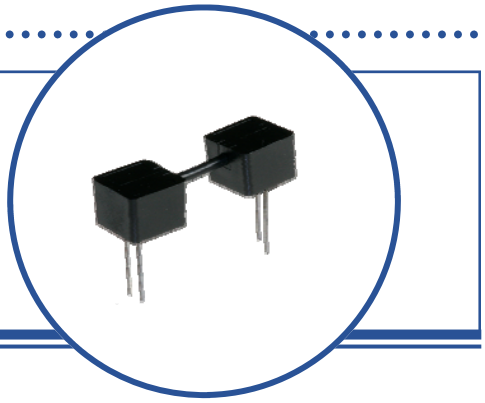
Fiber Optic Isolator—Phototransistor Sensor

OPI1280 Series

TT electronics
OPTEK Technology

Features:

- Opaque plastic housings
- High noise immunity
- Visible Red LED with Phototranisitor Output
- 0.05” (1.27 mm) lead spacing
- Data Transfer through plastic fiber optic cable
- Isolation voltage 15 KV (OPI1280-032), Longer versions higher



Description:

Each **OPI1280** consists of a visible Red LED and a Phototransistor sensor, which are housed in separate opaque molded plastic housings and coupled by plastic fiber optic cable. The heavy-duty opaque housing shields the optical signal from dust, making this series of devices ideal for dust contaminated environments.

The OPI1280 series are designed for applications that require high voltage isolation between input and output or signal communication over short distances. Depending on the length of the fiber optic cable, the emitter does not have to be optically in-line with the sensor. The isolation voltage is greater than 10 K volts per inch (Isolation distance between components) for all versions of the **OPI1280**.

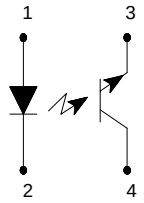
Custom electrical, wire and cabling and connectors are available. Contact your local representative or OPTEK for more information.

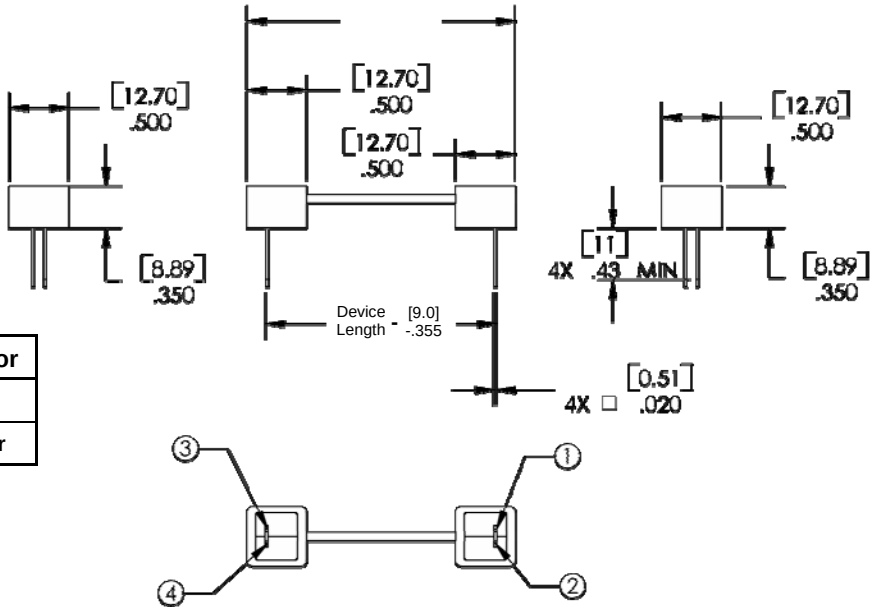
Applications:

- Requiring High Voltage isolation between input and output
- Electrical isolation in dirty environments
- Industrial equipment
- Medical equipment

