IS604X
IS604

A.C. INPUT PHOTOTRANSISTOR OPTICALLY COUPLED ISOLATORS

ROHS COMPLIANT

APPROVALS

- UL recognised, File No. E91231

'X' SPECIFICATION APPROVALS

- VDE 0884 in 2 available lead forms : -
  - STD
  - G form
- EN60950 approval pending

DESCRIPTION

The IS604 optically coupled isolator consists of two infrared light emitting diodes connected in inverse parallel and NPN silicon photo transistor in a standard 6 pin dual in line plastic package.

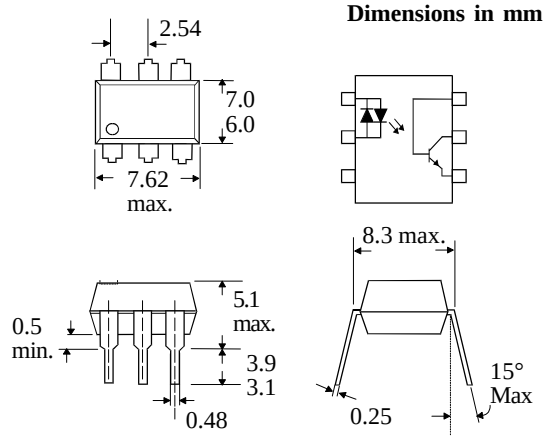
FEATURES

- Options :-
  10mm lead spread - add G after part no.
  Surface mount - add SM after part no.
  Tape&reel - add SMT&R after part no.
- High Isolation Voltage ($5.3kV_{RMS}$,$7.5kV_{PK}$)
- AC or polarity insensitive input
- All electrical parameters 100% tested
- Custom electrical selections available

APPLICATIONS

- Computer terminals
- Industrial systems controllers
- Telephone sets, Telephone exchangers
- Signal transmission between systems of different potentials and impedances

Dimensions in mm



ABSOLUTE MAXIMUM RATINGS (25°C unless otherwise specified)

Storage Temperature	-55°C to + 150°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	±100mA
Peak Forward Current	±1A
Power Dissipation	200mW

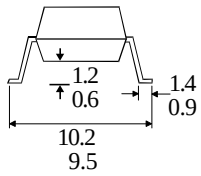
OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO}	30V
Collector-base Voltage BV_{CBO}	70V
Emitter-collector Voltage BV_{ECO}	7V
Emitter-base Voltage BV_{EBO}	7V
Power Dissipation	300mW

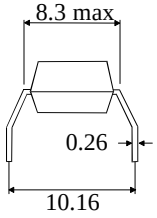
POWER DISSIPATION

Total Power Dissipation	350mW
(derate linearly 4.67mW/°C above 25°C)	

OPTION SM
SURFACE MOUNT



OPTION G



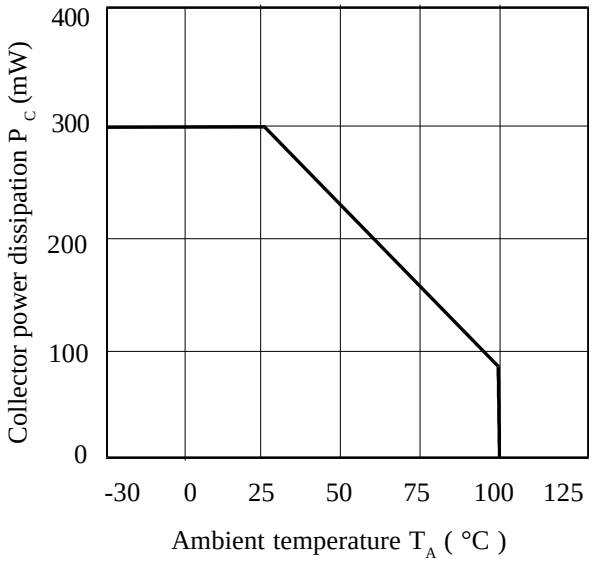
ISOCOM COMPONENTS LTD
Unit 25B, Park View Road West,
Park View Industrial Estate, Brenda Road
Hartlepool, Cleveland, TS25 1YD
Tel: (01429) 863609 Fax :(01429) 863581

