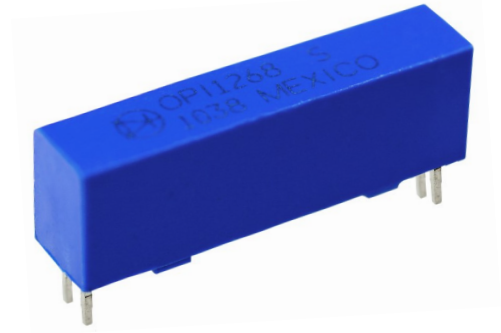


High Voltage / High Speed Opto-Isolator

OPI1268S



Features:

- 20kV dc Isolation
- 2 Mbit/s transfer rate
- $t_{PHL}-t_{PLH} \leq 50$ ns typical
- Creepage path: 24 mm
- TTL Compatible
- 6 Axis / 10G_{RMS} load rating

Certifications:

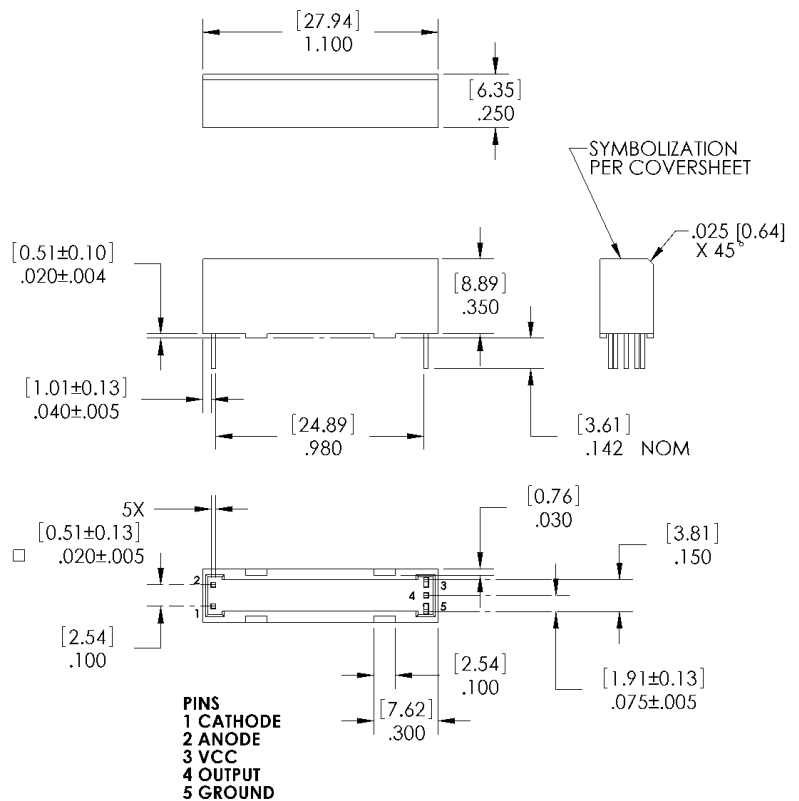
- UL File E58730
- Vde File 40031798
- EN 60079-0:2012/A11:2013
EN60079-11:2012 (IEC 60079-11:2011 Edition 6)
- IP65 Rated
- ATEX Certification Exia IIc Ga

Description:

The **OPI1268S** is a high voltage isolator with a digital output that is capable of high speed data transmission. The input of the OPI1268 consists of a high-efficiency GaAlAs LED with a peak wavelength of 850 nm, which is optically coupled to the output optical IC. A photologic device in the output IC detects the incoming modulated light and converts it to a proportionate current. This current is fed into a high-gain linear amplifier which is temperature, current and voltage compensated. The result is a highly stable digital output with an open collector inverter configuration. This device produces DC and AC voltage isolation between the input and output circuitry while providing TTL signal integrity.