Ordering Information

Part Number	Isolation Distance	Device Length	LED Peak Wavelength	Lead Length
OPI1280-018	0.71” [18 mm]	1.26” [32.0 mm]	645 nm	0.45” [11.4 mm]
OPI1280-026	1.02” [26 mm]	1.57” [40.0 mm]		
OPI1280-032	1.26” [32 mm]	1.80” [45.8 mm]		
OPI1280-040	1.57” [40 mm]	2.12” [53.8 mm]		
OPI1280-066	2.60” [66 mm]	3.15” [80.0 mm]		
OPI1280-080	3.15” [80 mm]	3.69” [93.8 mm]		





Pin #	LED	Pin #	Transistor
1	Anode	3	Emitter
2	Cathode	4	Collector

Pb
RoHS

OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

OPTEK Technology Inc. — 1645 Wallace Drive, Carrollton, Texas 75006
Phone: (972) 323-2200 or (800) 341-4747 FAX: (972) 323-2396 sensors@optekinc.com www.optekinc.com

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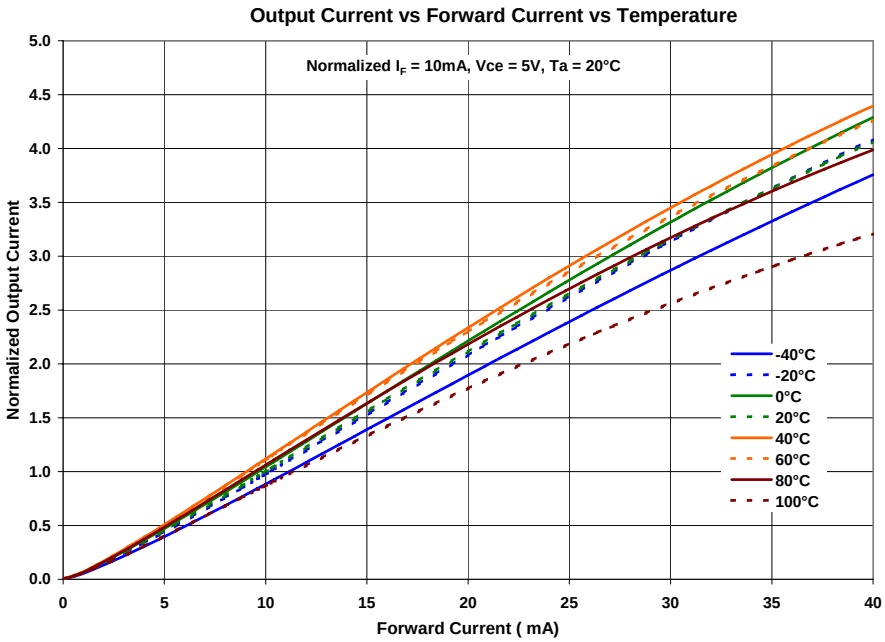
Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Storage Temperature Range (note 4)	-40° C to +80° C
Operating Temperature Range (note 4)	-20° C to +75° C
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 seconds with soldering iron]	260° C(1)
Power Dissipation (2)	100 mW

Electrical Characteristics (T_A = 25°C unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
LED (See OP240 for additional information)						
V_F	On-State Collector Current	0.9	-	1.5	V	I_F = 20 mA
I_R	Collector-Dark Current	-	-	80	µA	V_R = 3.0 V
SENSOR—Phototransistor (See OP240 for additional information)						
I_{CEO}	Collector Dark Current	-	-	50	nA	V_{CE} = 10 V, E_E = 0
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	33	-	-	V	I_C = 100 µA, E_E = 0
$V_{(BR)ECO}$	Emitter-Collector Breakdown Voltage	5.5	-	-	V	I_E = 100 µA, E_E = 0
COUPLED						
$I_{C(ON)}$		0.36	-	-	mA	V_{CE} = 5 V, I_F = 10 mA
I_{ISO} (3)		-	-	1.0	µA	I @ 7 KV RMS, 25° C, Test Duration = 2 sec.

Notes:
1. RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering. A maximum 20 grams force may be applied to the leads when soldering.
2. Derate linearly 1.33 mW/° C above 25° C.
3. Isolation voltage testing is required.
4. Storage and Operating temperature values are based on the plastic optical interface temperature ratings. Please reference UL1577 and UL file AVLVZ.E89328



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