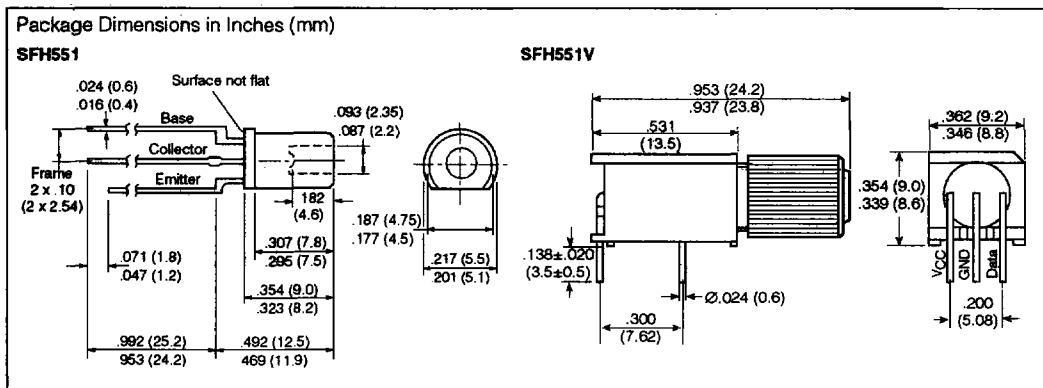


SIEMENS

T1¾ SFH551 RIGHT ANGLE HOUSING SFH551V INTEGRATED PHOTODETECTOR for PLASTIC FIBER



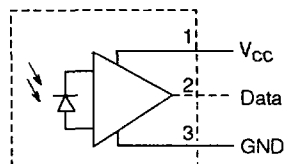
FEATURES

- Bipolar IC with Open-Collector Output
- Digital Output, TTL Compatible
- Suitable for 2.2 mm Plastic Fiber with 1 mm Core Diameter
- Transfer Rate ≤ 5 Mbit/s
- Low Switching Threshold
- High Sensitivity from Integrated μ Lens
- SFH551-T1¾ Package
- SFH551V-Right Angle Plastic Housing
- SFH551V-Simple and Fast Reversible Connection between Fiber and Component
- SFH551V-Easy Coupling to Plastic Fiber without Stripping or Declogging

Maximum Ratings

Storage Temperature Range (T_{STG}) ... -55 to +100°C
 Operating Temperature Range (T_{OP}) ... -40 to +85°C
 Supply Voltage (V_{CC}) 0.5 to 7 V
 Output Voltage (V_O) 0.5 to 7 V
 Output Current (I_O) 50 mA
 Power Dissipation (output) (P_O) 85 mW

Block Diagram



DESCRIPTION

The SFH551/V is a photodetector intended for use with 1000 micron plastic optical fiber. This device amplifies incoming signals via a DC coupled trans-impedance amplifier, and its open collector output is TTL compatible.

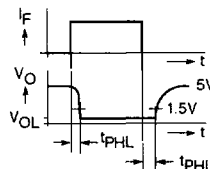
The SFH551 comes in a T1¾ plastic package with a tubular aperture wide enough to accommodate fiber and cladding. The SFH551V is housed in a unique plastic right angle package for easy coupling between the fiber and the photodetector.

The SFH551/V is suitable for data communications uses such as: LANs, medical equipment, and automotive electronics.

Characteristics ($T_A=25^\circ\text{C}$, $V_{CC}=4.75$ V to 5.25 V)

Parameter	Symbol	Value	Unit
Current Consumption ($V_{CC}=5$ V)	I_{CC}	12 (≤ 18)	mA
Output Voltage, Low ($I_{OL}=13$ mA, $\Phi_{outL} \geq 4$ mW)	V_{OL}	0.4 (≤ 0.6)	V
Output Current, High ($V_{OH}=5.25$ V, $\Phi_{outH} \leq 0.1$ mW)	I_{OH}	5 (≤ 300)	μ A
Optical Power, Low ⁽¹⁾ ($\lambda=820$ nm)	Φ_{outL}	4 to 50	μ W
Optical Power, High ⁽¹⁾ ($\lambda=820$ nm)	Φ_{outH}	-24 to -13	dBm
Optical Power, High ⁽¹⁾ ($\lambda=820$ nm)	Φ_{outH}	≤ 0.1	μ W
Optical Power, High ⁽¹⁾ ($\lambda=820$ nm)	Φ_{outH}	-40	dBm
Delay Times ($\Phi_{outL}=4$ μ W to 50 μ W, $R_L=350$ Ω , $C_L=15$ pF, $I=1$ m)	t_{PHL}	75	ns
	t_{PLH}	75	ns

Delay Time



Note

1. Measured at the end of a plastic fiber with 1 mm diameter, distance lens fiber ≤ 0.1 mm, fiber type EH4001, fiber surface polished.

Fiber Optic
Laser Diode
Devices