

HIGH DENSITY MOUNTING PHOTOTRANSISTOR OPTICALLY COUPLED ISOLATORS



APPROVALS

- UL recognised, File No. E91231

DESCRIPTION

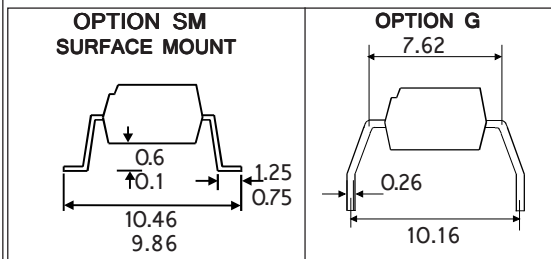
The TLP621-1, TLP621-2, TLP621-4 series of optically coupled isolators consist of infrared light emitting diodes and NPN silicon photo transistors in space efficient dual in line plastic packages.

FEATURES

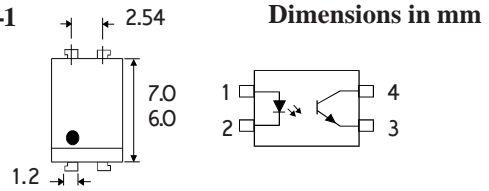
- Options :-
10mm lead spread - add G after part no.
Surface mount - add SM after part no.
Tape&reel - add SMT&R after part no.
- High Current Transfer Ratio (50% min)
- High Isolation Voltage (5.3kV_{RMS}, 7.5kV_{PK})
- High BV_{CEO} (55Vmin)
- All electrical parameters 100% tested
- Custom electrical selections available

APPLICATIONS

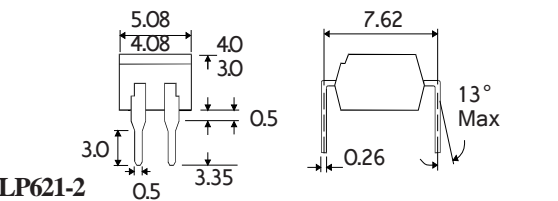
- Computer terminals
- Industrial systems controllers
- Measuring instruments
- Signal transmission between systems of different potentials and impedances



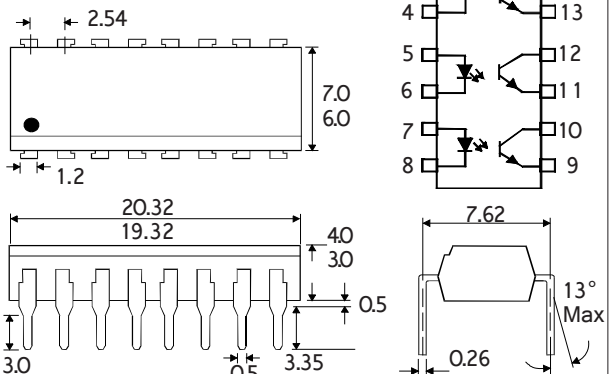
TLP621-1



TLP621-2



TLP621-4



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
 Reverse Voltage _____ 5V
 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)

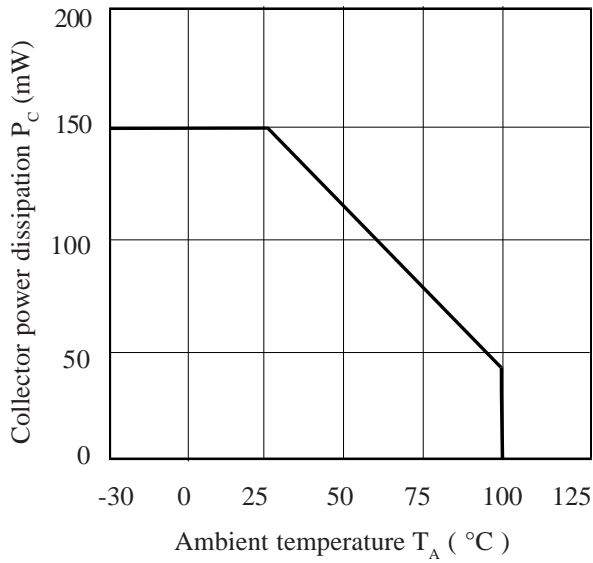
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V_F)	1.0	1.15	1.3	V	$I_F = 10\text{mA}$ $I_R = 10\mu\text{A}$ $V_R = 5\text{V}$
	Reverse Voltage (V_R)	5			V	
	Reverse Current (I_R)			10	μA	
Output	Collector-emitter Breakdown (BV_{CEO}) (Note 2)	55			V	$I_C = 0.5\text{mA}$ $I_E = 100\mu\text{A}$ $V_{CE} = 24\text{V}$
	Emitter-collector Breakdown (BV_{ECO})	6			V	
	Collector-emitter Dark Current (I_{CEO})			100	nA	
Coupled	Current Transfer Ratio (CTR) (Note 2) TLP621-1, TLP621-2, TLP621-4	50		600	%	$5\text{mA } I_F, 5\text{V } V_{CE}$
	CTR selection available GB	100		300	%	
	BL	200		600	%	
	GR	30			%	
	Collector-emitter Saturation Voltage $V_{CE(SAT)}$ GB			0.4	V	$8\text{mA } I_F, 2.4\text{mA } I_C$ $1\text{mA } I_F, 0.2\text{mA } I_C$ See note 1 See note 1 $V_{IO} = 500\text{V}$ (note 1) $V_{CC} = 10\text{V}$, $I_C = 2\text{mA}, R_L = 100\Omega$
	Input to Output Isolation Voltage V_{ISO}	5300			V_{RMS}	
		7500			V_{PK}	
	Input-output Isolation Resistance R_{ISO}	5×10^{10}			Ω	
	Rise Time tr		2		μs	
	Fall Time tf		3		μs	
	Turn-on Time ton		3		μs	
	Turn-off Time toff		3		μs	