Applications:

- Transportation Systems
- PC Board Power Systems
- Hybrid Vehicle Systems
- Medical Systems
- Control Systems



NOTE:

1. DIMENSIONS ARE $\pm .010$ [.25] UNLESS OTHERWISE NOTED.
2. DIMENSIONS ARE IN INCHES [MM].

| Ordering Information | | | | | | | | |
|----------------------|---------------------|--------------------|--------------------------|------------------------------|----------------------|------------------|------------------|-------------------|
| Part Number | LED Peak Wavelength | Sensor Photologic® | Isolation Voltage (kV)DC | t_{PLH} / t_{PHL} Max (ns) | I_F (mA) Typ / Max | V_{CE} (V) Max | Lead Length (mm) | Lead Spacing (mm) |
| OPI1268S | 850 nm | Open Collector | 20 | 100 | 10 / 50 | 18 | 3.6 | 2.0 |



Pb-Free
(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
1645 Wallace Drive, Carrollton, TX 75006 | Ph: +1 972 323 2200
www.ttelectronics.com | sensors@ttelectronics.com

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

| | |
|--|-------------------|
| Storage Temperature | -50° C to +100° C |
| Operating Temperature | -50° C to +100° C |
| Input-to-Output Isolation Voltage ⁽²⁾ | 20 kVDC |
| Lead Soldering Temperature (1/16" (1.6 mm) from case for 5 seconds with soldering iron) ⁽³⁾ | 260° C |
| Input Diode | |
| Continuous Forward Current | 30 mA |
| Peak Forward current (1 μs pulse width, 300 pps) | 3.0 A |
| Reverse Voltage | 3.0 V |
| Power Dissipation ⁽¹⁾ | 100 mW |
| Output IC | |
| Maximum Supply Voltage | 7 V |
| Power Dissipation ⁽⁴⁾ | 40 mW |
| Maximum Output Voltage | 18 V |
| Maximum Output Current | 25 mA |

Electrical Characteristics ($T_A = 0^\circ\text{C}$ to 70°C unless otherwise noted)

| SYMBOL | PARAMETER | MIN | TYP | MAX | UNITS | TEST CONDITIONS |
|---|--|-----|------|------|-------------------|---|
| Input Diode | | | | | | |
| V_F | Forward Voltage | - | 1.4 | 1.8 | V | $I_F = 20\text{ mA}$ |
| I_R | Reverse Current | - | 0.1 | 100 | μA | $V_R = 2.0\text{ V}$ |
| Output IC ($V_{CC} = 4.5\text{ V}$ to 5.25 V) (See OPL550 for additional information—for reference only.) | | | | | | |
| I_{OH} | High Level Output Current | - | 0.20 | 25 | μA | $I_F = 0.0\text{ mA}$, $V_{OH} = 18.0\text{ V}$, $V_{CC} = 5.25\text{ V}$ |
| V_{OL} | Low Level Output Voltage | - | 0.35 | 0.55 | V | $I_F = 10.0\text{ mA}$, $I_{OL} = 8.0\text{ mA}$, $V_{CC} = 4.5\text{ V}$ |
| I_{CCH} | High Level Supply Current | - | 5.5 | 7 | mA | $I_F = 0$, $V_{CC} = 5.25\text{ V}$ |
| I_{CCL} | Low Level Supply Current | - | 7.5 | 10 | | $I_F = 10.0\text{ mA}$, $V_{CC} = 5.25\text{ V}$ |
| Coupled Characteristics ($V_{CC} = 5\text{ V}$, $I_F = 30\text{ mA}$, $R_L = 560\Omega$) | | | | | | |
| C_{IO} | Coupling Capacitance | - | - | 2 | pF | Input and output leads shorted. |
| t_{PLH} | Propagation Delay to Low Output Level | - | 50 | 100 | ns | See Figure 1 |
| t_{PHL} | Propagation Delay to High Output Level | - | 50 | 100 | | |
| I_{ISO} | Isolation Leakage Current ⁽⁵⁾ | - | - | 20 | μA | $V_{ISO} = 19.2\text{ kV dc}$ |
| I_{F+} | LED Positive Going Threshold Current | 0.8 | 1.7 | 5.0 | mA | $V_{CC} = 5\text{ V}$, $I_{OL} = 8.0\text{ mA}$ |
| dv/dt | Voltage Spike Immunity | | 30 | | kV/ μs | |

Notes:

