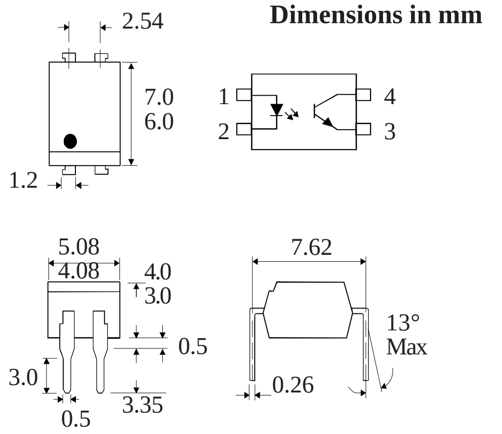
SFH618A-2X, SFH618A-3X, SFH618A-4X,
SFH618-2, SFH618-3, SFH618-4

LOW INPUT CURRENT PHOTOTRANSISTOR OPTICALLY COUPLED ISOLATORS

ROHS COMPLIANT

Dimensions in mm



APPROVALS

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

'X' SPECIFICATION APPROVALS

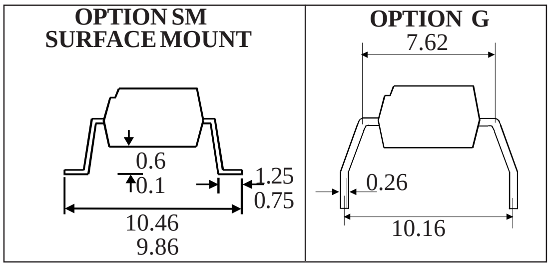
- VDE 0884 in 3 available lead form :-
  - STD
  - G form
  - SMD approved to CECC 00802
- Certified to EN60950 by :-
  Nemko - Certificate No. P01102465

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 ($5.3kV_{RMS}$, $7.5kV_{PK}$)
- High BV_{CEO} (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

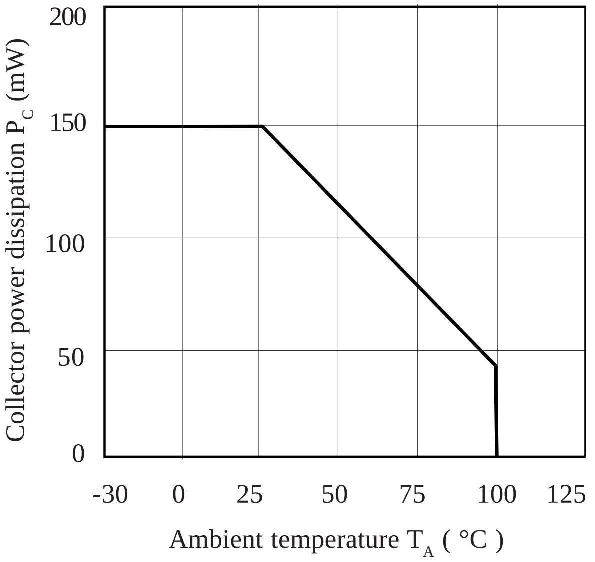
Total Power Dissipation (derate linearly 2.67mW/°C above 25°C)	200mW

ELECTRICAL CHARACTERISTICS (T_A = 25°C Unless otherwise noted)

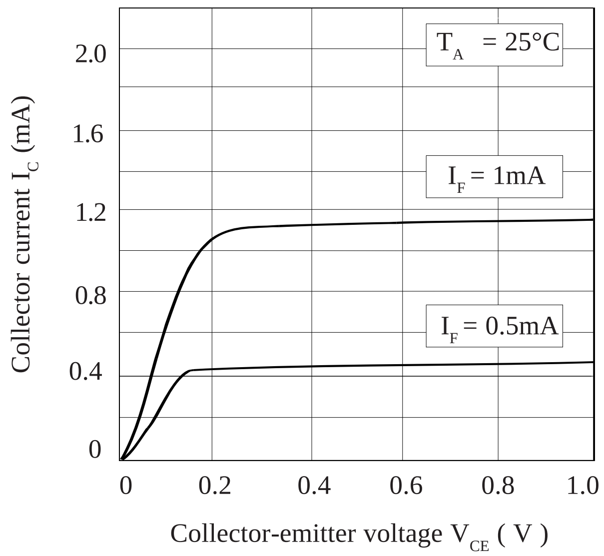
	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)			1.5	V	I_F = 5mA
	Reverse Current (I_R)			10	µA	V_R = 6V
Output	Collector-emitter Breakdown (BV_{CEO}) (Note 2)	55			V	I_C = 1mA
	Emitter-collector Breakdown (BV_{ECO})	6			V	I_E = 100µA
	Collector-emitter Dark Current (I_{CEO})			200	nA	V_{CE} = 10V
Coupled	Current Transfer Ratio (CTR) (Note 2)					
	SFH618-2	63		125	%	1mA I_F, 0.5V V_{CE}
	SFH618-2	32			%	0.5mA I_F, 1.5V V_{CE}
	SFH618-3	100		200	%	1mA I_F, 0.5V V_{CE}
	SFH618-3	50			%	0.5mA I_F, 1.5V V_{CE}
	SFH618-4	160		320	%	1mA I_F, 0.5V V_{CE}
	SFH618-4	80			%	0.5mA I_F, 1.5V V_{CE}
	Collector-emitter Saturation Voltage V_{CESAT}					
	SFH618-2			0.4	V	1mA I_F, 0.32mA I_C
	SFH618-3			0.4	V	1mA I_F, 0.5mA I_C
	SFH618-4			0.4	V	1mA I_F, 0.8mA 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}	$5x10^{10}$			Ω	V_{IO} = 500V (note 1)
	Output Rise Time, tr		4	18	µS	V_{CE} = 2V, I_C = 2mA
	Output Fall Time, tf		3	18	µS	R_L = 100Ω

