

SFH617A-1, SFH617A-2, SFH617A-3, SFH617A-4,  
SFH617A-1X, SFH617A-2X, SFH617A-3X, SFH617A-4X



# ISOCOM

COMPONENTS

## LOW INPUT CURRENT PHOTOTRANSISTOR OPTICALLY COUPLED ISOLATORS

### APPROVALS

- UL recognised, File No. E91231  
Package Code " EE "

### 'X' SPECIFICATION APPROVALS

- VDE 0884 in 3 available lead form : -  
- STD  
- G form  
- SMD approved to CECC 00802

### DESCRIPTION

The SFH617A series of optically coupled isolators consist of infrared light emitting diodes and NPN silicon photo transistors in space efficient dual in line plastic packages.

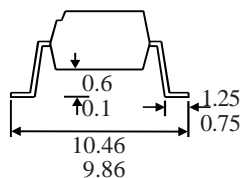
### FEATURES

- Options :-  
10mm lead spread - add G after part no.  
Surface mount - add SM after part no.  
Tape&reel - add SMT&R after part no.
- Low input current 1mA  $I_F$
- High Current Transfer Ratios (40-320% at 10mA, 13% min at 1mA)
- High Isolation Voltage (5.3kV<sub>RMS</sub>, 7.5kV<sub>PK</sub>)
- High BV<sub>CEO</sub> (70V min)
- All electrical parameters 100% tested

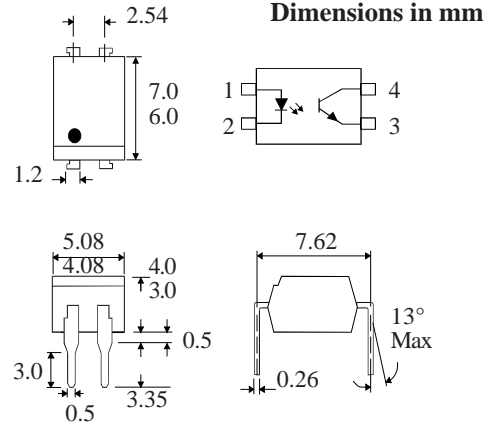
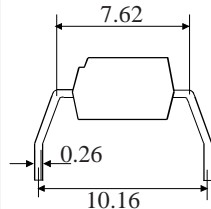
### APPLICATIONS

- Computer terminals
- Industrial systems controllers
- Measuring instruments
- Signal transmission between systems of different potentials and impedances

#### OPTION SM SURFACE MOUNT



#### OPTION G



### ABSOLUTE MAXIMUM RATINGS (25°C unless otherwise specified)

Storage Temperature \_\_\_\_\_ -55°C to +125°C  
 Operating Temperature \_\_\_\_\_ -30°C to +100°C  
 Lead Soldering Temperature  
 (1/16 inch (1.6mm) from case for 10 secs) 260°C

### INPUT DIODE

Forward Current \_\_\_\_\_ 50mA  
 Reverse Voltage \_\_\_\_\_ 6V  
 Power Dissipation \_\_\_\_\_ 70mW

### OUTPUT TRANSISTOR

Collector-emitter Voltage BV<sub>CEO</sub> \_\_\_\_\_ 70V  
 Emitter-collector Voltage BV<sub>ECO</sub> \_\_\_\_\_ 6V  
 Collector Current \_\_\_\_\_ 50mA  
 Power Dissipation \_\_\_\_\_ 150mW

### POWER DISSIPATION

Total Power Dissipation \_\_\_\_\_ 200mW  
 (derate linearly 2.67mW/°C above 25°C)

### ISOCOM COMPONENTS LTD

Unit 25B, Park View Road West,  
 Park View Industrial Estate, Brenda Road  
 Hartlepool, Cleveland, TS25 1UD  
 Tel: (01429) 863609 Fax: (01429) 863581

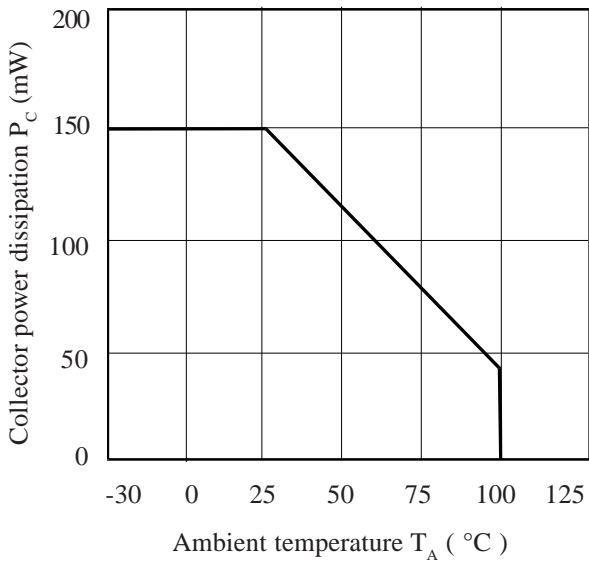
**ELECTRICAL CHARACTERISTICS (  $T_A = 25^\circ\text{C}$  Unless otherwise noted )**

