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

HIGH DENSITY A.C. INPUT PHOTOTRANSISTOR OPTICALLY COUPLED ISOLATORS

APPROVALS

- UL recognised, File No. E91231

'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

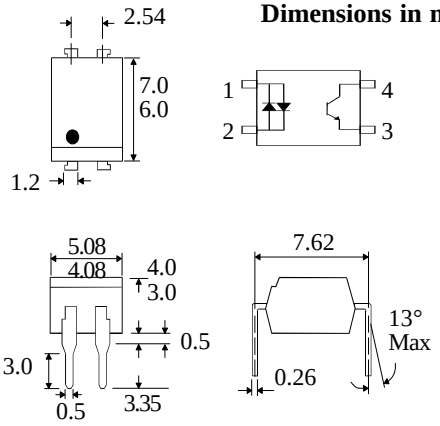
- Options :-
  10mm lead spread - add G after part no.
  Surface mount - add SM after part no.
  Tape&reel - add SMT&R after part no.
- High Isolation Voltage ($5.3kV_{RMS}$, $7.5kV_{PK}$)
- AC or polarity insensitive input
- All electrical parameters 100% tested
- Custom electrical selections available

APPLICATIONS

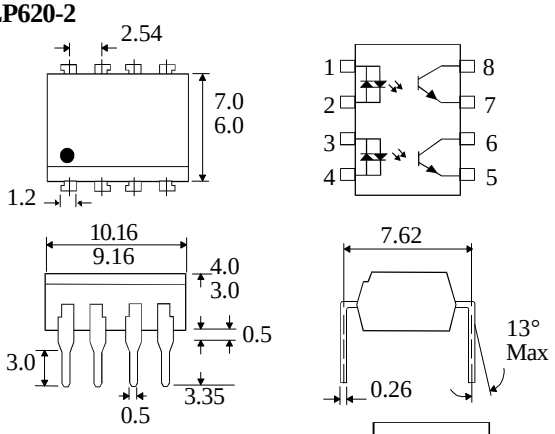
- Computer terminals
- Industrial systems controllers
- Telephone sets, Telephone exchangers
- Signal transmission between systems of different potentials and impedances

TLP620

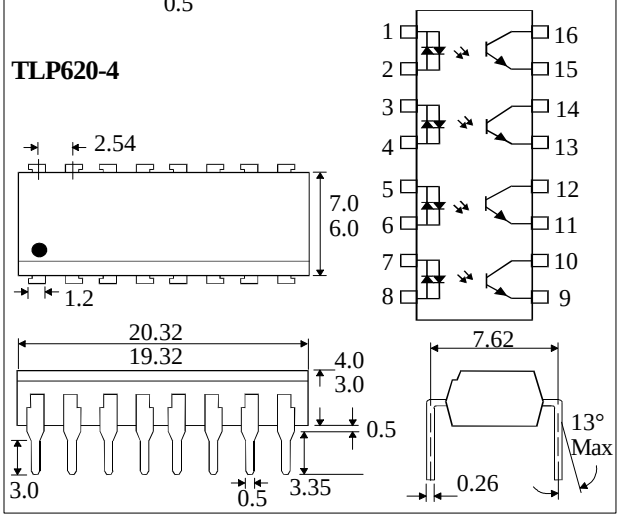
Dimensions in mm



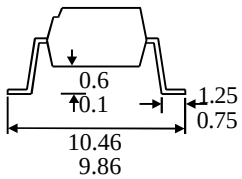
TLP620-2



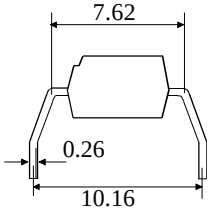
TLP620-4



OPTION SM
SURFACE MOUNT



OPTION G



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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

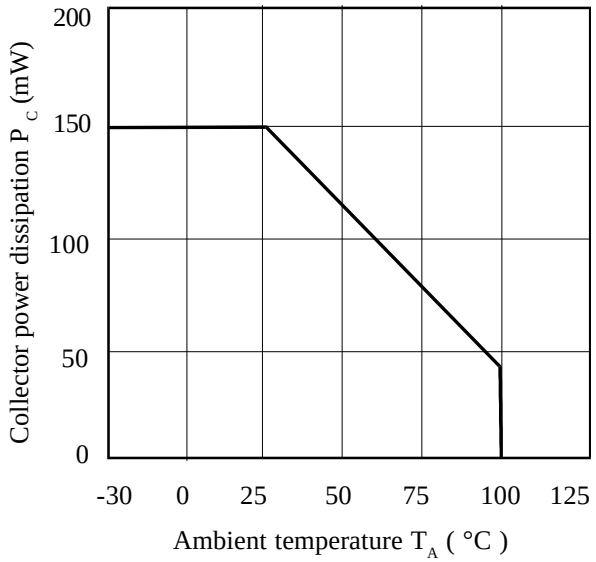
Total Power Dissipation	200mW
(derate linearly 2.67mW/°C above 25°C)	

