

OPI-110 Series Optically Coupled Isolators BASEEFA and ATEX CERTIFIED

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.

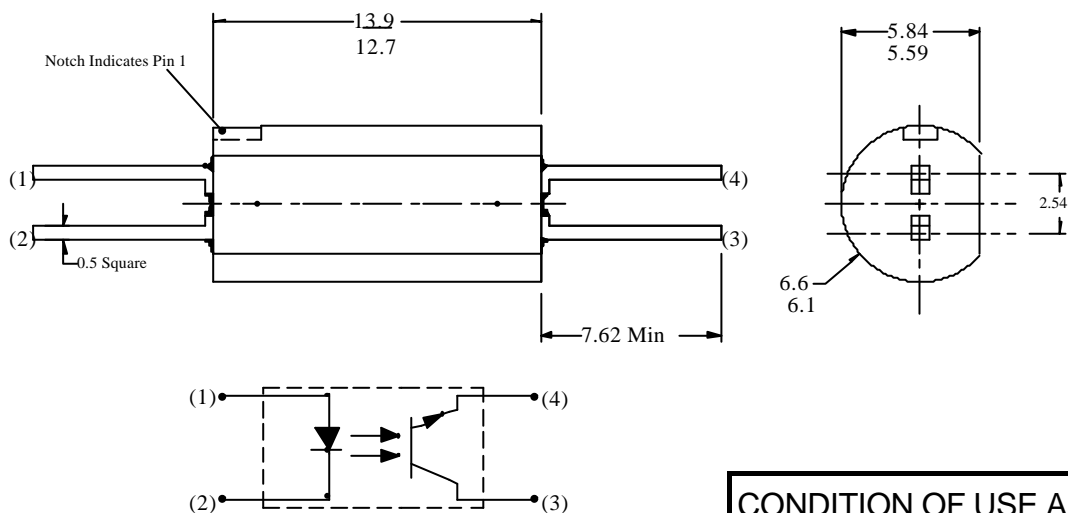
All electrical parameters are 100% tested by manufacturing. Specifications are guaranteed to a 0.65% AQL.

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

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



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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INPUT DIODE FORWARD DC CURRENT REVERSE DC VOLTAGE	50mA (3) 2V
OUTPUT PHOTOTRANSISTOR COLLECTOR-EMITTER VOLTAGE EMITTER-COLLECTOR VOLTAGE	30 V 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 SOLDERING 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 ($T_A = 25^\circ\text{C}$)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDIT- TIONS
INPUT DIODE						
Forward Voltage	V_F			1.5	V	$I_f = 20\text{mA}$
Reverse Current	I_R			100	μA	$V_R = 2\text{V}$
OUTPUT PHOTOTRANSISTOR						
Collector-Emitter Breakdown Volt-	$V_{(BR)CEO}$	30			V	$I_c = 1\text{mA}$ $I_f = 0$
Emitter-Collector Breakdown Volt-	$V_{(BR)ECO}$	5			V	$I_e = 100\mu\text{A}$
Collector-Emitter Dark Current	I_{CEO}			100	nA	$V_{ce} = 10\text{V}$
COUPLED CHARACTERISTICS						
DC Current transfer ratio	I_C/I_F					
OPI 110A		25			%	$I_f = 10\text{mA}$, $V_{ce} = 5\text{V}$
OPI 110B		50			%	$I_f = 10\text{mA}$, $V_{ce} = 5\text{V}$
OPI 110C		100			%	$I_f = 10\text{mA}$, $V_{ce} = 5\text{V}$
OPI 110D		100			%	$I_f = 1\text{mA}$, $V_{ce} = 5\text{V}$
Isolation Voltage	V_{ISO}	10			KV	See Note (1)
Collector-emitter saturation voltage	$V_{CE(SAT)}$			0.4	V	$I_f = 10\text{mA}$,
Input-output capacitance	C_{io}		0.06		pF	
Turn-on time	t_{on}		5		μS	$I_c = 10\text{mA}$, $V_{cc} = 10\text{V}$,
Turn-off time	t_{off}		5		μS	$I_c = 10\text{mA}$, $V_{cc} = 10\text{V}$,

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: -

CUSTOMER_____

ORDER NUMBER_____

INVOICE NUMBER_____

TYPE NUMBER_____

QUANTITY_____

BATCH NUMBER_____

DATE CODE_____

DATE OF SHIPMENT_____