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION	
Input	Forward Voltage ( $V_F$ )			1.65	V	$I_F = 50\text{mA}$	
	Reverse Current ( $I_R$ )			10	$\mu\text{A}$	$V_R = 6\text{V}$	
Output	Collector-emitter Breakdown ( $BV_{CEO}$ ) ( Note 2 )	70			V	$I_C = 1\text{mA}$	
	Emitter-collector Breakdown ( $BV_{ECO}$ )	6			V	$I_E = 100\mu\text{A}$	
	Collector-emitter Dark Current ( $I_{CEO}$ ) SFH617A-1,2 SFH617A-3,4			50 100	nA nA	$V_{CE} = 10\text{V}$	
Coupled	Current Transfer Ratio (CTR) (Note 2) SFH617A-1 SFH617A-2 SFH617A-3 SFH617A-4	40		80	%	$10\text{mA } I_F, 5\text{V } V_{CE}$	
		63		125	%		
		100		200	%		
		160		320	%		
	SFH617A-1 SFH617A-2 SFH617A-3 SFH617A-4	13				%	$1\text{mA } I_F, 5\text{V } V_{CE}$
		22				%	
		34				%	
		56				%	
	Collector-emitter Saturation Voltage $V_{CESAT}$			0.4	V	$10\text{mA } I_F, 2.5\text{mA } I_C$	
	Input to Output Isolation Voltage $V_{ISO}$	5300 7500			$V_{RMS}$ $V_{PK}$	See note 1 See note 1	
Input-output Isolation Resistance $R_{ISO}$	$5 \times 10^{10}$			$\Omega$	$V_{IO} = 500\text{V}$ (note 1)		
Response Time (Rise), tr		4		$\mu\text{S}$	$V_{CE} = 2\text{V}, I_C = 2\text{mA}$		
Response Time (Fall), tf		3		$\mu\text{S}$	$R_L = 100\Omega$		

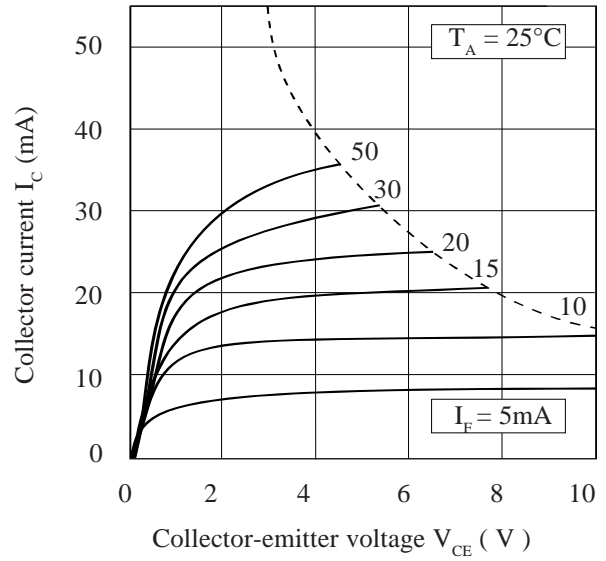
Note 1 Measured with input leads shorted together and output leads shorted together.

Note 2 Special Selections are available on request. Please consult the factory.

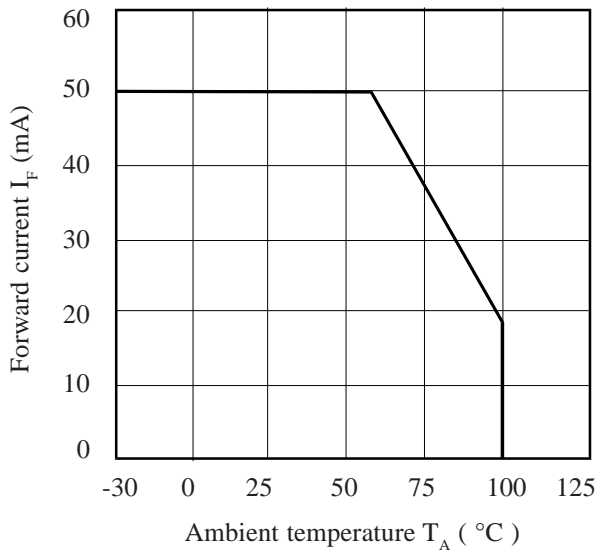
**Collector Power Dissipation vs. Ambient Temperature**



