

SIEMENS

2764 T1 3/4 SFH750

T1 3/4 SFH752

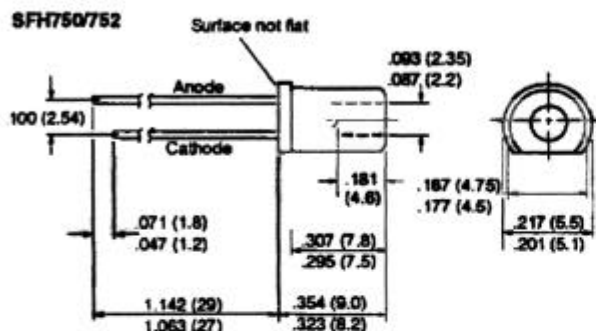
PLASTIC CONNECTOR HOUSING SFH750V

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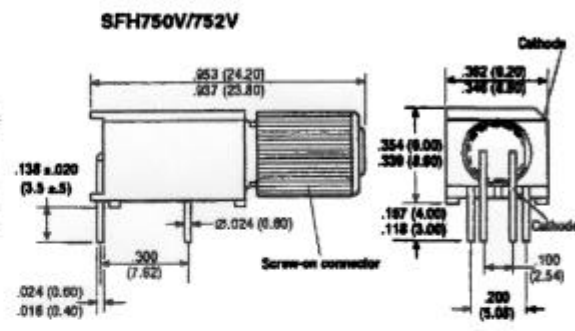
PLASTIC FIBER OPTIC PHOTOTRANSISTOR DETECTOR

Package Dimensions in Inches (mm)

SFH750/752



SFH750V/752V



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 Microlens for Efficient Coupling
- SFH750V/752V 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—SFH750/750V/752V
 - Household Electronics
 - Power Electronics
 - Optical Networks
 - Medical Instruments
 - Automotive Electronics
 - Light Barriers
 - Motor Control

Maximum Ratings

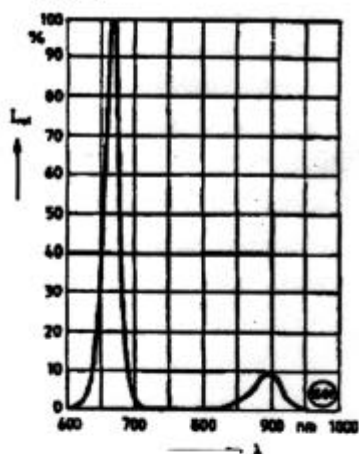
	SFH750 SFH750V	SFH752 SFH752V
Operating and Storage		
Temperature Range (T_{OP} , T_{STG})	-55° to +100°C	-55° to +100°C
Junction Temperature (T_J)	100°C	100°C
Soldering Temperature		
(2 mm from case bottom) (T_S) $t_S \leq$	260°C	260°C
Reverse Voltage (V_R)	5 V	3 V
Forward Current (I_F)	45 mA	45 mA
Surge Current (I_{FSM}) $t_S \leq 10 \mu\text{sec}$, $D=0$	1 A	1 A
Power Dissipation (P_{TOT})	150 mW	150 mW
Thermal Resistance, Junction/Air ($R_{\theta JA}$)	500 K/W	500 K/W

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

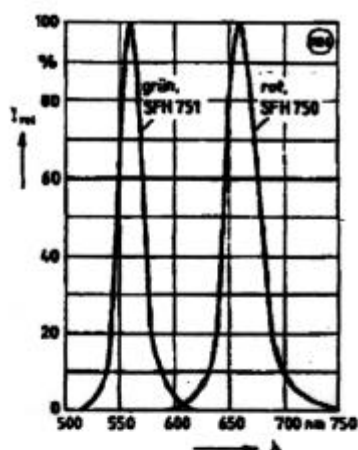
Parameter	Symbol	SFH750 SFH750V	SFH752 SFH752V	Unit
Peak Wavelength	λ_{PEAK}	660	665	nm
Spectral Bandwidth	$\Delta\lambda$	35	25	nm
Switching Times ($R_L=50 \Omega$, $I_F=10 \text{ mA}$)				
(10% to 90%)	t_R	0.12	0.07	μs
(90% to 10%)	t_F	0.05	0.1	μs
Capacitance ($f=1 \text{ MHz}$, $V_R=0 \text{ V}$)	C_O	25	30	pF
Forward Voltage ($I_F=10 \text{ mA}$)	V_F	1.6 (≤ 2.0)	2.0 (≤ 2.6)	V
Output Power Coupled into Plastic				
Fiber (1 mm core diameter), distance lens to fiber $\leq 0.1 \text{ mm}$, polished fiber, $I_F=10 \text{ mA}$	Φ_{IN}	9 (≥ 2.5)	80	μW
Temperature Coefficient, Φ_{IN}	TC_Φ	-0.8	-0.5	%/K
Temperature Coefficient, V_F	TC_V	-0.1	-0.13	%/K
Temperature Coefficient, λ_{PEAK}	TC_λ	0.17	0.16	nm/K