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

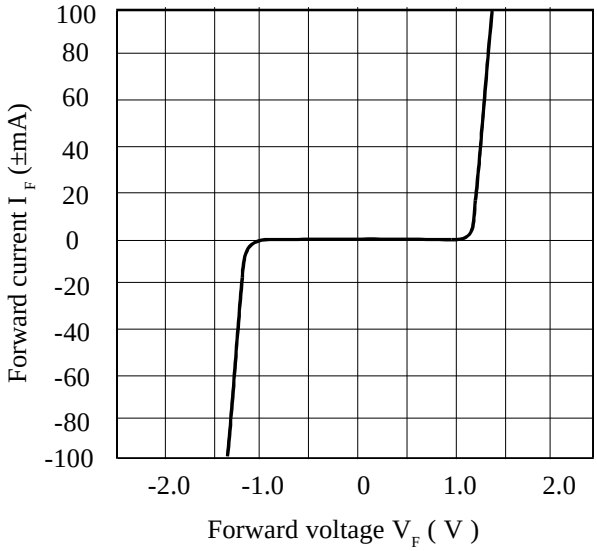
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)		1.2	1.5	V	I_F = ±10mA
Output	Collector-emitter Breakdown (BV_{CEO}) (note 2)	30			V	I_C = 1mA
	Collector-base Breakdown (BV_{CBO})	70			V	I_C = 100µA
	Emitter-base Breakdown (BV_{EBO})	7			V	I_E = 100µA
	Emitter-collector Breakdown (BV_{ECO})	7			V	I_E = 100µA
	Collector-emitter Dark Current (I_{CEO})			50	nA	V_{CE} = 10V
Coupled	Current Transfer Ratio (CTR) (note 2)	50			%	±10mAI_F , 10V V_{CE}
	Collector-emitter Saturation Voltage$V_{CE(SAT)}$			0.4	V	±10mAI_F , 0.5mAI_C
	Current Transfer Ratio Symmetry	0.33		3.0		±10mAI_F , 10V V_{CE}
	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}	$5x10^{10}$			Ω	V_{IO} = 500V (note 1)
	Turn-on Time ton		3		µs	V_{CC} = 10V ,
	Turn-off Time toff		3		µs	I_C= 2mA, R_L = 100Ω
	Output Rise Time tr		2		µs	
	Output Fall Time tf		2		µs	

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.

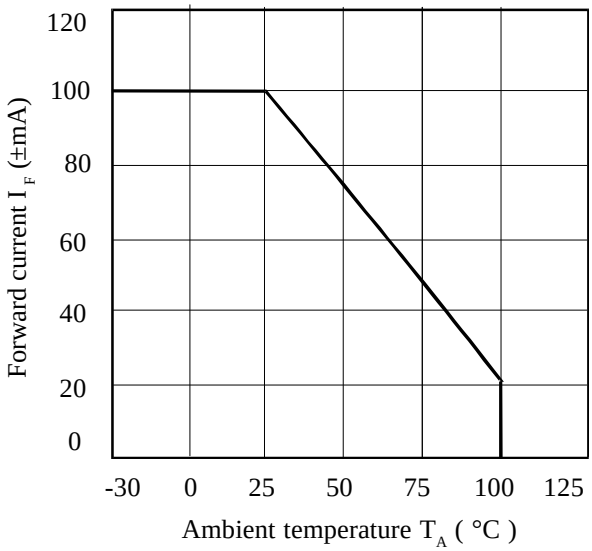
Collector Power Dissipation vs. Ambient Temperature



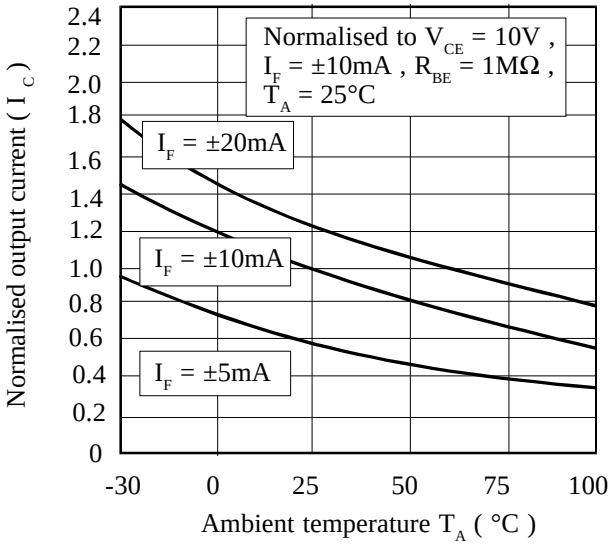
Forward Current vs. Forward Voltage



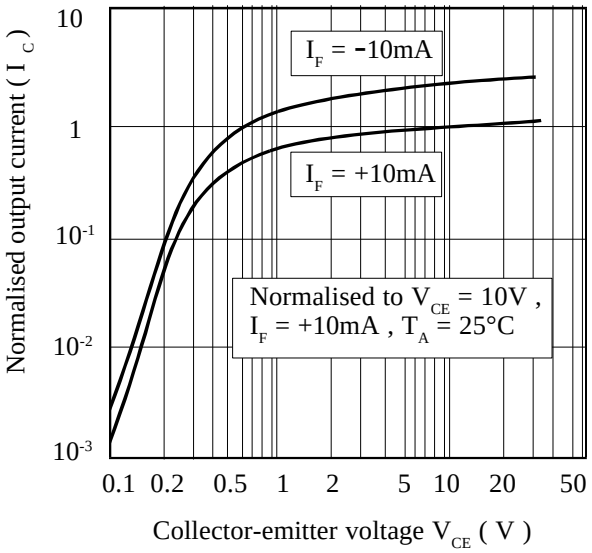
Forward Current vs. Ambient Temperature



Normalised Output Current vs. Ambient Temperature



Normalised Output Current vs. Collector-emitter Voltage



Normalised Output Current vs. Forward Current