OPI1264 Series

Optically Coupled Isolators

ATEX &IECEx CERTIFIED

This component is RoHS compliant

Pb

The OPI1264A/B/C/D are a family of optically coupled isolators, each consisting of a 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 No. BAS01ATEX1278U/5

Confirmed conform to:-
EN60079-0:2012
EN60079-11:2012
EN60079-26:2007

Conditions of use apply:- See 'Schedule of limitations' on certificate / Details repeated on Page 2 of this datasheet.

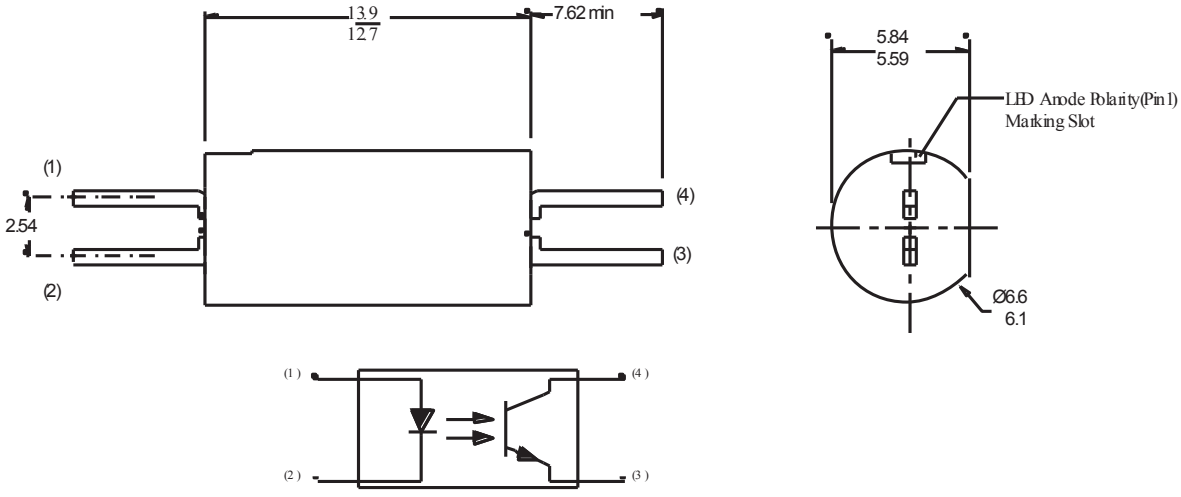
IEC IECEx

CERTIFICATE No. IECEx BAS 06.0021U/4

Confirmed conform to:-
IEC 60079-0:2011 Edition 6
IEC 60079-11:2011 Edition 6
IEC 60079-26:2006 Edition 2

Conditions of use apply:- See 'Schedule of limitations' on certificate / Details repeated on Page 2 of this datasheet.

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

Iss L 20.10.12

ABSOLUTE MAXIMUM RATINGS (25 °C unless otherwise noted)

INPUT DIODE	
FORWARD DC CURRENT	**50mA (3)**
REVERSE DC VOLTAGE	**2V**
POWER DISSIPATION	**100mW (4)**
OUTPUT PHOTOTRANSISTOR	
COLLECTOR-EMITTER VOLTAGE	30 V
EMITTER-COLLECTOR VOLTAGE	5 V
POWER DISSIPATION	100 mW (5)
OPERATING TEMP	-40°C TO +85°C
STORAGE TEMP	-40°C TO +85°C
INPUT-TO-OUTPUT ISOLATION VOLTAGE	+10KV DC (1)
LEAD S0LDERING TEMP (2) 1.6mm from case for 5sec with soldering iron	240°C

This component is RoHS compliant

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.

SCHEDULE OF LIMITATIONS

EC TYPE EXAMINATION CERTIFICATE No. BAS01ATEX1278U/5 28th September 2012
SCHEDULE OF LIMITATIONS

1 - The Opto Isolator must be mounted on a p.c.b. having a CTI of at least 175 such that creepage and clearance distances are not impaired. i.e.:- on an uncoated printed circuit board that maintains at least 10mm in air.