See Appnote 40, 41, 42, 43 for application information.

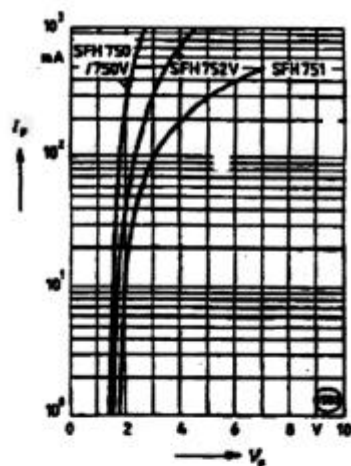
Relative spectral sensitivity-SFH750V
 $S_{REL}=I(\lambda)$



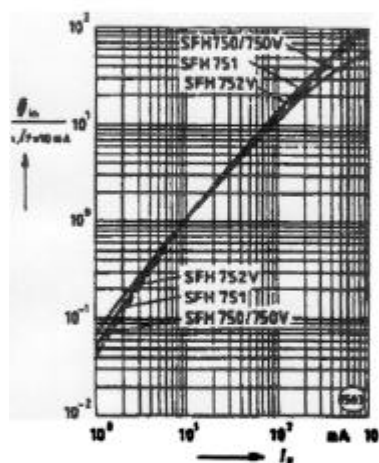
Relative spectral sensitivity-SFH752V
 $S_{REL}=I(\lambda)$



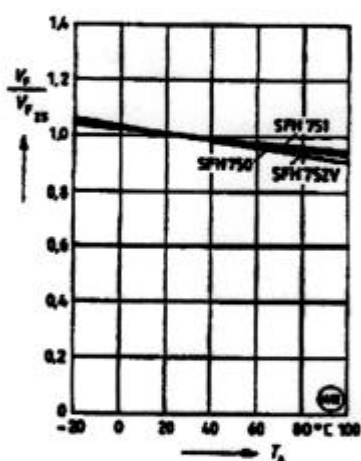
Forward current $I_F=f(V_F)$,
 single pulse, duration=20 μ s



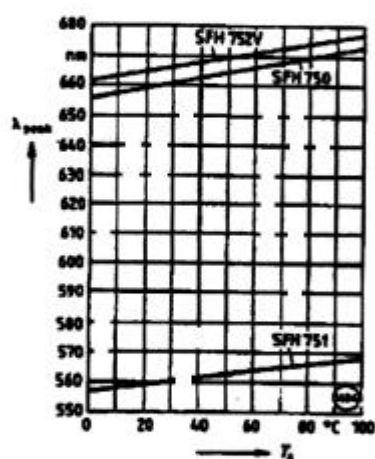
Relative optical output power
 $\Phi_{IN}/\Phi_{IN(10\text{ mA})}=I(I_F)$



