

SFH618A-2X, SFH618A-3X, SFH618A-4X,  
SFH618-2, SFH618-3, SFH618-4



# 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
- Certified to EN60950 by :-  
Nemko - Certificate No. P01102465

### DESCRIPTION

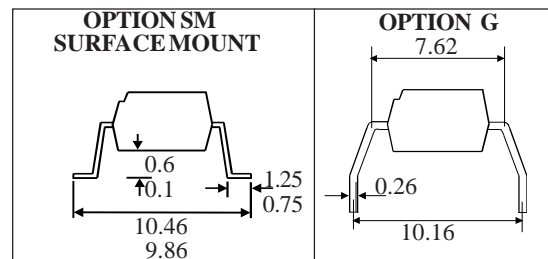
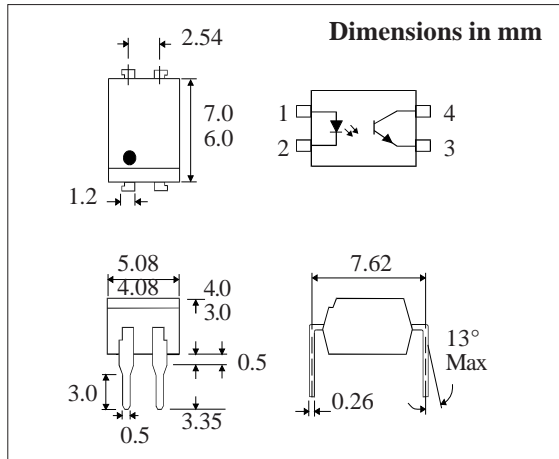
The SFH618 series of optically coupled isolators consist of infrared light emitting diodes and NPN silicon photo transistors in space efficient dual in line plastic packages.

### 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 0.5mA  $I_F$
- High Current Transfer Ratios (63-320% at 1mA, 32% min at 0.5mA)
- High Isolation Voltage (5.3kV<sub>RMS</sub>, 7.5kV<sub>PK</sub>)
- High BV<sub>CEO</sub> (55V min)
- All electrical parameters 100% tested
- Custom electrical selections available

### APPLICATIONS

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



**ISOCOM COMPONENTS LTD**  
Unit 25B, Park View Road West,  
Park View Industrial Estate, Brenda Road  
Hartlepool, Cleveland, TS25 1YD  
Tel: (01429) 863609 Fax : (01429) 863581

**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 $BV_{CEO}$ _____	55V
Emitter-collector Voltage $BV_{ECO}$ _____	6V
Collector Current _____	50mA
Power Dissipation _____	150mW

**POWER DISSIPATION**

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

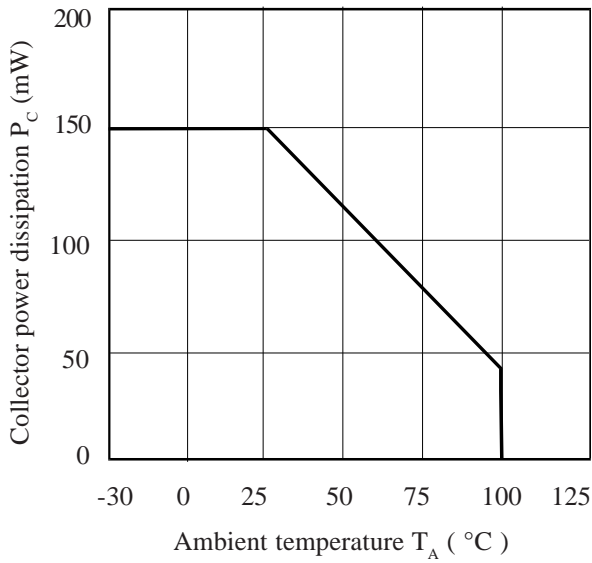
**ELECTRICAL CHARACTERISTICS (  $T_A = 25^\circ\text{C}$  Unless otherwise noted )**