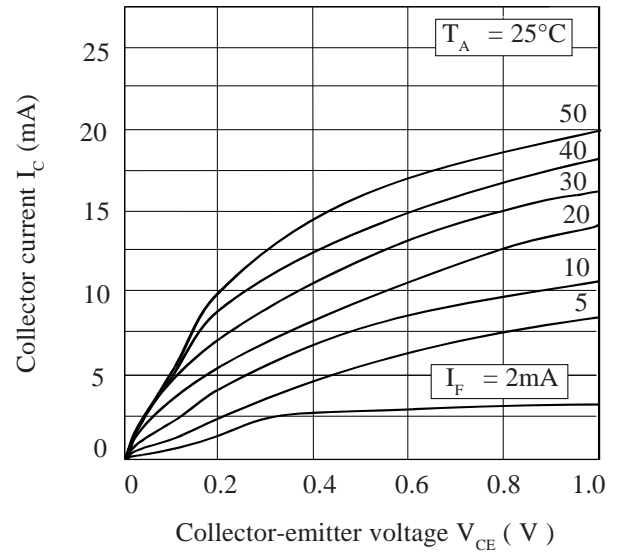
Note 1 Measured with input leads shorted together and output leads shorted together.

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

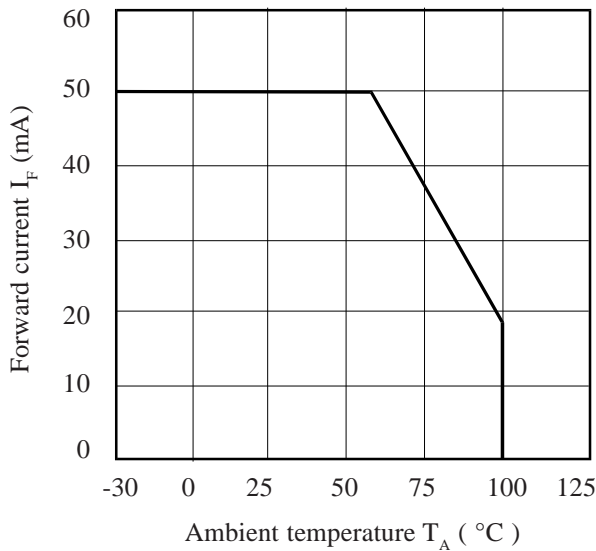
Collector Power Dissipation vs. Ambient Temperature



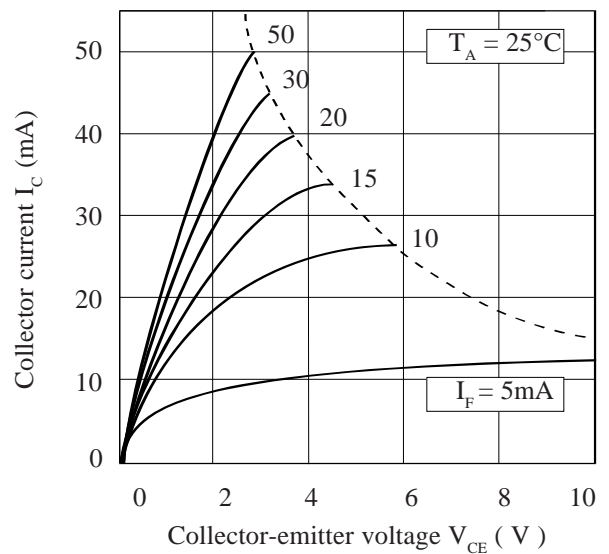
Collector Current vs. Low Collector-emitter Voltage



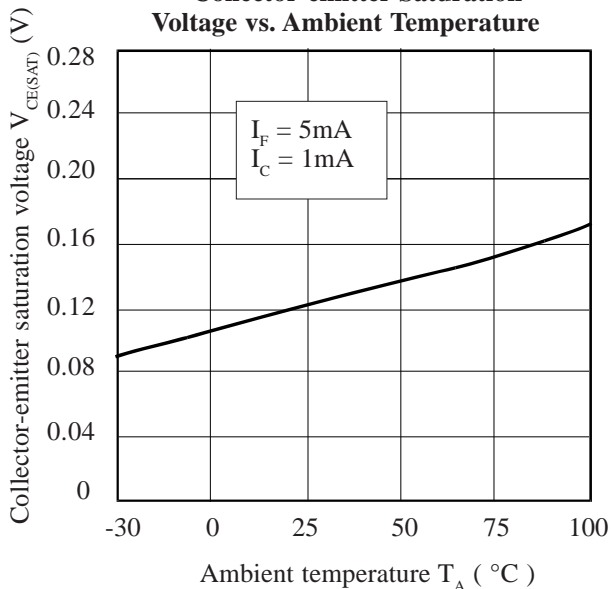
Forward Current vs. Ambient Temperature



Collector Current vs. Collector-emitter Voltage



Collector-emitter Saturation Voltage vs. Ambient Temperature



Current Transfer Ratio vs. Forward Current