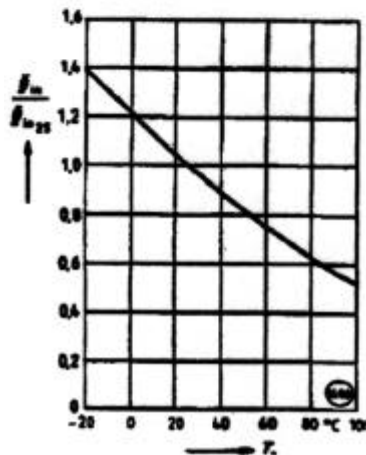
Forward voltage $V_F/V_{F25}=f(T_A)$



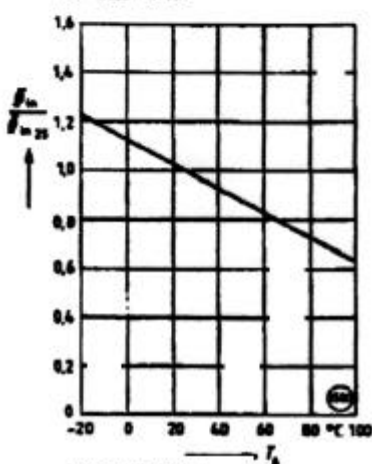
Peak wavelength $\lambda_{PEAK}=f(T_A)$



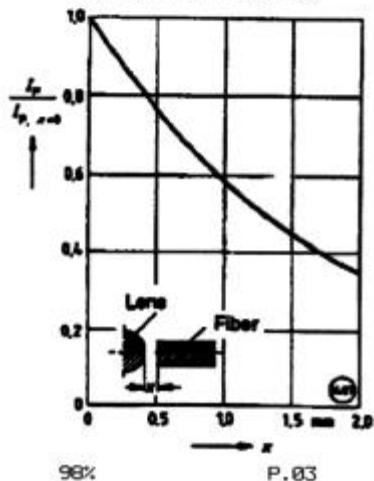
Temperature behavior-SFH750V
 $\Phi_{IN}/\Phi_{IN25}=f(T_A)$



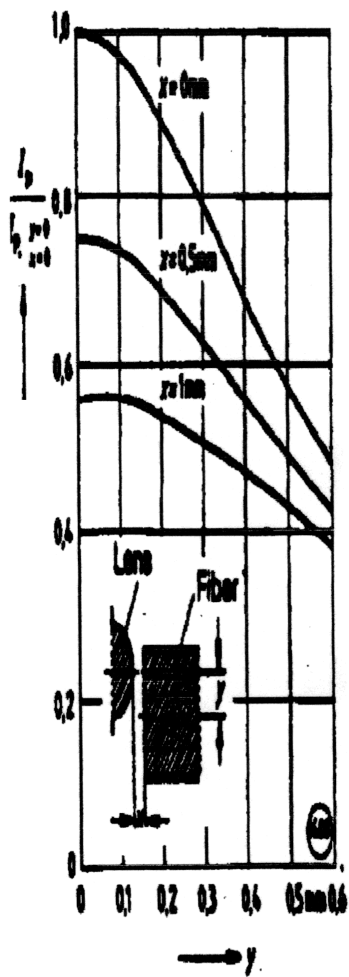
Temperature behavior-SFH752V
 $\Phi_{IN}/\Phi_{IN25}=f(T_A)$



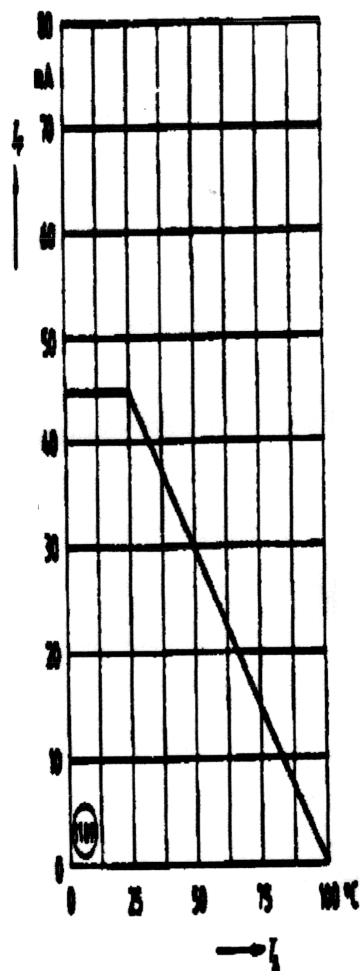
Coupling efficiency Φ_{IN} versus
 alignment $\Phi_{IN}/\Phi_{IN(0)}=f(x)$



Coupling efficiency Φ_{11} versus alignment $\Phi_{11}/\Phi_{11\max}$, $\gamma=0^\circ$ (Y)



Maximum permissible forward current $I_f(T_A)$



Permissible pulse load $I_p(T_A)$, duty cycle $D=\text{parameter}$, $T_A=25^\circ\text{C}$

