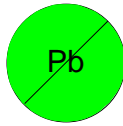


These components are RoHS compliant



# OPI 1000L Series

## Optically Coupled Isolators

### Surface Mount Low Profile

## ATEX & IECEx

# CERTIFIED

The OPI 1000L A through E are a series of Optically Coupled Isolators each consisting of a Infrared emitter coupled to a silicon photo transistor. The series is designed for applications requiring high voltage isolation between input & output.

- Surface Mount configuration in Tape & Reel
  - Low Profile
- High Current Transfer ratio– 40% min @ 1mA If  
10KV isolation



### CERTIFICATE BAS01ATEX1278U/2

Confirmed conform to:-

- EN60079-0:2006
- EN61241-0:2006
- EN60079-11:2007
- EN61241-11:2006
- EN60079-26:2004

Conditions of use apply:- See 'Schedule of limitations' on certificate



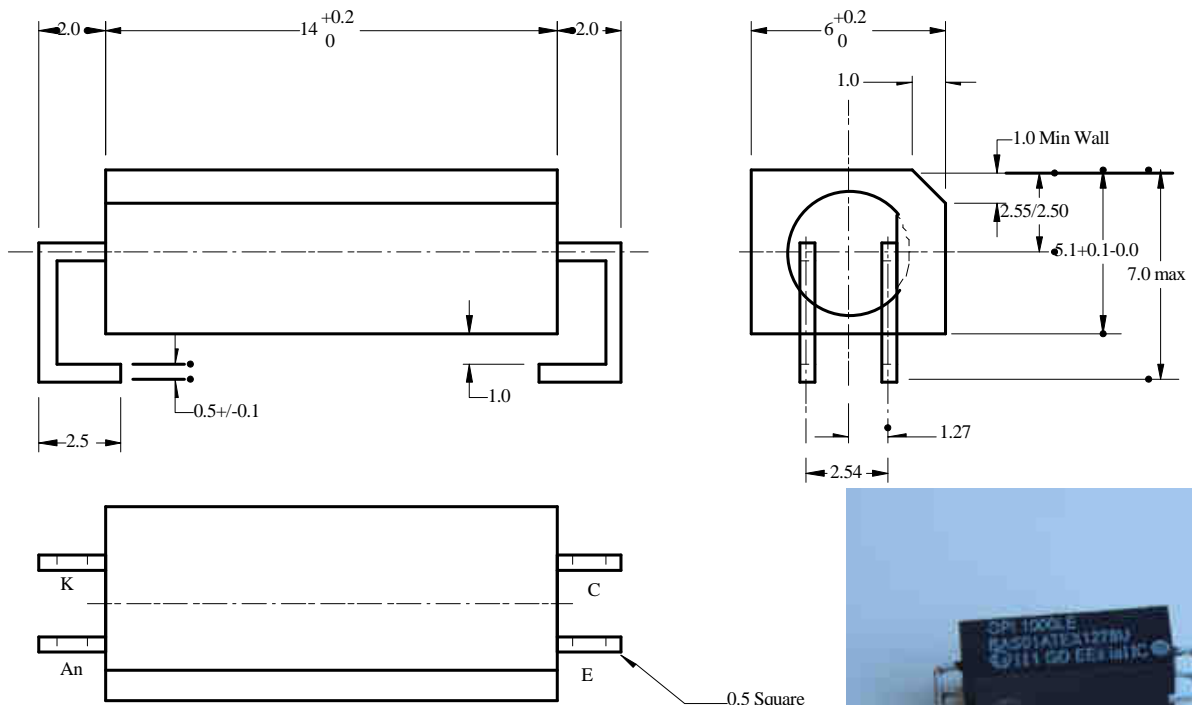
### CERTIFICATE IECEx BAS 06.0021U/1

Designed and manufactured to:-

- IEC 60079-0: 2000 Edition 3.1
- IEC 60079-11 :1999 Edition 4
- IEC 60097-26 :2004 Edition 1

Conditions of use apply:- 'See Schedule of limitations' on certificate.

