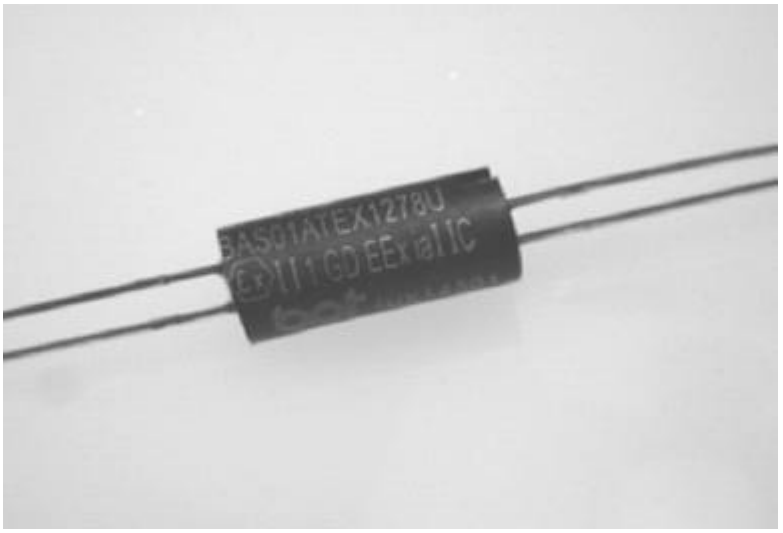
OPI-110 Series Optically Coupled Isolators

BASEEFA and ATEX CERTIFIED

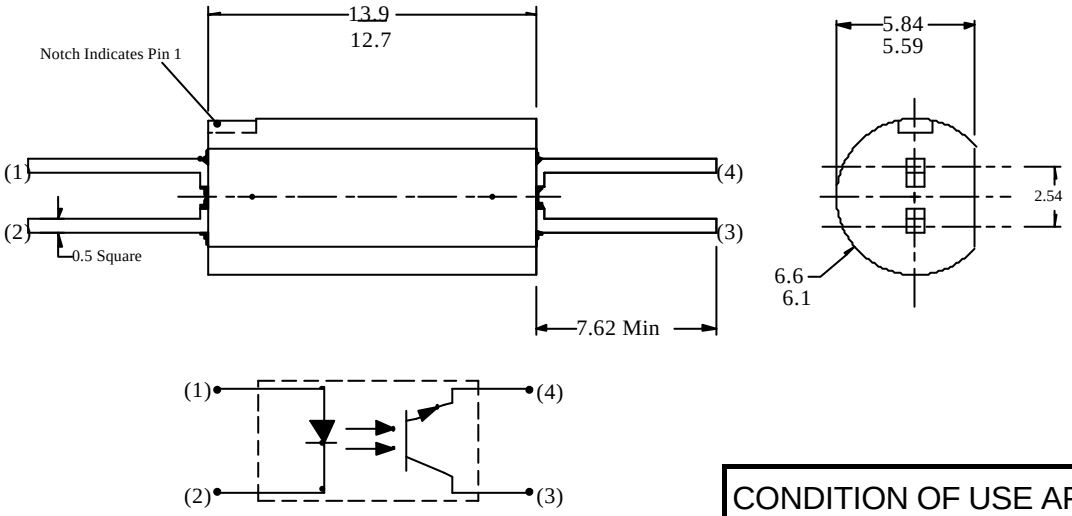
BASEEFA Certified
BAS No. Ex 95C2096U EEx ia IIC
ATEX Certified
BAS 01ATEX1278U

The OPI-110, A/B/C and 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.

- 10 KV electrical rating
- High current transfer ratio- 100% min @ 1mA If.
- Designed and manufactured to EN50020 1995 and EN50014 1998



MECHANICAL DATA



CONDITION OF USE APPLY
EN50020 1994 CLAUSES
6..4.9 AND 8.8

BEDFORD OPTO TECHNOLOGY LTD
LINDSAYLANDS, BIGGAR, ML12 6NR
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Website: bot.co.uk E-mail: bill@bot.co.uk

ABSOLUTE MAXIMUM RATINGS (25°C unless otherwise noted)

INPUT DIODE	
FORWARD DC CURRENT	50mA (3)
REVERSE DC VOLTAGE	2V
OUTPUT PHOTOTRANSISTOR	
COLLECTOR-EMITTER VOLTAGE	30 V
EMITTER-COLLECTOR VOLTAGE	5 V
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	240°C

NOTES

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

2 RMA Flux is recommended. Duration can be extened to 10 sec. max. when flow soldering.

3 Derate linearly 0.73 mA/ C above 25 C

4 Derate linearly 1.67 mA/ C above 25 C

5 Derate linearly 1.67 mA/ C above 25 C

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OPTO ELECTRONIC DATA (T_A = 25°C)

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	uA	Vr = 2V
OUTPUT PHOTOTRANSISTOR						
Collector-Emitter Breakdown Volt-	$V_{(BR)CEO}$	30			V	Ic = 1mA If = 0
Emitter-Collector Breakdown Volt-	$V_{(BR)ECO}$	5			V	Ie = 100uA
Collector-Emitter Dark Current	I_{CEO}			100	nA	Vce = 10V
COUPLED CHARACTERISTICS						
DC Current transfer ratio	I_C/I_F					
OPI 110A		25			%	If=10mA, Vce=5V
OPI 110B		50			%	If=10mA, Vce=5V
OPI 110C		100			%	If=10mA, Vce=5V
OPI 110D		100			%	If=1mA, Vce=5V
Isolation Voltage	V_{ISO}	10			KV	See Note (1)
Collector-emitter saturation voltage	$V_{CE(SAT)}$			0.4	V	If=10mA,
Input-output capacitance	Cio		0.06		pF	
Turn-on time	t_{on}		5		uS	Ic=10mA, Vcc=10V,
Turn-off time	t_{off}		5		uS	Ic=10mA, Vcc=10V,

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

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ESSENTIAL HEALTH AND SAFETY INFORMATION IN ACCORDANCE WITH ATEX DIRECTIVE 94/9/EC

INFORMATION CONTAINED IN THIS DATASHEET IS DEEMED TO CONFORM TO THE ABOVE DIRECTIVE AND IS SUPPLIED IN RELATION TO THE FOLLOWING SHIPMENT: -

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TYPE NUMBER_____

QUANTITY_____

BATCH NUMBER_____

DATE CODE_____

DATE OF SHIPMENT_____