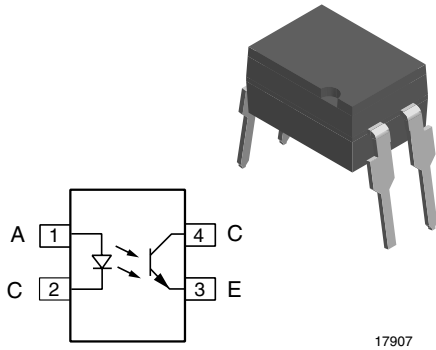


Optocoupler, Phototransistor Output, High Reliability, 5300 V_{RMS}, 110 °C Rated



DESCRIPTION

The 110 °C rated SFH617A (DIP) feature a high current transfer ratio, low coupling capacitance and high isolation voltage. These couplers have a GaAs infrared 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 > 8.0 mm are achieved with option 6. This version complies with IEC 60950 (DIN VDE 0805) for reinforced insulation up to an operation voltage of 400 V_{RMS} or DC. Specifications subject to change.

FEATURES

- Operating temperature from - 55 °C to + 110 °C
- Good CTR linearity depending on forward current
- Isolation test voltage, 5300 V_{RMS}
- High collector emitter voltage, V_{CEO} = 70 V
- Low saturation voltage
- Fast switching times
- Low CTR degradation
- Temperature stable
- Low coupling capacitance
- End stackable, 0.100" (2.54 mm) spacing
- High common mode interference immunity
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC


RoHS
COMPLIANT

APPLICATIONS

- AC adapter
- SMPS
- PLC
- Factory automation
- Game consoles

AGENCY APPROVALS

- UL1577, file no. E52744 system code H or J, double protection
- CSA 93751
- DIN EN 60747-5-2 (VDE 0884)/DIN EN 60747-5-5 pending available with option 1
- BSI IEC 60950; IEC 60065
- FIMKO

ORDER INFORMATION	
PART	REMARKS
SFH617A-1	CTR 40 to 80 %, DIP-4
SFH617A-2	CTR 63 to 125 %, DIP-4
SFH617A-3	CTR 100 to 200 %, DIP-4
SFH617A-4	CTR 160 to 320 %, DIP-4
SFH617A-1X006	CTR 40 to 80 %, DIP-4 400 mil
SFH617A-2X006	CTR 63 to 125 %, DIP-4 400 mil
SFH617A-2X009	CTR 63 to 125 %, SMD-4
SFH617A-3X006	CTR 100 to 200 %, DIP-4 400 mil
SFH617A-3X007	CTR 100 to 200 %, SMD-4
SFH617A-4X006	CTR 160 to 320 %, DIP-4 400 mil

Note

For additional information on the available options refer to option information.

ABSOLUTE MAXIMUM RATINGS (1)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
INPUT				
Reverse voltage		V _R	6.0	V
DC forward current		I _F	60	mA
Surge forward current	t ≤ 10 μs	I _{FSM}	2.5	A
Derate linearly from 25 °C			0.95	mW/°C
OUTPUT				
Collector emitter voltage		V _{CE}	70	V
Emitter collector voltage		V _{EC}	7.0	V
Collector current		I _C	50	mA
	t ≤ 1.0 ms	I _C	100	mA
Derate linearly from 25 °C			1.54	mW/°C
COUPLER				
Isolation test voltage between emitter and detector, refer to climate DIN 40046, part 2, Nov. 74		V _{ISO}	5300	V _{RMS}
Isolation resistance	V _{IO} = 500 V, T _{amb} = 25 °C	R _{IO}	≥ 10 ¹²	Ω
	V _{IO} = 500 V, T _{amb} = 100 °C	R _{IO}	≥ 10 ¹¹	Ω
Storage temperature range		T _{stg}	- 55 to + 150	°C
Ambient temperature range		T _{amb}	- 55 to + 110	°C
Soldering temperature (2)	max. 10 s, dip soldering distance to seating plane ≥ 1.5 mm	T _{slid}	260	°C

Notes

(1) T_{amb} = 25 °C, unless otherwise specified.

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of this document. Exposure to absolute maximum ratings for extended periods of the time can adversely affect reliability.

(2) Refer to reflow profile for soldering conditions for surface mounted devices (SMD). Refer to wave profile for soldering conditions for through hole devices (DIP).

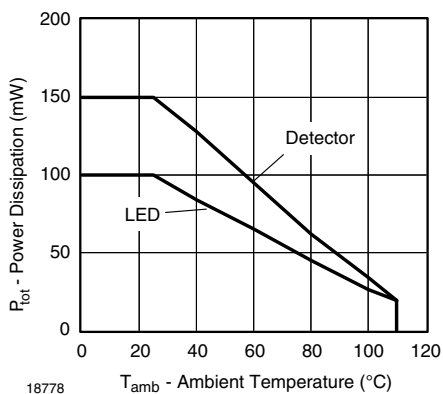


Fig. 1 - Permissible Power Dissipation vs. Ambient Temperature