

ISP620-1X, ISP620-2X, ISP620-4X
 ISP620-1, ISP620-2, ISP620-4



ISOCOM
 COMPONENTS



**HIGH DENSITY A.C. INPUT
 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 ISP620-1, ISP620-2, ISP620-4 series of optically coupled isolators consist of two infrared light emitting diodes connected in inverse parallel and NPN silicon photo transistors in space efficient dual in line plastic packages.

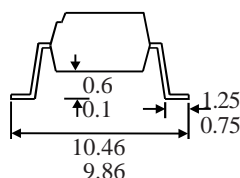
FEATURES

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

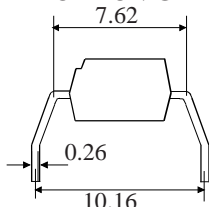
APPLICATIONS

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

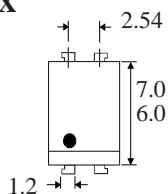
**OPTION SM
 SURFACEMOUNT**



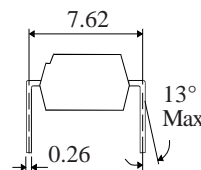
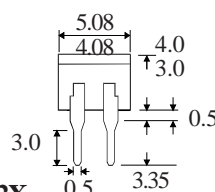
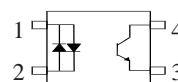
OPTION G



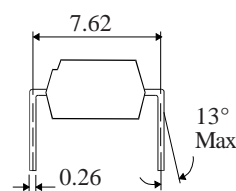
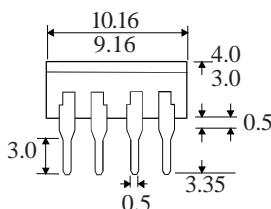
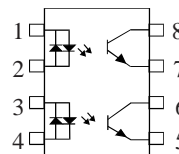
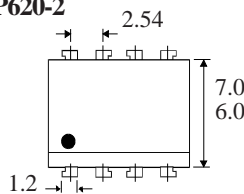
**ISP620-1X
 ISP620-1**



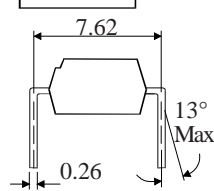
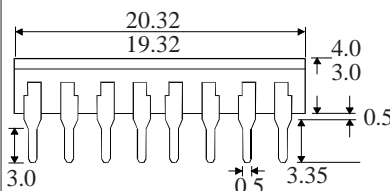
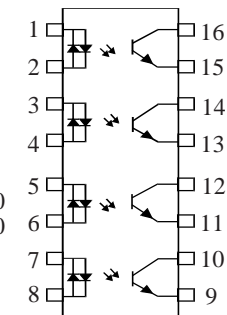
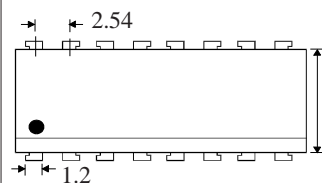
Dimensions in mm



**ISP620-2X
 ISP620-2**



**ISP620-4X
 ISP620-4**



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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
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)	

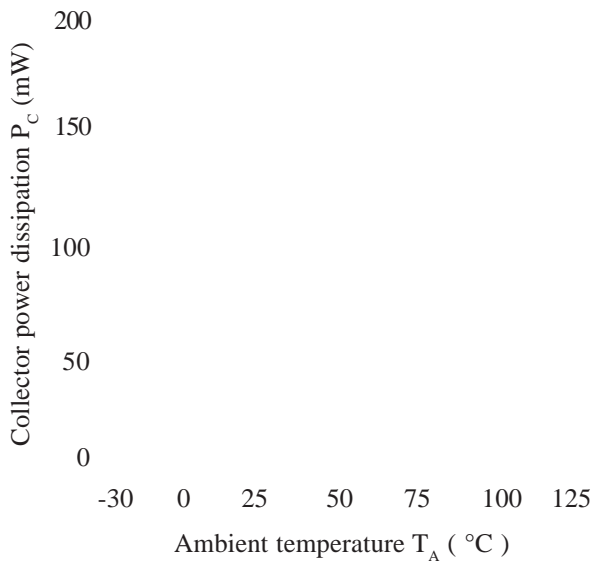
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)	1.0	1.15	1.3	V	$I_F = \pm 10\text{mA}$
Output	Collector-emitter Breakdown (BV_{CEO}) (Note 2)	55			V	$I_C = 0.5\text{mA}$
	Emitter-collector Breakdown (BV_{ECO})	6			V	$I_E = 100\mu\text{A}$
	Collector-emitter Dark Current (I_{CEO})			100	nA	$V_{CE} = 20\text{V}$
Coupled	Current Transfer Ratio (CTR) (Note 2) ISP620-1, ISP620-2, ISP620-4	50		600	%	$\pm 5\text{mA}I_F, 5\text{V} V_{CE}$
	CTR selection available GB	100		600	%	$\pm 5\text{mA}I_F, 5\text{V} V_{CE}$
		30			%	$\pm 1\text{mA}I_F, 0.4\text{V} V_{CE}$
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$ GB			0.4	V	$\pm 8\text{mA}I_F, 2.4\text{mA}I_C$
				0.4	V	$\pm 1\text{mA}I_F, 0.2\text{mA}I_C$
	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}	5×10^{10}			Ω	$V_{IO} = 500\text{V}$ (note 1)
Rise Time, tr			4	μs	$V_{CE} = 2\text{V},$ $I_C = 2\text{mA}, R_L = 100\Omega$	
Fall Time, tf			3	μs		