2 - The Opto Isolator may be used to provide isolation between either:-
(i) A non-intrinsically safe circuit and an intrinsically safe circuit, (Non IS:IS), where the IS circuit voltage is not greater than 75 Volts peak or d.c..
OR
(ii) Two intrinsically safe circuits (IS:IS), where the sum of the two circuit voltages is not greater than 375 Volts peak or d.c..

3 - The Opto Isolator must be installed such that the connection pins are provided with a degree of protection of at least IP20 where gasses and vapours may be present. If the Opto Isolator is to be installed where dusts represent a hazard, then it must be provided with a degree of protection of at least IP54 and the overall apparatus must be appropriately certified for the requirements for Dusts.

4 - The Opto Isolator must be installed with external power limiting components as specified in EN60079-11:2012, Clause 8.9.2.

CERTIFICATE No.:- IECEx BAS 06.0021U Date of Issue:- 2012-10-02 ISSUE No.: 4
SCHEDULE OF LIMITATIONS

Opto-isolator type	Thermal resistivity °C/W
OPI110	77
OPI1000L	52
OPI1264	70
OPI2000M	87

1. When used in intrinsically safe apparatus it will be necessary to determine a surface temperature classification for the opto-isolator:-

2. The Opto Isolator must be mounted on a printed circuit board such that creepage and clearance distances are not impaired.

3. The Opto Coupler must be installed such that the connection pins are provided with a degree of protection of IP20 where gasses and vapours may be present. If the Opto Coupler is to be installed within apparatus where flammable dusts represent the hazard then it must be provided with a degree of protection of IP54 and the apparatus must be appropriately certified for dust hazards.

5 - The Opto Isolator must be installed with external power limiting components as specified in IEC60079-11:2011 Ed 6, Clause 8.9.2.

OPTO ELECTRONIC DATA ($T_A = 25^oC$)

This component is RoHS compliant

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDIS-TIONS
INPUT DIODE						
Forward Voltage	V_F			1.5	V	If = 20mA
Reverse Current	I_R			100	µA	Vr = 2V
OUTPUT PHOTOTRANSISTOR						
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30			V	Ic = 1mA If = 0
Emitter-Collector Breakdown Voltage	$V_{(BR)ECO}$	5			V	Ie = 100µA
Collector-Emitter Dark Current	I_{CEO}			100	nA	Vce = 10V
COUPLED CHARACTERISTICS						
DC Current transfer ratio	I_C/I_F					
OPI1264A		25			%	If=10mA Vce=5V
OPI1264B		50			%	If=10mA Vce=5V
OPI1264C		100			%	If=10mA Vce=5V
OPI1264D		100			%	If=1mA, Vce=5V
Isolation Voltage	V_{ISO}	10			KV	See Note
Collector-emitter saturation voltage	$V_{CE(SAT)}$			0.4	V	If=10mA, Ic=1.6mA
Turn-on time	t_{on}		5		µS	Ic=10mA, Vcc=10V, R_L=100ohm
Turn-off time	t_{off}		5		µS	Ic=10mA, Vcc=10V, R_L=100ohm

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

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

Iss L 20.10.12

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/5*** issued ***Sept. 2012***

Provisions of the Directive fulfilled by the component:-

	Ex ia IIC Ga (-40°C ≤ Ta ≤ +85°C)
Ex II 1 GD	Ex ia IIIC Da (-40°C ≤ Ta ≤ +85°C)

Notified Body for EC-Type Examination & Production:- BASEEFA Ltd. – 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:***2012***
EN60079-11:***2012***
EN60079-26:2006

Other Standards used:-

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 ***and the RoHS Directive 2011/65/EU***.

_____

Mr R.W.Stott
Managing Director PP-