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

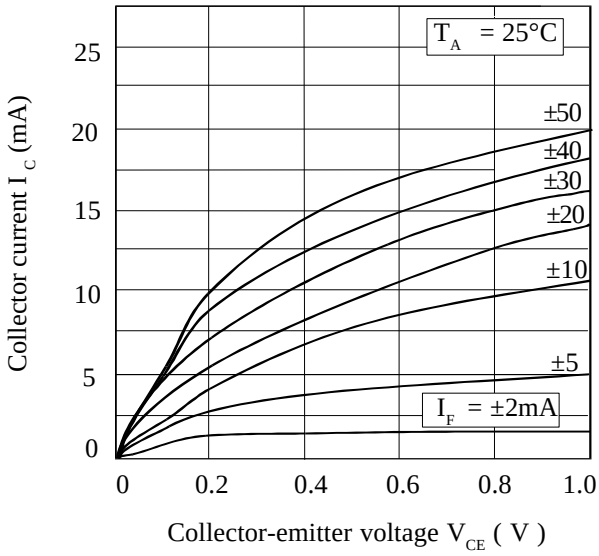
PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)	1.0	1.15	1.3	V	I_F = ± 10mA
Output	Collector-emitter Breakdown (BV_{CEO}) (Note 2)	55			V	I_C = 0.5mA
	Emitter-collector Breakdown (BV_{ECO})	6			V	I_E = 100µA
	Collector-emitter Dark Current (I_{CEO})			100	nA	V_{CE} = 20V
Coupled	Current Transfer Ratio (CTR) (Note 2)					
	TLP620, TLP620-2, TLP620-4	50		600	%	± 5mAI_F, 5V V_{CE}
	CTR selection available GB	100		600	%	± 5mAI_F, 5V V_{CE}
		30			%	± 1mAI_F, 0.4V V_{CE}
	Collector-emitter Saturation Voltage $V_{CE\ (SAT)}$			0.4	V	± 8mAI_F, 2.4mAI_C
	GB			0.4	V	± 1mAI_F, 0.2mAI_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)
	Rise Time tr		2		µs	V_{CC} = 10V ,
	Fall Time tf		3		µs	I_C= 2mA, R_L= 100Ω
	Turn-on Time ton		3		µs	
	Turn-off Time toff		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.

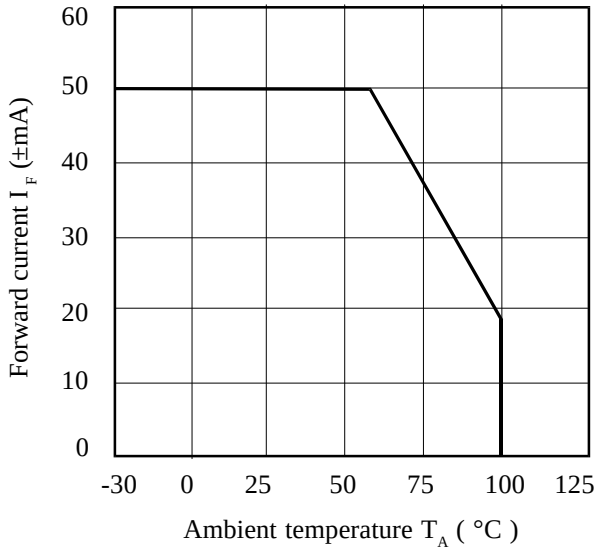
Collector Power Dissipation vs. Ambient Temperature



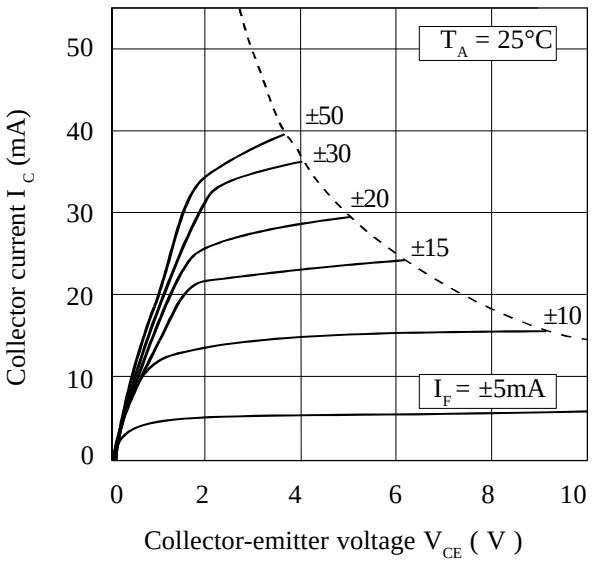
Collector Current vs. Low Collector-emitter Voltage



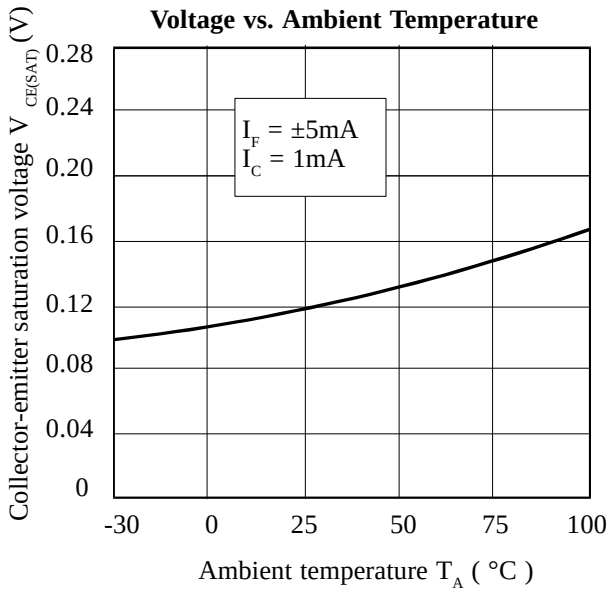
Forward Current vs. Ambient Temperature



Collector Current vs. Collector-emitter Voltage



Collector-emitter Saturation Voltage vs. Ambient Temperature



Current Transfer Ratio vs. Forward Current