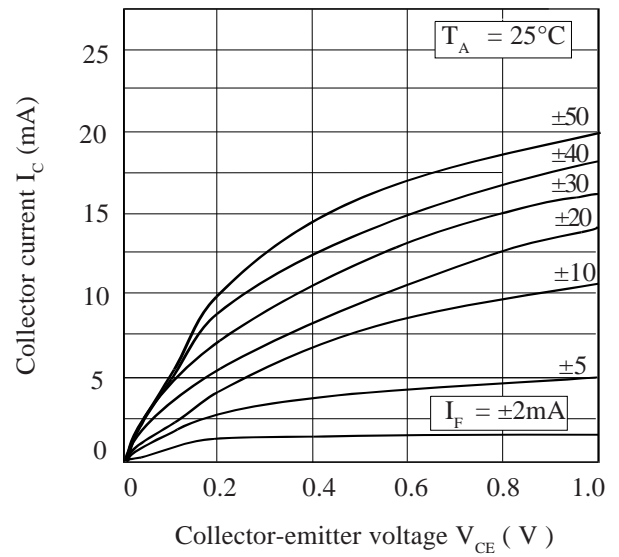
Note 1 Measured with input leads shorted together and output leads shorted together.

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

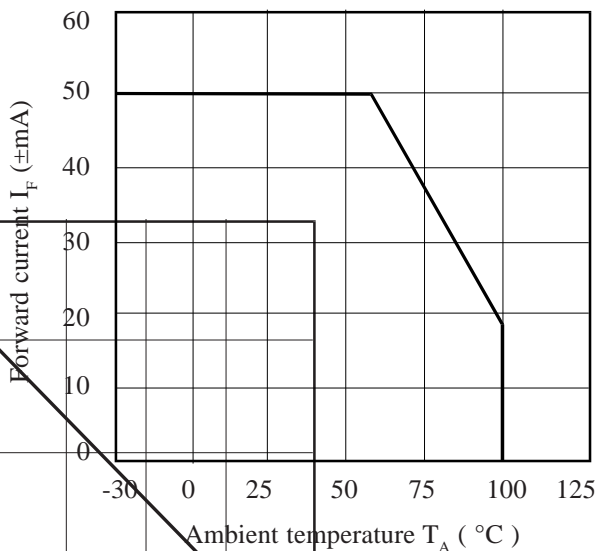
Collector Power Dissipation vs. Ambient Temperature



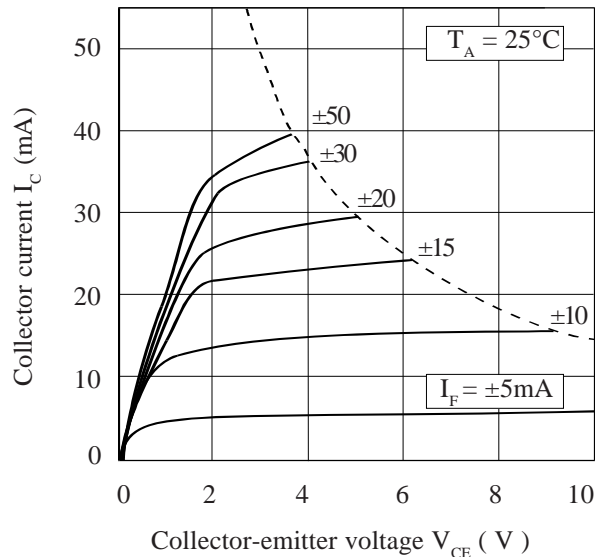
Collector Current vs. Low Collector-emitter Voltage



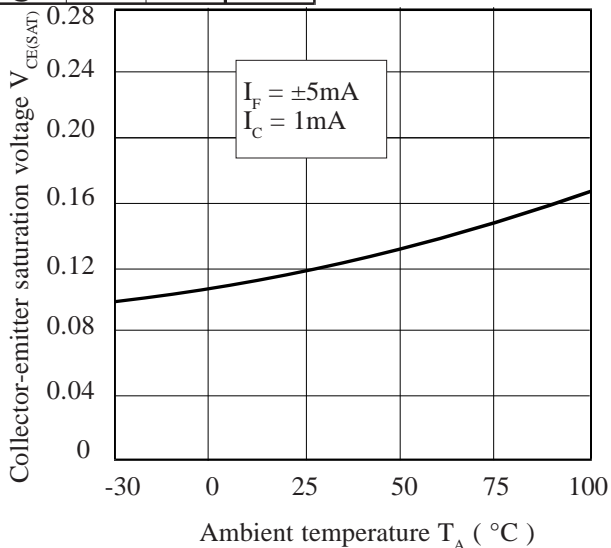
Forward Current vs. Ambient Temperature



Collector Current vs. Collector-emitter Voltage



Collector-emitter Saturation Voltage vs. Ambient Temperature



Current Transfer Ratio vs. Forward Current