## MECHANICAL DATA



**BEDFORD OPTO TECHNOLOGY LTD**  
**1, BIGGAR BUSINESS PARK, BIGGAR, LANARKSHIRE, ML12 6FX**

Tel: +44 (0) 1899 221221 Fax: +44 (0) 1899 221009

Website: bot.co.uk E-mail: bill@bot.co.uk

## ABSOLUTE MAXIMUM RATINGS (25°C unless otherwise noted)

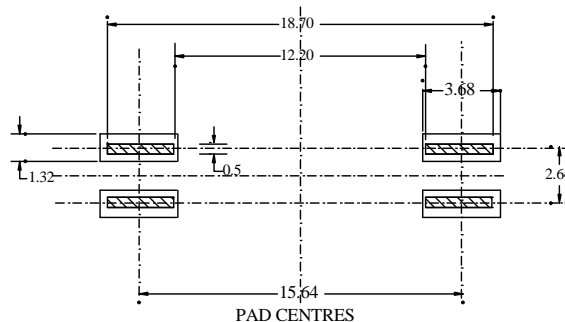
OPI 1000L

<b>INPUT DIODE</b> FORWARD DC CURRENT REVERSE DC VOLTAGE POWER DISSIPATION	100mA 5 Volts 165mW (ii)
<b>OUTPUT TRANSISTOR</b> COLLECTOR-EMITTER VOLTAGE COLLECTOR CURRENT POWER DISSIPATION	35 Volts 15 mA 165mW (iii)
<b>OPERATING TEMP</b>	-25°C TO +100°C
<b>STORAGE TEMP</b>	-25°C TO +100°C
<b>INPUT-TO-OUTPUT ISOLATION VOLTAGE</b>	±10KV DC (i)

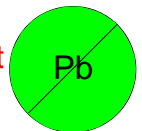
- i) Measured with the input leads and output leads shorted together for one min.
- ii) Thermal resistance 375 K/W
- iii) Thermal resistance 450 K/W

Whilst the devices are capable of operating continually at the noted elevated temperatures users should be aware of the possibility of a reduction in CTR over long periods at high temperatures & currents.

## RECOMMENDED FOOTPRINT



This component is RoHS compliant



### Packing

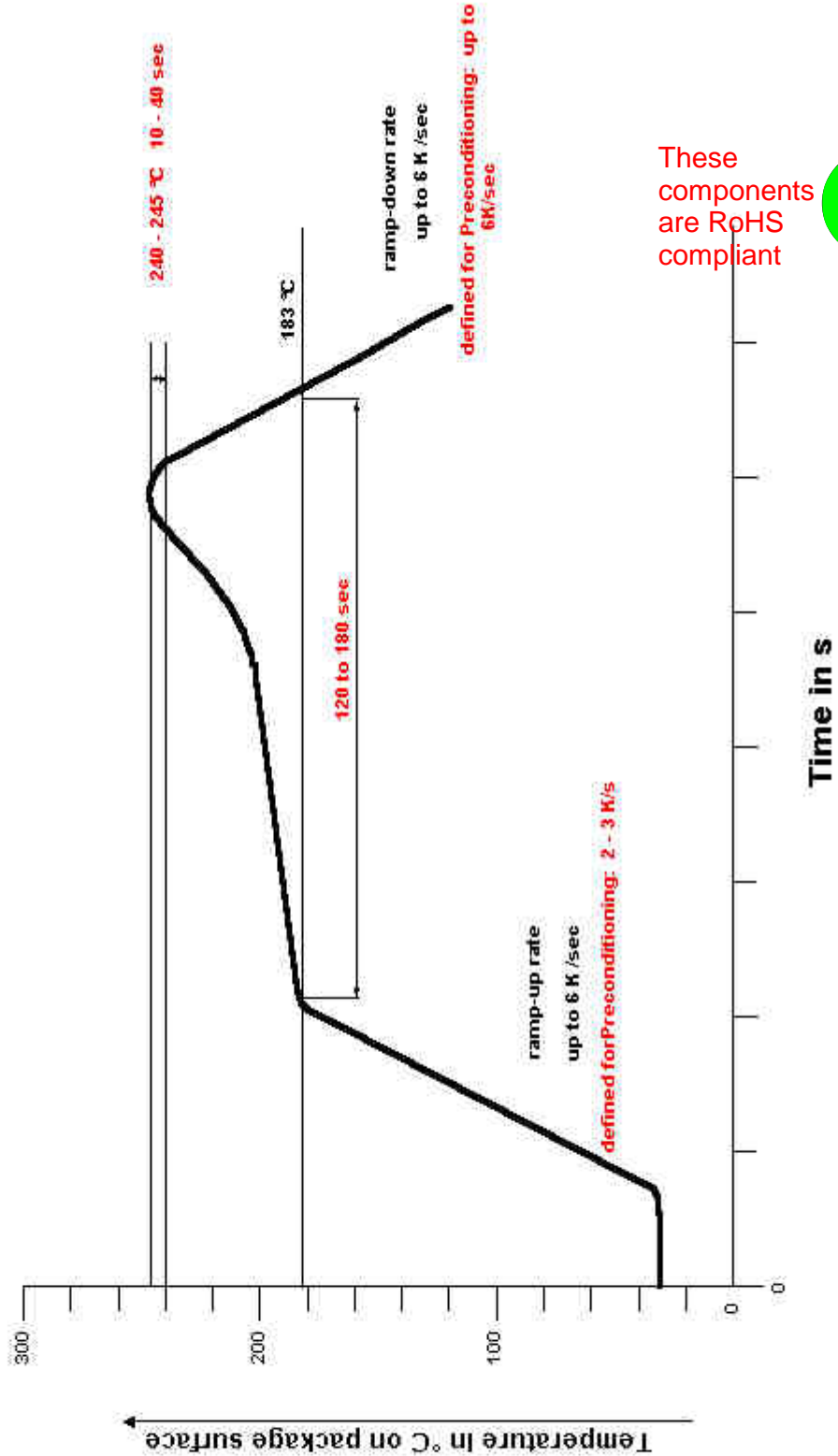
Waffle Trays - 100 per tray 290mm x 200mm.

