



# THE DATASHEET OF TLP620X



TLP620X, TLP620-2X, TLP620-4X  
TLP620, TLP620-2, TLP620-4



**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 forms : -  
STD  
- G form  
- SMD approved to CECC 00802

**DESCRIPTION**

The TLP620, TLP620-2, TLP620-4 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.

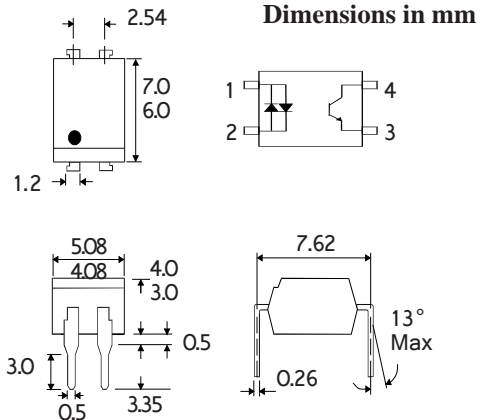
**FEATURES**

- 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<sub>RMS</sub>, 7.5kV<sub>PK</sub>)
- AC or polarity insensitive input
- All electrical parameters 100% tested
- Custom electrical selections available

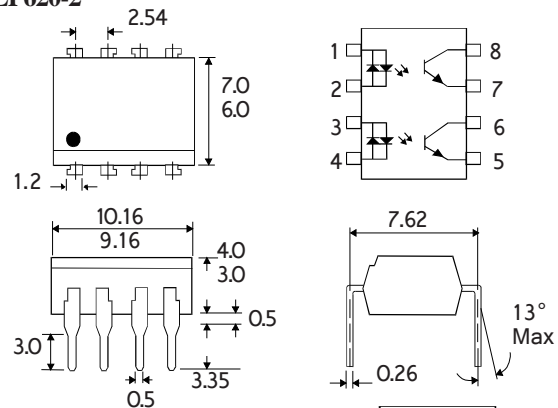
**APPLICATIONS**

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

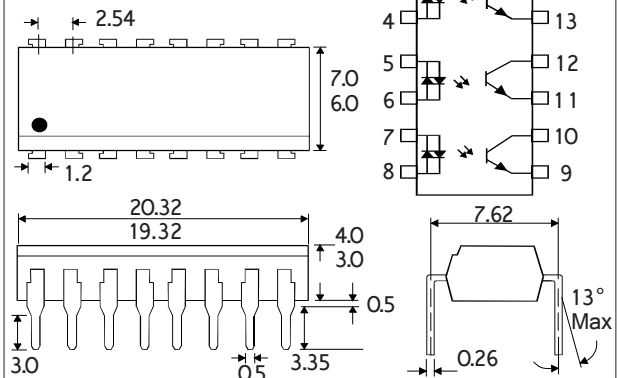
**TLP620**



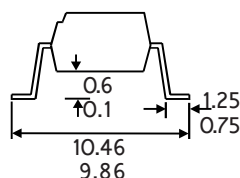
**TLP620-2**



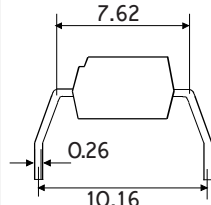
**TLP620-4**



**OPTION SM  
SURFACE MOUNT**



**OPTION G**



**ISOCOM COMPONENTS LTD**

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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)	

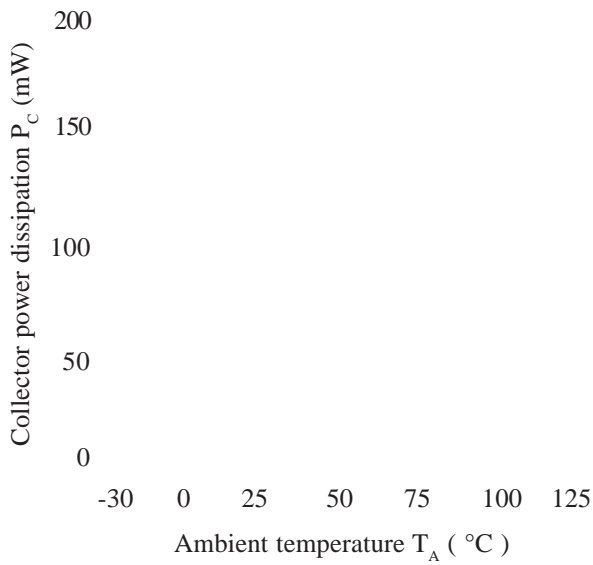
### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ Unless otherwise noted )

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) TLP620, TLP620-2, TLP620-4	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 $R_{ISO}$	$5 \times 10^{10}$			$\Omega$	$V_{IO} = 500\text{V}$ (note 1)
Rise Time, tr		4	18	$\mu\text{s}$	$V_{CE} = 2\text{V},$	
Fall Time, tf		3	18	$\mu\text{s}$	$I_C = 2\text{mA}, R_L = 100\Omega$	

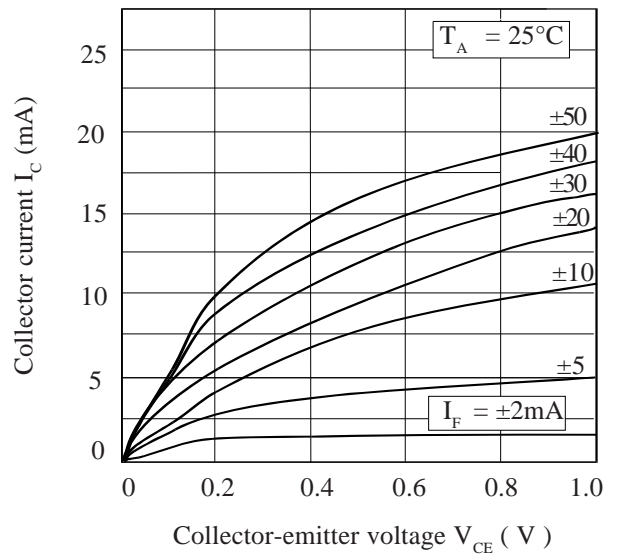
Note 1 Measured with input leads shorted together and output leads shorted together.