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage ( $V_F$ )			1.5	V	$I_F = 5\text{mA}$
	Reverse Current ( $I_R$ )			10	$\mu\text{A}$	$V_R = 6\text{V}$
Output	Collector-emitter Breakdown ( $BV_{CEO}$ ) (Note 2)	55			V	$I_C = 1\text{mA}$
	Emitter-collector Breakdown ( $BV_{ECO}$ )	6			V	$I_E = 100\mu\text{A}$
	Collector-emitter Dark Current ( $I_{CEO}$ )			200	nA	$V_{CE} = 10\text{V}$
Coupled	Current Transfer Ratio (CTR) (Note 2)					
	SFH618-2	63		125	%	$1\text{mA } I_F, 0.5\text{V } V_{CE}$
	SFH618-2	32			%	$0.5\text{mA } I_F, 1.5\text{V } V_{CE}$
	SFH618-3	100		200	%	$1\text{mA } I_F, 0.5\text{V } V_{CE}$
	SFH618-3	50			%	$0.5\text{mA } I_F, 1.5\text{V } V_{CE}$
	SFH618-4	160		320	%	$1\text{mA } I_F, 0.5\text{V } V_{CE}$
	SFH618-4	80			%	$0.5\text{mA } I_F, 1.5\text{V } V_{CE}$
	Collector-emitter Saturation Voltage $V_{CESAT}$					
	SFH618-2			0.4	V	$1\text{mA } I_F, 0.32\text{mA } I_C$
	SFH618-3			0.4	V	$1\text{mA } I_F, 0.5\text{mA } I_C$
SFH618-4			0.4	V	$1\text{mA } I_F, 0.8\text{mA } I_C$	
Input to Output Isolation Voltage $V_{ISO}$	5300				$V_{RMS}$	See note 1
	7500				$V_{PK}$	See note 1
Input-output Isolation Resistance $R_{ISO}$	$5 \times 10^{10}$				$\Omega$	$V_{IO} = 500\text{V}$ (note 1)
Output Rise Time, tr		4	18		$\mu\text{s}$	$V_{CE} = 2\text{V}, I_C = 2\text{mA}$
Output Fall Time, tf		3	18		$\mu\text{s}$	$R_L = 100\Omega$

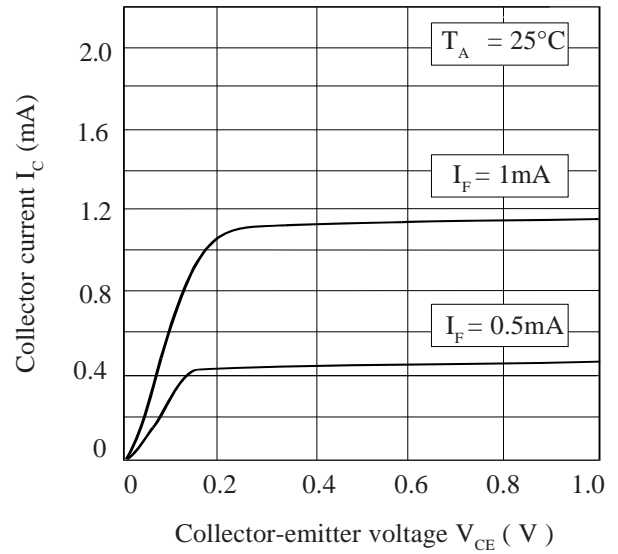
Note 1 Measured with input leads shorted together and output leads shorted together.

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

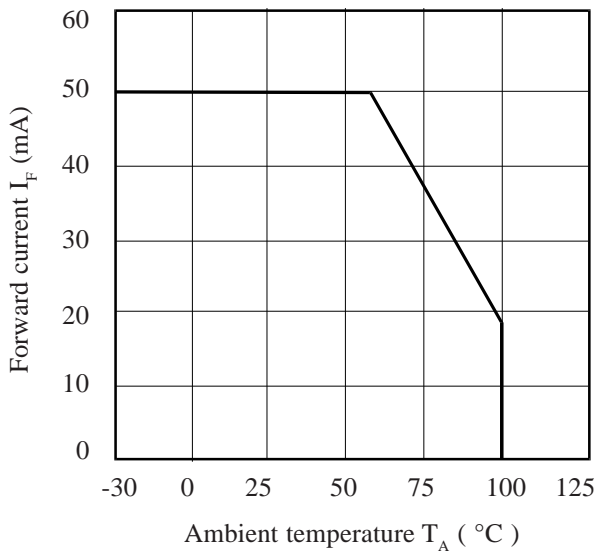
**Collector Power Dissipation vs. Ambient Temperature**



