Optically Coupled Isolator

OPI110, OPI1264 Series

Features:

- 15 kV electrical isolation
- Choice of phototransistor
- Low-cost plastic housing
- UL recognized File No. E58730

Description:

Each Optoisolator in this data sheet contains an infrared Light Emitting Diode (LED) and a NPN silicon Photosensor. The **OPI110** and **OPI1264** devices have 890 nm Light Emitting Diode (LED) and NPN phototransistor sensor. The devices are sealed in a precast opaque housing with a optically transmissive path between the LED and the photosensor.

The Optoisolators in this data sheet are UL recognised under E58730.

This series is designed for transmission of information between one power supply voltage and another where the potentials during surge conditions are not greater than the guaranteed isolation voltage.

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

Applications:

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

Ordering Information

Part Number	LED Peak Wavelength	Sensor	Isolation Voltage (,000)	CTR Min / Max	I_F (mA) Typ / Max	V_{CE} (Volts) Max	Lead Length / Spacing
OPI110	890 nm	Transistor	15	12.5 / NA	10 / 40	30	0.50" / 0.55"
OPI110A				25 / NA			
OPI110B				50 / 125			
OPI110C				100 / NA			
OPI1264		Transistor		12.5 / NA	10 / 40		
OPI1264A				25 / NA			
OPI1264B				50 / 125			
OPI1264C				100 / NA			

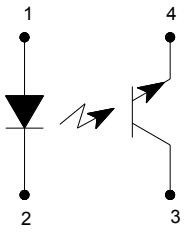
TT Electronics | OPTEK Technology
1645 Wallace Drive, Carrollton, TX 75006|Ph: +1 972 323 2200
www.ttelectronics.com | sensors@ttelectronics.com

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

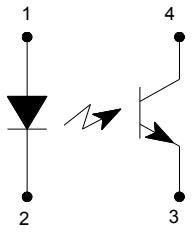
Storage Temperature	-40° C to +100° C
Operating Temperature	-40° C to +85° C
Input-to-Output Isolation Voltage[1][2]	± 15 kVDC
Lead Soldering Temperature (1/16" (1.6 mm) from case for 5 seconds with soldering iron)[3]	260° C
Input Diode	
Forward DC Current	40 mA
Reverse DC Voltage	2 V
Power Dissipation[4]	50 mW
Output Photosensor	
Collector-Emitter Voltage OPI110, OPI1264	30
Emitter-Collector Voltage	5
Power Dissipation[5]	100 mW

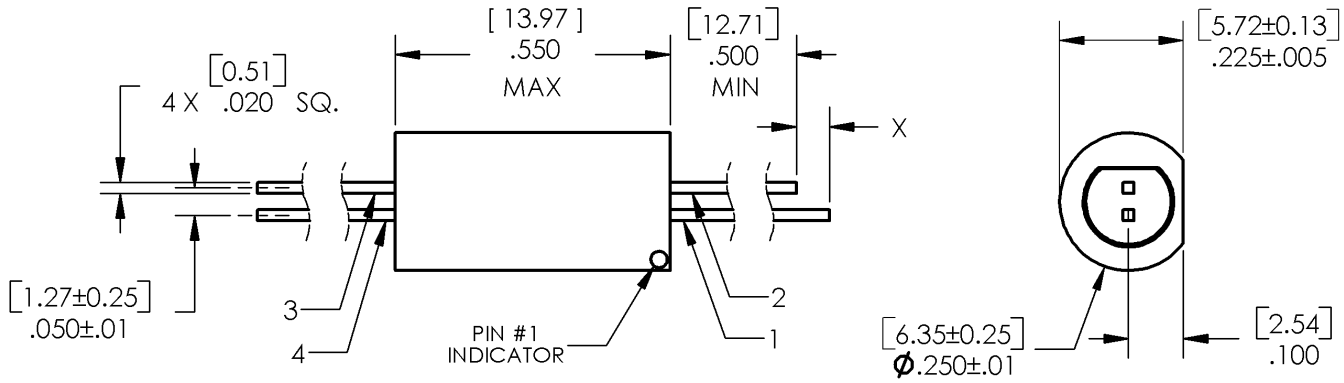
Notes:
(1) Measured with input and output leads shorted. Typical input/output capacitance is 0.06 pF.
(2) UL recognition is for 15kV dc for one minute.
(3) RMA flux is recommended. The duration can be extended to 10 seconds maximum when flow soldering.
(4) Derate linearly 0.83 mW/°C above 25°C.
(5) Derate linearly 1.67 mW/°C above 25°C.

OPI110



OPI1264





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Electrical Characteristics (T_A = 25° C unless otherwise noted)						
SYMBOL	**PARAMETER**	**MIN**	**TYP**	**MAX**	**UNITS**	**TEST CONDITIONS**
Input Diode (See OP265 for additional information - for reference only)						
V_F	Forward Voltage	-	-	1.6	V	I_F = 20 mA
I_R	Reverse Current	-	-	100	µA	V_R = 2 V
Output Photosensor (See OP505 for additional information - for reference only)						
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage OPI110, OPI1264	30	-	-	V	I_C = 100 µA
$V_{(BR)ECO}$	Emitter-Collector Breakdown Voltage OPI110 OPI1264	5 -	- -	- -	V	I_E = 100 µA, I_F = 0 I_E = 100 µA
I_{CEO}	Collector-Emitter Dark Current OPI110, OPI1264	-	-	100	nA	V_{CE} = 15 V, E_E = 0
Coupled						
$I_{C(ON)}$	Coupled "ON" Current OPI110, OPI1264	1.25	-	44	mA	I_F = 10mA V_{CE} = 5V
I_C/I_F	DC Current Transfer Ratio OPI110, OPI1264 OPI110A, OPI1264A OPI110B, OPI1264B OPI110C, OPI1264C	 12.5 25.0 50.0 100.0	 - - - -	 - - 125 -	%	 I_F = 10 mA, V_{CE} = 5 V I_F = 10 mA, V_{CE} = 5 V I_F = 10 mA, V_{CE} = 5 V I_F = 10 mA, V_{CE} = 5 V
$V_{CE(SAT)}$	Collector Saturation Voltage OPI110, OPI1264	-	-	0.4	V	I_F = 10 mA, I_C = 1.6 mA
I_{CEO}	Collector-Emitter Dark Current OPI110, OPI1264	-	-	200	nA	V_{CE} = 20 V, I_F = 0
V_{ISO}	Isolation Voltage	15	-	-	kVDC	See Note 1.

Notes:
(1) Measured with input and output leads shorted. Typical input/output capacitance is 0.06 pF.

Mouser Electronics

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OPI1264A OPI1264B OPI110C OPI110 OPI110A OPI110B OPI1264 OPI1264C