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

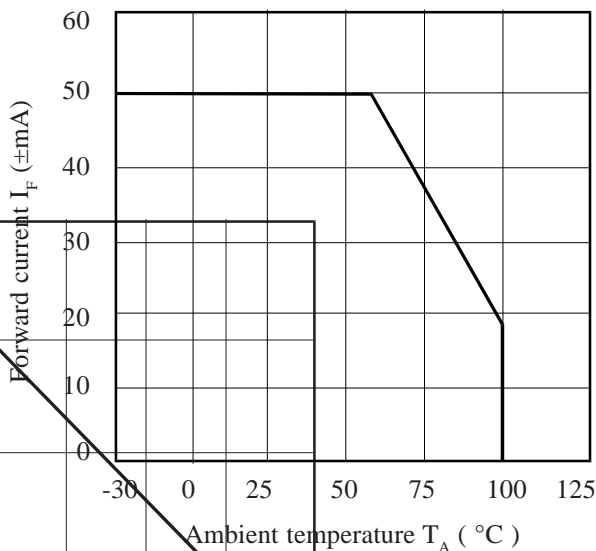
**Collector Power Dissipation vs. Ambient Temperature**



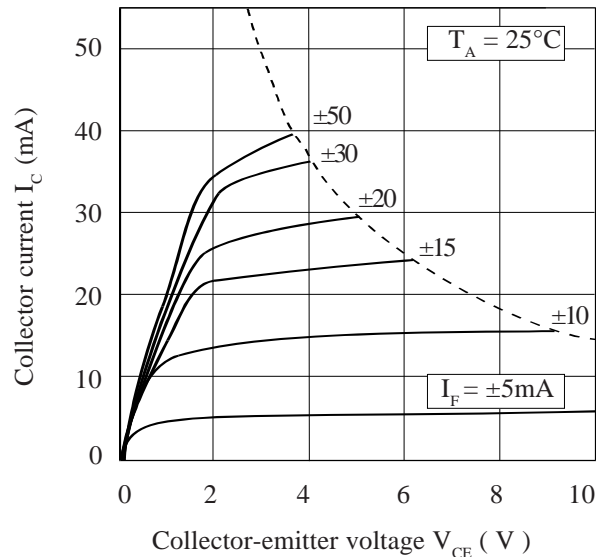
**Collector Current vs. Low Collector-emitter Voltage**



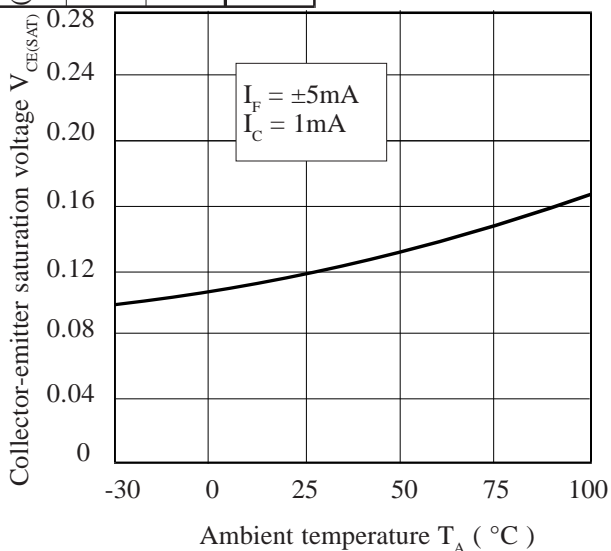
**Forward Current vs. Ambient Temperature**



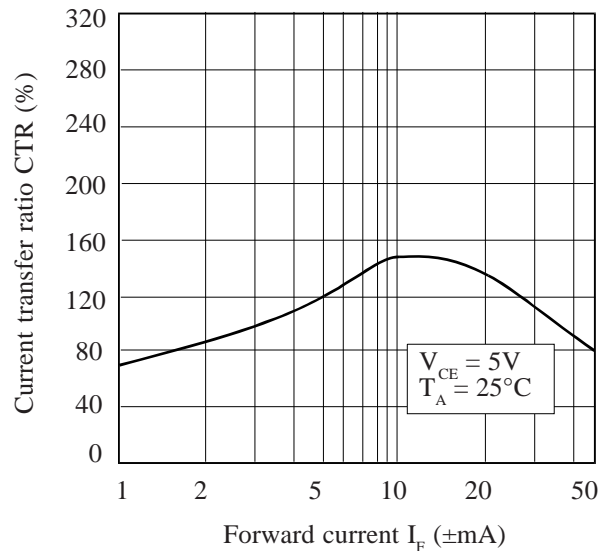
**Collector Current vs. Collector-emitter Voltage**



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




**Current Transfer Ratio vs. Forward Current**







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