Tape & Reel - 400 Devices per 13" Diam Reel with 7" HuB 32mm Wide tape.

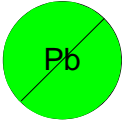
**BEDFORD OPTO TECHNOLOGY LTD**  
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2/5

IR Reflow soldering profile conforming to IPC9501

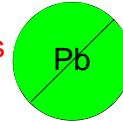


These components are RoHS compliant



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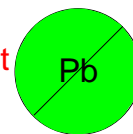


PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
<b>INPUT DIODE</b>						
Forward Voltage	V <sub>F</sub>	-	-	1.3	V	I <sub>f</sub> = 20mA
Reverse Voltage	V <sub>R</sub>	5.0	-	-	V	I <sub>r</sub> = 100uA
<b>OUTPUT TRANSISTOR</b>						
Collector-Emitter Breakdown Voltage	BV <sub>ceo</sub>	35	-	-	V	I <sub>c</sub> = 10 uA
Collector-Emitter Leakage Current	I <sub>ceo</sub>	OPI1000IE	-	10	nA	V <sub>ce</sub> = 30 V
		OPI1000IA to D	-	100	nA	V <sub>ce</sub> = 10 V
Emitter-Collector Breakdown	BV <sub>eco</sub>	5.0	-	-	V	I <sub>c</sub> = 100uA
<b>COUPLED PAIR</b>						
DC Current Transfer Ratio	I <sub>c</sub> /I <sub>F</sub>					
OPI 1000L A	-	25	-	-	%	I <sub>f</sub> = 10 mA V <sub>ce</sub> = 5 V
OPI 1000L B	-	50	-	-	%	I <sub>f</sub> = 10 mA V <sub>ce</sub> = 5 V
OPI 1000L C	-	100	-	-	%	I <sub>f</sub> = 10 mA V <sub>ce</sub> = 5 V
OPI 1000L E	-	40	-	-	%	I <sub>f</sub> = 1mA V <sub>ce</sub> = 5 V
Isolation Voltage	V <sub>ISO</sub>	10	-	-	KV	-
Collector-emitter saturation voltage	V <sub>CE(SAT)</sub>	-	-	0.4	V	I <sub>f</sub> = 10 mA, I <sub>c</sub> =1.6mA
Turn-on time	t <sub>on</sub>	-	8	-	uS	I <sub>c</sub> =2mA
Turn-off time	t <sub>off</sub>	-	8	-	uS	V <sub>cc</sub> = 5V R <sub>L</sub> = 100ohm

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CONFORMITY STATEMENT  
OPI1000L SERIES

This  
component  
is RoHS  
compliant



**Manufacturer:-** BEDFORD OPTO TECHNOLOGY LTD

**Address:-** 1 Biggar Business Park, Market Road, Biggar,  
Lanarkshire, ML12 6FX, Scotland

**Directive 94/9/EC**

EC-Type Examination Certificate:-

BAS01ATEX1278U – Latest supplement BAS01ATEX1278U/2 issued 30.10.07

Provisions of the Directive fulfilled by the component:-

Group II Category 1GD

EexialIC

Notified Body for EC-Type Examination & Production:- BaseefaLtd. – No. 1180

Baseefa Ltd.

Rockhead Business Park,

Staden Lane,

Buxton,

Derbyshire SK17 9RZ,

England

Tel:- +44 (0)1298 766600

Fax:- +44 (0)1298 766601

e-mail:- info@baseefa.com

Harmonised Standards used:-

EN60079-0:2006

EN60079-11:2007

EN61241-11:2006

Other Standards used:-

EN60079-26:2004 – (confirmed by Notified Body unit complies in all respects)

EN61241-0:2006 – (State of the Art – intended for harmonisation)

On Behalf of Bedford Opto Technology Ltd., I declare that, the date the component accompanied by this statement is placed on the market, the component conforms with all technical and regulatory requirements of the ATEX Directive 94/9/EC.

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Mr R.W.Stott  
Managing Director