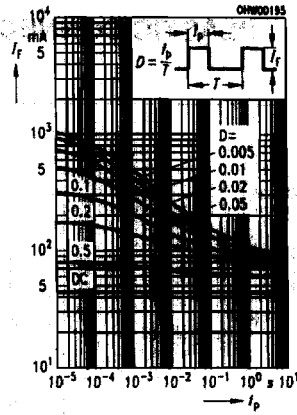
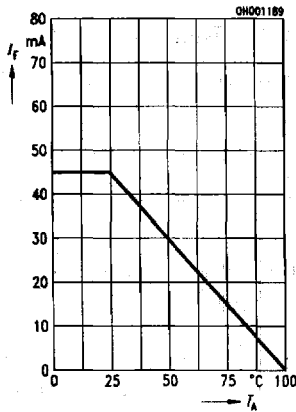


Figure 2. Maximum permissible forward current $I_F=f(T_A)$



**Figure 5. Relative optical output power
 $F_{IN}/F_{IN(10\text{ mA})}=f(I_F)$**

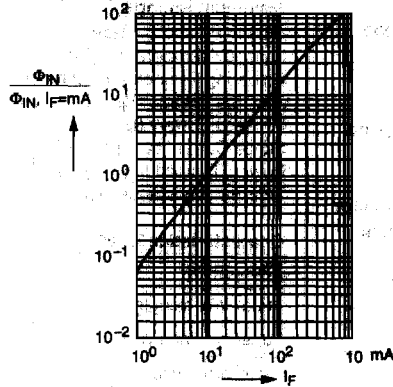


Figure 3. Forward current $I_F=f(V_F)$, single pulse, duration=20 μs