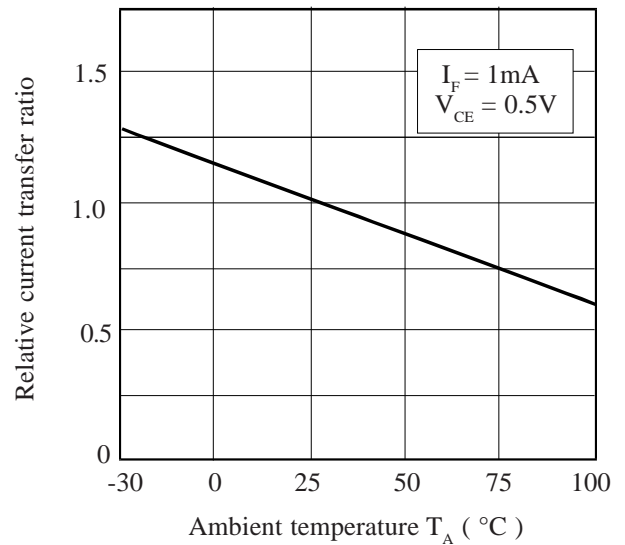
**Collector Current vs. Low Collector-emitter Voltage (normalized to SFH618-2 & SFH618-3)**



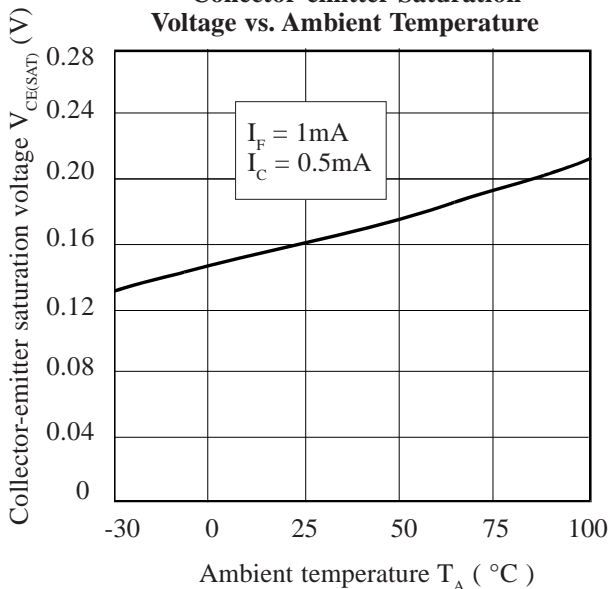
**Forward Current vs. Ambient Temperature**



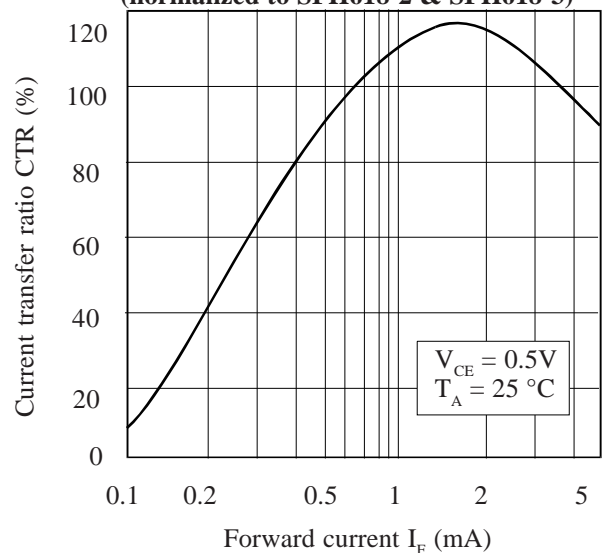
**Relative Current Transfer Ratio vs. Ambient Temperature**



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



**Current Transfer Ratio vs. Forward Current (normalized to SFH618-2 & SFH618-3)**



## 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\(TP,F](#) [TLP3107A\(F](#) [TLP3106A\(F](#) [TLP4176A\(F](#) [TLP3149\(F](#) [TLP3147\(F](#) [TLP3145\(F](#) [TLP3146\(F](#) [TLP3147\(TP,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](#) [LTV-817S-TA1-L](#) [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](#)