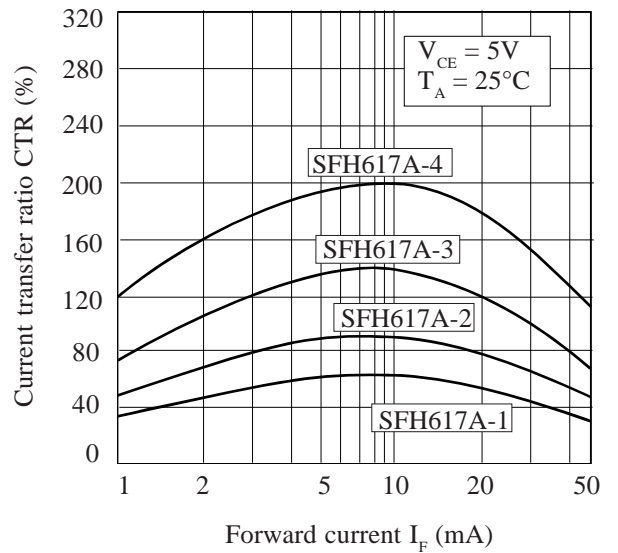
**Collector Current vs. Collector-emitter Voltage (normalised to SFH617A-3)**



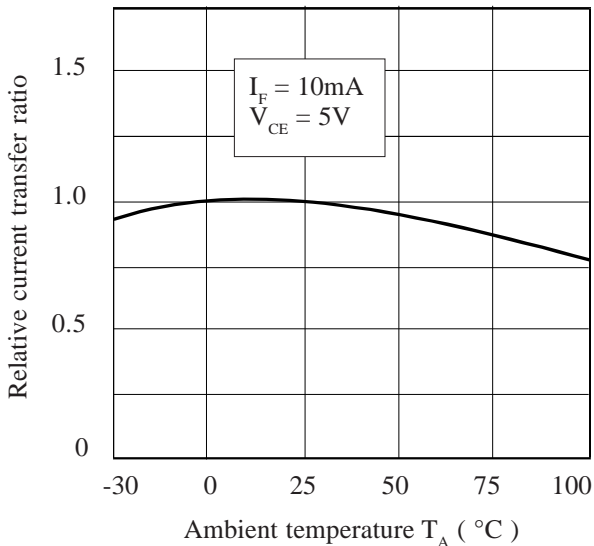
**Forward Current vs. Ambient Temperature**



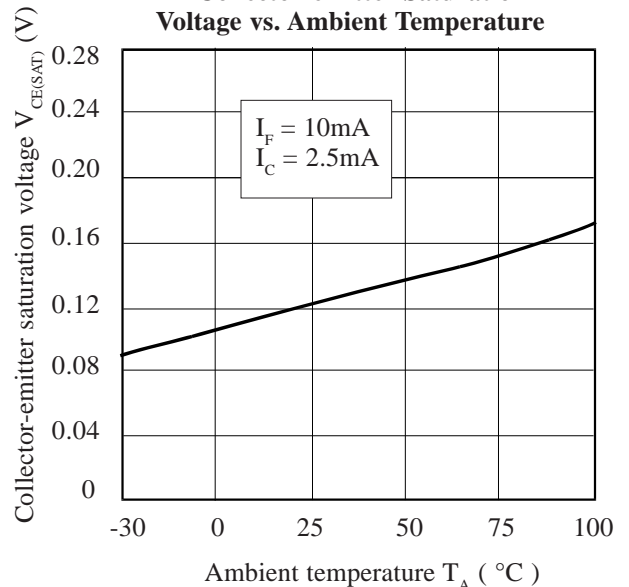
**Current Transfer Ratio vs. Forward Current**



**Relative Current Transfer Ratio vs. Ambient Temperature**



**Collector-emitter Saturation Voltage vs. Ambient Temperature**



## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [MOSFET Output Optocouplers](#) category:*

*Click to view products by [Isocom](#) manufacturer:*

Other Similar products are found below :

[TLP3131\(F\)](#) [TLP598GAF](#) [CPC2014NTR](#) [TLP4026G\(F\)](#) [LTV-817S-B](#) [CPC2017NTR](#) [TLP152\(TPL,E\(T](#) [PS2505L-4-E3-A](#) [TLP3106A\(TP,F](#)  
[TLP3107A\(F](#) [TLP3106A\(F](#) [TLP4176A\(F](#) [TLP3149\(F](#) [TLP3147\(F](#) [TLP3145\(F](#) [TLP3146\(F](#) [TLP3149\(TP,F](#) [H11AV1XSM](#) [CNY17-1-000E](#)  
[CNY17-1-300E](#) [CNY17-1S](#) [CNY17-2-000E](#) [CNY17-2S](#) [CNY173SR2VM](#) [CNY17-4-000E](#) [HCPL-181-06DE](#) [HCPL-J312-000E](#) [LTV-3120S-](#)  
[TA1](#) [LTV-817-L](#) [LTV-817M-D](#) [LTV-817S-A](#) [TIL111](#) [TIL191](#) [MCT6X](#) [MCT6XSM](#) [TLP170A\(F\)](#) [TLP170G\(F\)](#) [TLP197GA\(F\)](#)  
[TLP197G\(TP,F\)](#) [TLP222A-2\(LF1,F\)](#) [TLP291\(GR-TP.E\(O](#) [TLP597A\(F\)](#) [TLP797J\(F\)](#) [4N35X](#) [4N35XSM](#) [MOC213M](#) [HMHA2801R2](#) [ILQ2X](#)  
[IS357A](#) [ISP521-1X](#)