

This component is RoHS compliant




# OPI1264 Series Optically Coupled Isolators ATEX & IECEx CERTIFIED

The OPI1264A/B/C/D are a family of optically coupled isolators, each consisting of an infrared light emitting diode, coupled to an NPN silicon phototransistor sealed in an injection moulded plastic housing. This series is designed for applications requiring high voltage isolation between input and output.

All electrical parameters are 100% tested by manufacturing. Specifications are guaranteed to a 0.65% AQL

- 10KV electrical rating
- High current transfer ratio-100%min @ 1mA

**ATEX** 

**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

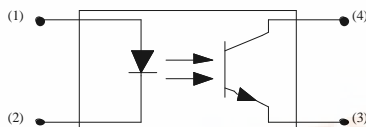
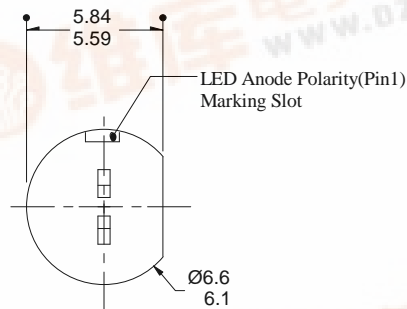
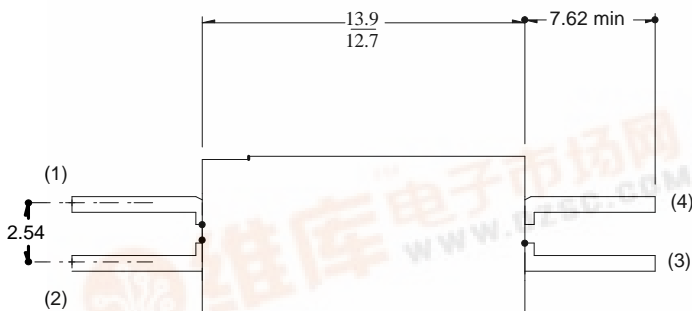


**CERTIFICATE IECEx BAS 06.0021U/1**

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**

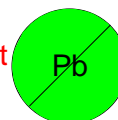
**1, BIGGAR BUSINESS PARK, BIGGAR, LANARKSHIRE ML12 6FX**

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

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



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

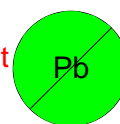
|  |                             |
|--|-----------------------------|
| <b>INPUT DIODE</b><br>FORWARD DC CURRENT<br>REVERSE DC VOLTAGE<br>POWER DISSIPATION                          | 50mA (3)<br>2V<br>100mW (4) |
| <b>OUTPUT PHOTOTRANSISTOR</b><br>COLLECTOR-EMITTER VOLTAGE<br>EMITTER-COLLECTOR VOLTAGE<br>POWER DISSIPATION | 30 V<br>5 V<br>100 mW (5)   |
| <b>OPERATING TEMP</b>  | -40°C TO +85°C              |
| <b>STORAGE TEMP</b>  | -40°C TO +85°C              |
| <b>INPUT-TO-OUTPUT ISOLATION VOLTAGE</b>   | +10KV DC (1)                |
| <b>LEAD SOLDERING TEMP</b> (2) 1.6mm from case for 5sec with soldering iron                                  | 240°C                       |

#### NOTES

- 1 Measured with input diode leads shorted together and output leads shorted together.
- 2 RMA Flux is recommended. Duration can be extended to 10 sec. max. when flow soldering.
- 3 Derate linearly 0.73 mA/°C above 25°C
- 4 Derate linearly 1.67 mW/°C above 25°C
- 5 Derate linearly 1.67 mW/°C above 25°C

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.

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### OPTO ELECTRONIC DATA (T<sub>A</sub> = 25°C)

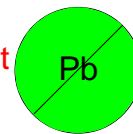
| PARAMETER                            | SYMBOL                         | MIN | TYP | MAX | UNITS | TEST CONDIS-<br>TIONS  |
|--------------------------------------|--------------------------------|-----|-----|-----|-------|--|
| <b>INPUT DIODE</b>                   |                                |     |     |     |       |  |
| Forward Voltage                      | V <sub>F</sub>                 |     |     | 1.5 | V     | I <sub>f</sub> = 20mA  |
| Reverse Current                      | I <sub>R</sub>                 |     |     | 100 | μA    | V <sub>r</sub> = 2V  |
| <b>OUTPUT PHOTOTRANSISTOR</b>        |                                |     |     |     |       |  |
| Collector-Emitter Breakdown Voltage  | V <sub>(BR)CEO</sub>           | 30  |     |     | V     | I <sub>c</sub> = 1mA I <sub>f</sub> = 0                                  |
| Emitter-Collector Breakdown Voltage  | V <sub>(BR)ECO</sub>           | 5   |     |     | V     | I <sub>e</sub> = 100μA   |
| Collector-Emitter Dark Current       | I <sub>CEO</sub>               |     |     | 100 | nA    | V <sub>ce</sub> = 10V  |
| <b>COUPLED CHARACTERISTICS</b>       |                                |     |     |     |       |  |
| DC Current transfer ratio            | I <sub>c</sub> /I <sub>f</sub> |     |     |     |       |  |
| OPI1264A                             |                                | 25  |     |     | %     | I <sub>f</sub> =10mA V <sub>ce</sub> =5V                                 |
| OPI1264B                             |                                | 50  |     |     | %     | I <sub>f</sub> =10mA V <sub>ce</sub> =5V                                 |
| OPI1264C                             |                                | 100 |     |     | %     | I <sub>f</sub> =10mA V <sub>ce</sub> =5V                                 |
| OPI1264D                             |                                | 100 |     |     | %     | I <sub>f</sub> =1mA, V <sub>ce</sub> =5V                                 |
| Isolation Voltage                    | V <sub>ISO</sub>               | 10  |     |     | KV    | See Note   |
| Collector-emitter saturation voltage | V <sub>CE(SAT)</sub>           |     |     | 0.4 | V     | I <sub>f</sub> =10mA,<br>I <sub>c</sub> =1.6mA                           |
| Turn-on time                         | t <sub>on</sub>                |     | 5   |     | μS    | I <sub>c</sub> =10mA,<br>V <sub>cc</sub> =10V,<br>R <sub>L</sub> =100ohm |
| Turn-off time                        | t <sub>off</sub>               |     | 5   |     | μS    | I <sub>c</sub> =10mA,<br>V <sub>cc</sub> =10V,<br>R <sub>L</sub> =100ohm |

**NOTE:**

Measured with input diode leads shorted together and output leads shorted together.  
(Sample testing only).

CONFORMITY STATEMENT  
OPI1264 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:-

GroupII 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

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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 re  
spects)

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