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.

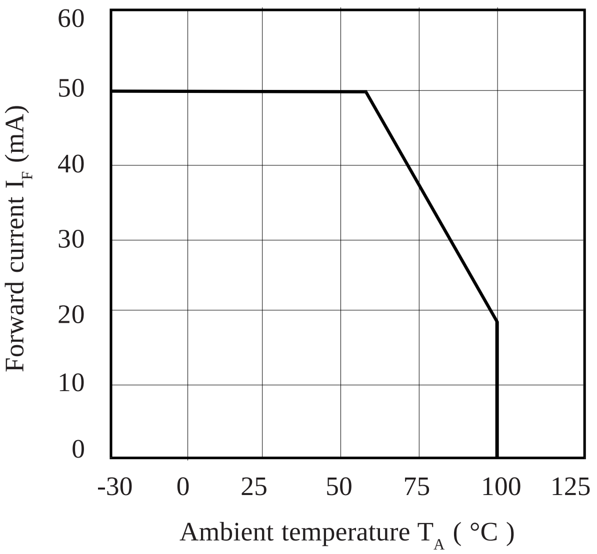
Collector Power Dissipation vs. Ambient Temperature



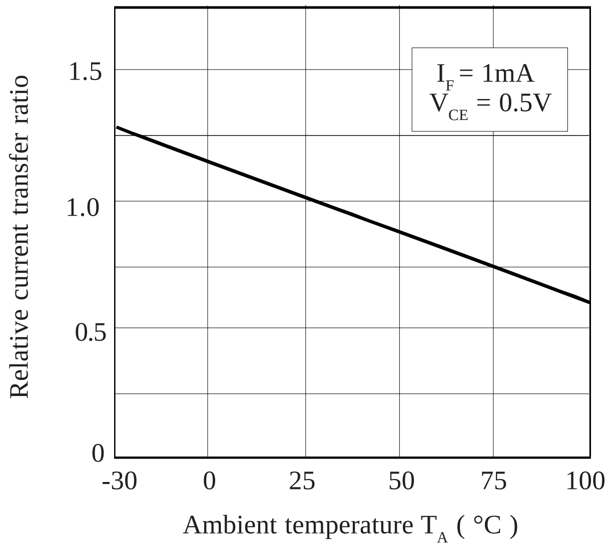
Collector Current vs. Low Collector-emitter Voltage (normalized to SFH618-2 & SFH618-3)



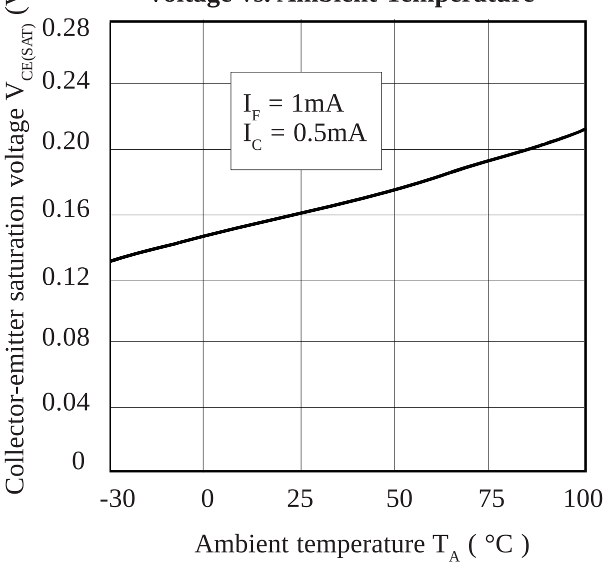
Forward Current vs. Ambient Temperature



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)