

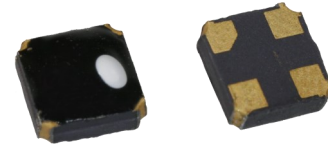
Surface Mount Optically Coupled Isolator

OPI210, OPI211



Features:

- 1kV electrical isolation
- Miniature package ideal for surface mount applications
- TTL, DTL compatible
- High DC Current Transfer ratio



Description:

Each Optically coupled isolator in this data sheet contains an infrared Light Emitting Diode (LED) and a NPN silicon Photosensor. The **OPI210** and **OPI211** devices have 890 nm Light Emitting Diode (LED) and NPN phototransistor and coupled on an FR-4 substrate. The devices are made with a sealed internal optically transmissive path between the LED and the photosensor.

The OPI210 and OPI211 are identical except for the DC current transfer ratio. Both were designed with high reliability in mind and are ideally suited for use in MIL-STD-883 applications. The devices may be mounted using either silver or gold filled epoxies. The top of the device is covered with a silicone material and is very sensitive to acetone type cleaning material.

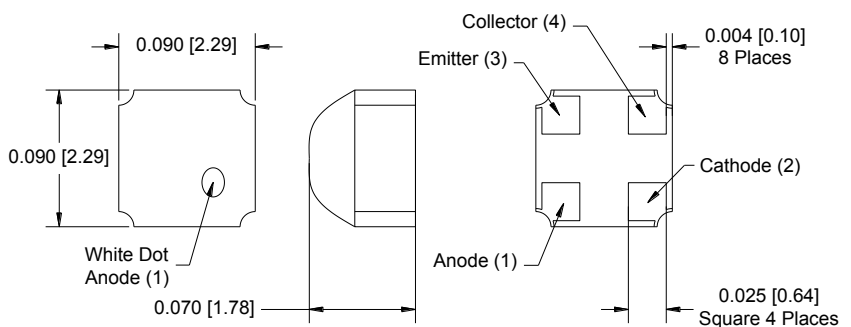
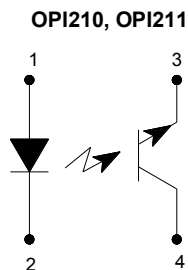
This series is designed for transmission of information between one power supply voltage to another where the potentials during surge conditions are not greater than the guaranteed isolation voltage.

Contact your local representative or OPTEK for more information.

Applications:

- Military equipment
- High-Reliability environments
- High voltage isolation between input and output
- Electrical isolation in dirty environments
- Medical equipment
- Office equipment

Ordering Information						
Part Number	LED Peak Wavelength	Sensor	Isolation Voltage (,000)	CTR Typical	I _F (mA) Typ / Max	V _{CE} (Volts) Max
OPI210	890 nm	Transistor	1	200	10 / 50	35
OPI211				350		



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

DIMENSIONS ARE IN: [MILLIMETERS]
[INCHES]



RoHS

General Note
TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

TT Electronics | Optek Technology, Inc.
1645 Wallace Drive, Ste. 130, Carrollton, TX USA 75006 | Ph: +1 972 323 2200
www.ttelectronics.com | sensors@ttelectronics.com

Surface Mount Optically Coupled Isolator

OPI210, OPI211



Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Storage Temperature	-65° C to +150° C
Operating Temperature	-55° C to +125° C
Input-to-Output Isolation Voltage ⁽¹⁾⁽²⁾	± 1 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 ⁽⁴⁾	50 mA
Reverse DC Voltage	3 V
Power Dissipation ⁽⁵⁾	60 mW
Output Photosensor	
Collector-Emitter Voltage	35 V
Emitter-Collector Voltage	7.0 V
Power Dissipation ⁽⁶⁾	100 mW

Electrical Characteristics ($T_A = 25^\circ\text{C}$ 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	$I_F = 10\text{ mA}$
I_R	Reverse Current	-	-	100	μA	$V_R = 2\text{ V}$

Output Photosensor (See OP505 for additional information - for reference only)

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	35	80	-	V	$I_C = 100\ \mu\text{A}, I_F = 0$
$V_{(BR)ECO}$	Emitter-Collector Breakdown Voltage	7	10	-	V	$I_E = 100\ \mu\text{A}, I_F = 0$
I_{CEO}	Collector-Emitter Dark Current	-	20	100	nA	$V_{CE} = 20\text{ V}, I_F = 0$

Coupled

I_C/I_F	DC Current Transfer Ratio OPI210 OPI211	50 200	200 350	- -	%	$I_F = 10\text{ mA}, V_{CE} = 5\text{ V}$
$V_{CE(SAT)}$	Collector Saturation Voltage	-	0.2	0.3	V	$I_F = 20\text{ mA}, I_C = 2\text{ mA}$
T_r & t_f	Rise Time	-	3.0	10	μs	$V_{CC} = 10\text{ V}, R_L = 100\ \Omega,$ Pulse width = 100 ms, duty cycle = 1%

Notes:

- (1) Measured with input and output leads shorted. Typical input/output capacitance is 0.06 pF.
- (2) UL recognition is for 3500 VAC for one minute.
- (3) RMA flux is recommended. The duration can be extended to 10 seconds maximum when flow soldering.
- (4) Derate linearly 0.67 mA/°C above 25°C.
- (5) Derate linearly 0.83 mA/°C above 25°C.
- (6) Derate linearly 1.67 mA/°C above 25°C.

