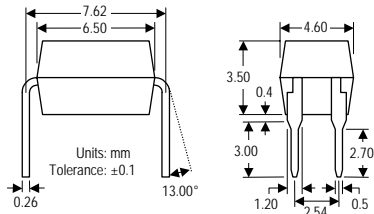
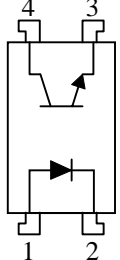


TLP621 TRANSISTOR OPTOCOUPLEDERS

ISOCOM[®] LTD

PACKAGES	CIRCUIT
 <p>Units: mm Tolerance: ±0.1</p>	

DESCRIPTION

These devices are single channel optocouplers. The channel is composed of a Gallium Arsenide infra-red emitting diode and a silicon phototransistor. Package styles for these devices are 4 pin with surface mount, butt cut and gull wing options available.

The same electrical die, assembly processes and materials are used for each channel of each device shown below. Therefore absolute maximum ratings, recommended operating conditions, electrical specifications and performance characteristics are identical for all units. Any exceptions, due to packaging variations and limitations, are as noted.

Isocom Ltd supplies a multitude of plastic optocouplers for all applications varying from standard transistor optos through to Darlington and Schmitt Trigger devices. It's massive family of optos vary in speed allowing maximum opportunity to engineers worldwide.

All devices are performance guaranteed between -20°C and +80°C and have completed rigorous testing. The Company's customers can be assured of our commitment to stringent quality, reliability and inspection standards, as demonstrated by our existing approvals. Other customer specific options can also be offered.

FEATURES

- Manufactured and tested in BS9000 and CECC20000 approved premises
- High current transfer ratio
- 7500V electrical isolation

Isocom Ltd reserves the right to change the details on this specification without notice. Please consult Isocom Ltd prior to use.

Isocom Ltd cannot accept liability for any errors or omissions.

For sales enquiries, or further information, please contact our sales office at:

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Or go to the Isocom Website @: [Http://www.isocom.uk.com](http://www.isocom.uk.com)

ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-65°C to +100°C
Operating Temperature	-55°C to +80°C
Lead Soldering Temperature	260°C 1.6mm from case for 10S
Input-to-Output Isolation Voltage	↑7500VDC

Input Diode

Forward DC Current	50mA	
Reverse DC Voltage	5V	
Peak forward Current	1.5mA	≤ 10μS duration
Power Dissipation	100mW	Derate linearly above 100°C at 1.6W/°C.

Output Transistor

Collector-Emitter Voltage	50V	BV _{CEO}
Emitter-Collector Voltage	7V	BV _{ECO}
Collector-Base Voltage	70V	BV _{CBO} For
Collector Current	50mA	
Collector Current	100mA	t = 1mS
Power Dissipation	100mW	For . Derate linearly above 100°C at 1.4W/°C

ELECTRICAL CHARACTERISTICS

T_A = 25°C U.O.S. (each channel where appropriate).

Input Diode Electrical Characteristics

Parameter	Symbol	Test Conditions	Device	Min	Typ	Max	Units
Forward Voltage	V _F	I _F = 10mA		0.7	1.18	1.4	V
		I _F = 10mA, T _A = 125°C		0.7	1.10	1.2	
		I _F = 10mA, T _A = -55°C		0.7	1.29	1.5	
Reverse Breakdown Voltage	V _R	I _R = 0.1mA		7	-	-	V
Reverse Current	I _R	V _R = 3V		-	-	100	μA
Capacitance	C _{IN}	V = 0, f = 1MHz		-	25	-	pF

Output Detector Electrical Characteristics

Collector-Emitter Breakdown Voltage (See note 1 below)	BV _{CEO}	I _C = 1mA		55	-	-	V
Collector-Base Breakdown Voltage (See note 1 below)	BV _{CBO}	I _B = 0.1mA		70	-	-	V
Emitter-Collector Breakdown Voltage	BV _{ECO}	I _E = 0.1mA		7	-	-	V
Emitter-Base Breakdown Voltage	BV _{EBO}	I _B = 0.1mA		5	-	-	V
Collector-Emitter Leakage Current	I _{CEO}	V _{CE} = 20V, I _F = 0		-	5	100	μA
		V _{CE} = 20V, I _F = 0, T _A = 125°C		-	8	100	μA

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ELECTRICAL CHARACTERISTICS CONTINUED...

Coupled Electrical Characteristics

DC Current Transfer Ratio (See note 3)	I _C /I _F	I _F = 10mA, V _{CE} = 5V	50	-	-600	%
		I _F = 10mA, V _{CE} = 5V, T _A = 125°C	50	-	-600	
		I _F = 10mA, V _{CE} = 5V, T _A = -55°C	60	-	-600	
		I _F = 1mA, V _{CE} = 5V	40	-	-	
Collector-Emitter Saturation Voltage	V _{CE} (Sat)	I _F = 10mA, I _C = 2.5mA	-	-	0.4	V
Input to Output Capacitance	C _{IO}	V _{IO} = 0, f = 1mhz (See note 2 below)	-	2	5	pF
Input to Output Resistance	R _{IO}	V _{IO} = 500V (See note 2 below)	-	10 ¹¹	-	↓
Isolation Voltage	V _{IO}	(See note 2 below)	7500 ¹	-	-	VDC
Delay Time	t _d	V _{CC} = 5V, I _C = 2mA	-	3.3	7	μS
Rise Time	t _r	R _L = 100Ohms	-	5.0	8	μS
Storage Time	t _s		-	0.4	0.8	μS
Fall Time	t _f		-	4.8	8	μS
Turn -on Time	t _{on}	V _{CC} = 5V, I _f = 5mA	-	4	15	μS
Turn-off Time	t _{off}	R _L = 1KOhms	-	8	20	μS

Notes

1. BV_{CEO} and BV_{CBO} can be selected to suit customer specifications.
2. Measured between input when leads 1, 2 and 3 are shorted together, and output when leads 4, 5 and 6 are shorted together.
3. A higher CTR can be selected to suit customer specification as a standard part.

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