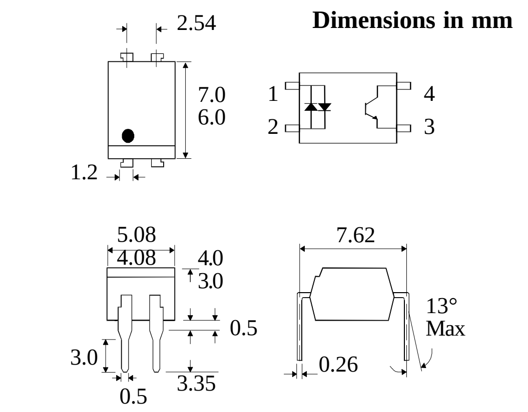
SFH628-2X, SFH628-3X, SFH628-4X,
SFH628-2, SFH628-3, SFH628-4

LOW INPUT CURRENT PHOTOTRANSISTOR OPTICALLY COUPLED ISOLATORS



APPROVALS

- UL recognised, File No. E91231

'X' SPECIFICATION APPROVALS

- Certified to EN60950 by the following Test Bodies :-
  Nemko - Certificate No. P96102022
  Fimko - Registration No. 192313-01..25
  Semko - Reference No. 9639052 01
  Demko - Reference No. 305969
- VDE 0884 approval pending

DESCRIPTION

The SFH628 series of optically coupled isolators consist of inverse parallel infrared light emitting diodes and NPN silicon photo transistors in space efficient dual in line plastic packages.

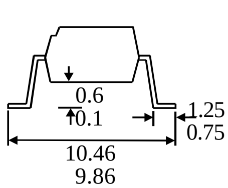
FEATURES

- 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 (63-500% 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

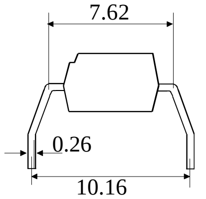
APPLICATIONS

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

OPTION SM
SURFACE MOUNT



OPTION G



ABSOLUTE MAXIMUM RATINGS
(25°C unless otherwise specified)

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

INPUT DIODE

Forward Current	±50mA
Power Dissipation	70mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO}	55V
Emitter-collector Voltage BV_{ECO}	6V
Power Dissipation	150mW

POWER DISSIPATION

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

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

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
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)					
	SFH628-2	63		200	%	±1mA I_F, 0.5V V_{CE}
	SFH628-2	32			%	±0.5mA I_F, 1.5V V_{CE}
	SFH628-3	100		320	%	±1mA I_F, 0.5V V_{CE}
	SFH628-3	50			%	±0.5mA I_F, 1.5V V_{CE}
	SFH628-4	160		500	%	±1mA I_F, 0.5V V_{CE}
	SFH628-4	80			%	±0.5mA I_F, 1.5V V_{CE}
	Collector-emitter Saturation Voltage V_{CESAT}					
	SFH628-2			0.4	V	±1mA I_F, 0.5mA I_C
	SFH628-3			0.4	V	±1mA I_F, 0.8mA I_C
	SFH628-4			0.4	V	±1mA I_F, 1.25mA 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)

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.

SWITCHING CHARACTERISTICS

I_C = 2mA, V_{CC} = 5V, R_L = 100Ω, T_A = 25°C (Fig 1)

			UNITS
Turn-on Time	t_{on}	6.0	µs
Rise Time	t_r	3.5	µs
Turn-off Time	t_{off}	5.5	µs
Fall Time	t_f	5.0	µs

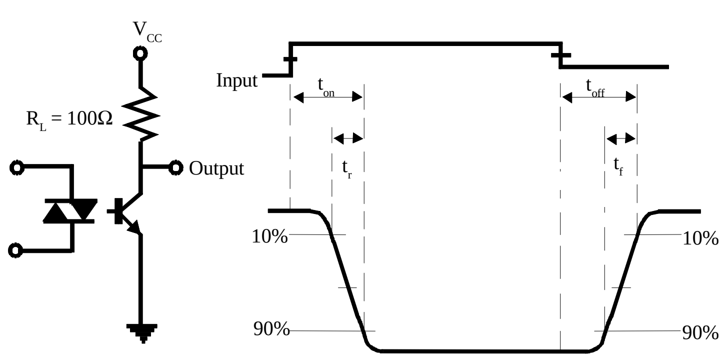
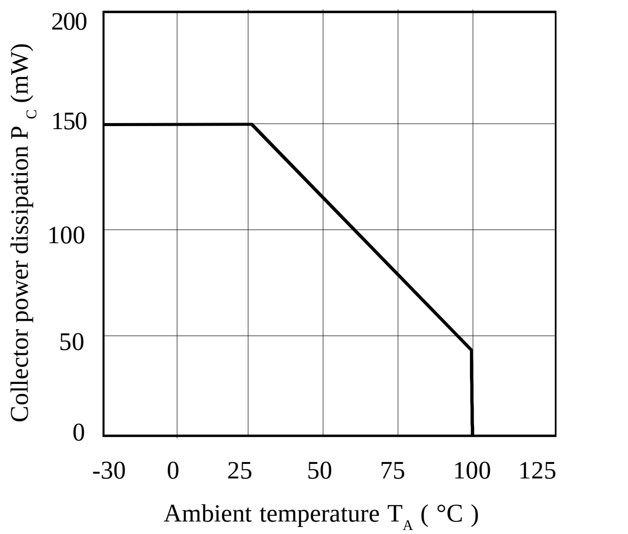
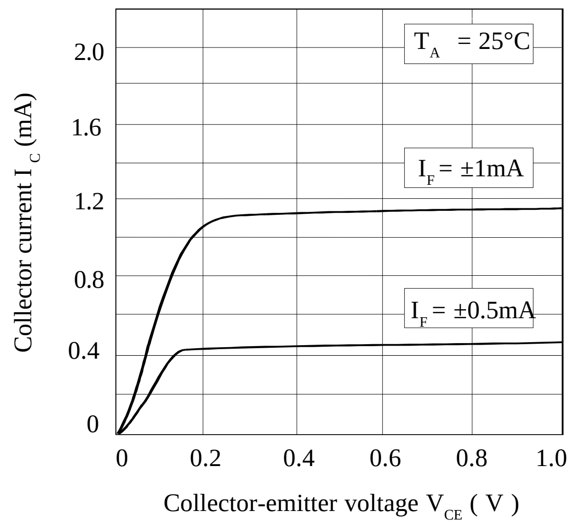