General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

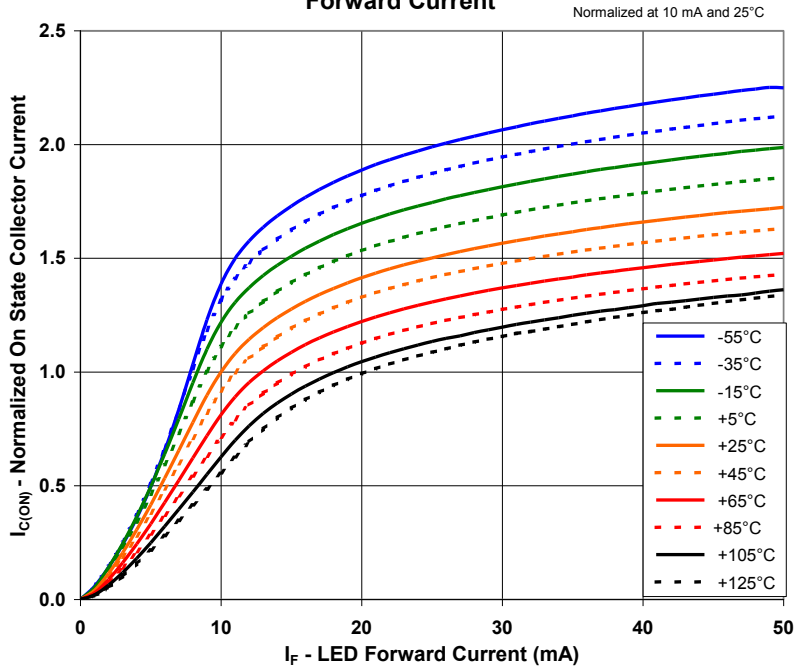
TT Electronics | Optek Technology, Inc.
1645 Wallace Drive, Ste. 130, Carrollton, TX USA 75006 | Ph: +1 972 323 2200
www.ttelectronics.com | sensors@ttelectronics.com

Surface Mount Optically Coupled Isolator

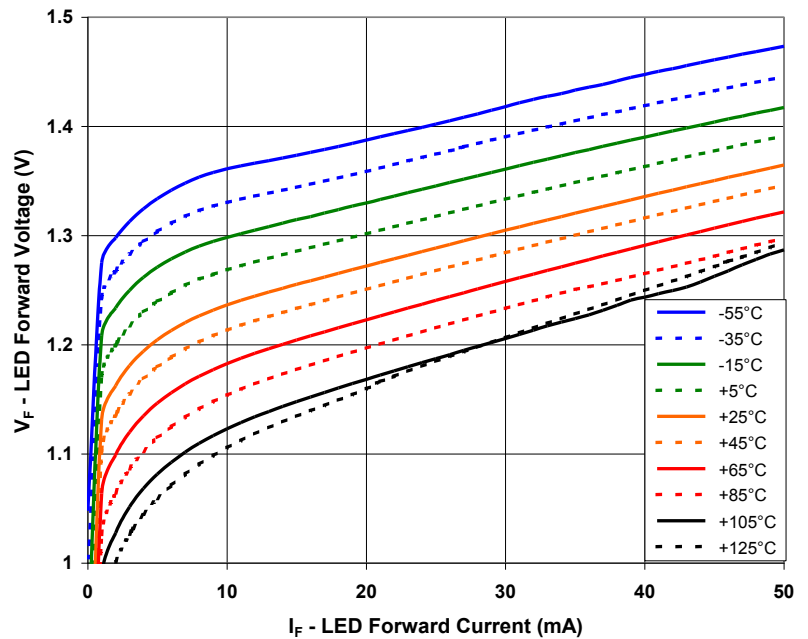
OPI210, OPI211



On State Collector Current Vs Temperature Vs Forward Current



Forward Voltage Vs Forward Current Vs Ambient Temperature



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

General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

TT Electronics | Optek Technology, Inc.
 1645 Wallace Drive, Ste. 130, Carrollton, TX USA 75006 | Ph: +1 972 323 2200
www.ttelectronics.com | sensors@ttelectronics.com



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.