SIEMENS

SFH610A/611A/615A/617A

5.3 kV TRIOS® OPTOCOUPLER
HIGH RELIABILITY

FEATURES

- **High Current Transfer Ratios**
  at 10 mA: 40–320%
  at 1 mA: 60% typical (>13)
- **Low CTR Degradation**
- **Good CTR Linearity Depending on Forward Current**
- **Withstand Test Voltage, 5300 VACRMS**
- **High Collector-Emitter Voltage, VCEO=70 V**
- **Low Saturation Voltage**
- **Fast Switching Times**
- **Field-Effect Stable by TRIOS**
  (TRansparent IOn Shield)
- **Temperature Stable**
- **Low Coupling Capacitance**
- **End-Stackable, .100"(2.54 mm) Spacing**
- **High Common-Mode Interference Immunity (Unconnected Base)**
- **Underwriters Lab File #52744**
- **VDE 0884 Available with Option 1**
- **SMD Option – See SFH6106/16/56 Data Sheet**

DESCRIPTION

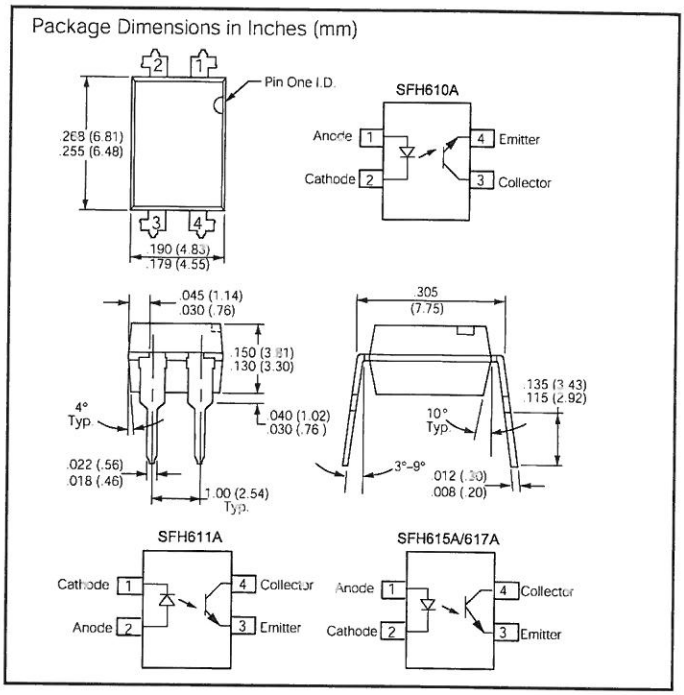
The SFH61XA features a high current transfer ratio, low coupling capacitance and high isolation voltage. These couplers have a GaAs infrared emitting diode emitter, which is optically coupled to a silicon planar phototransistor detector, and is incorporated in a plastic DIP-4 package.

The coupling devices are designed for signal transmission between two electrically separated circuits.

The couplers are end-stackable with 2.54 mm spacing.

Creepage and clearance distances of >8 mm are achieved with option 6. This version complies with IEC 950 (DIN VDE 0805) for reinforced insulation up to an operation voltage of 400 V_{RMS} or DC.

Specifications subject to change.



Maximum Ratings

Emitter

Reverse Voltage ..... 6 V
DC Forward Current ..... 60 mA
Surge Forward Current (tP≤10 µs) ..... 2.5 A
Total Power Dissipation ..... 100 mW

Detector

Collector-Emitter Voltage ..... 70 V
Emitter-Collector Voltage ..... 7 V
Collector Current ..... 50 mA
Collector Current (tP≤1 ms) ..... 100 mA
Total Power Dissipation ..... 150 mW

Package

Isolation Test Voltage between Emitter and Detector, refer to Climate DIN 40046, part 2, Nov. 74 ..... 5300 VAC_{RMS}
Creepage ..... ≥7 mm
Clearance ..... ≥7 mm
Insulation Thickness between Emitter and Detector ..... ≥0.4 mm
Comparative Tracking Index per DIN IEC 112/VDE0 303, part 1 ..... ≥175
Isolation Resistance
V_{IO}=500 V, T_A=25°C ..... $\geq 10^{12}\ \Omega$
V_{IO}=500 V, T_A=100°C ..... $\geq 10^{11}\ \Omega$
Storage Temperature Range ..... –55 to +150°C
Ambient Temperature Range ..... –55 to +100°C
Junction Temperature ..... 100°C
Soldering Temperature (max. 10 s. Dip Soldering Distance to Seating Plane ≥1.5 mm) ..... 260°C