FIG 1

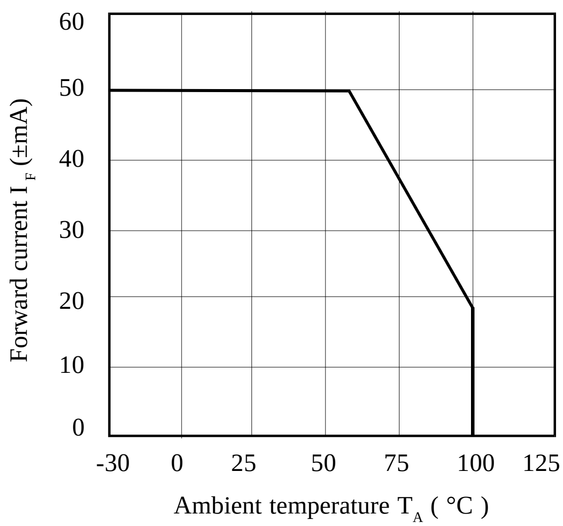
Collector Power Dissipation vs. Ambient Temperature



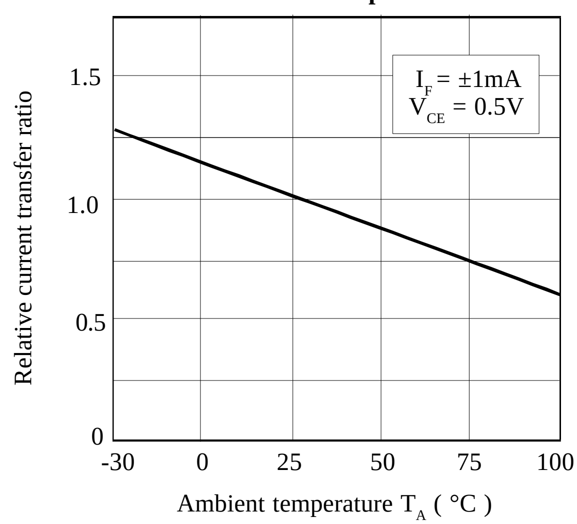
Collector Current vs. Low Collector-emitter Voltage (normalized to SFH628-2 & SFH628-3)



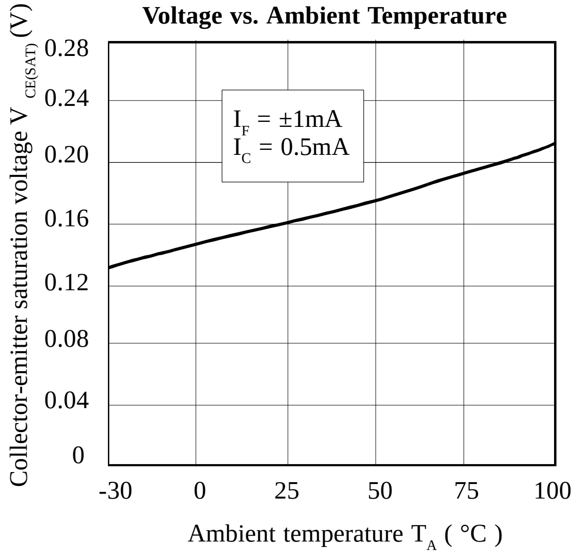
Forward Current vs. Ambient Temperature



Relative Current Transfer Ratio vs. Ambient Temperature



Collector-emitter Saturation Voltage vs. Ambient Temperature



Current Transfer Ratio vs. Forward Current (normalized to SFH628-2 & SFH628-3)