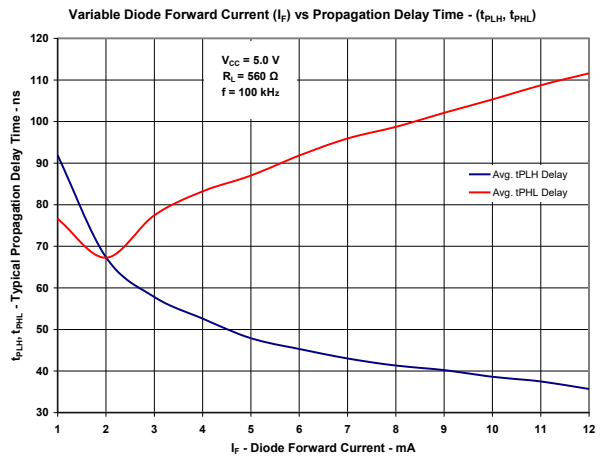
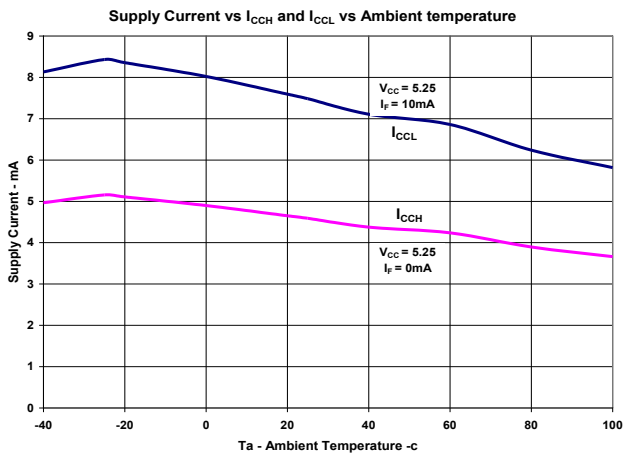
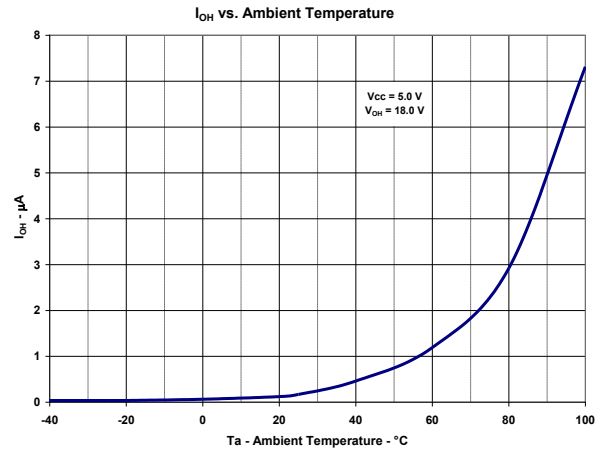
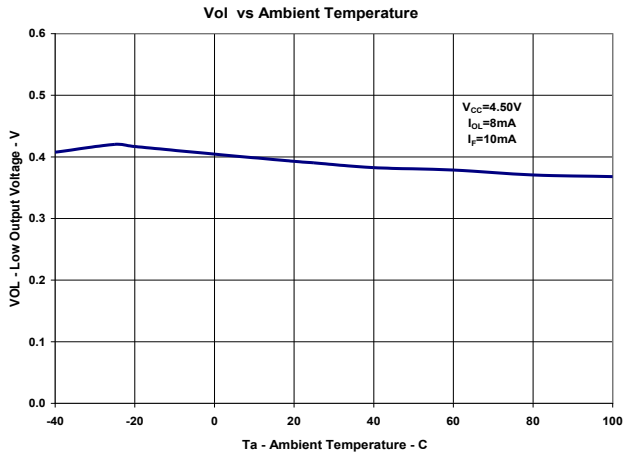
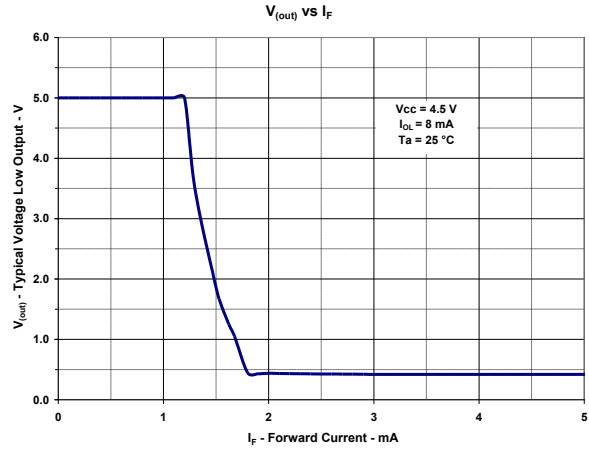
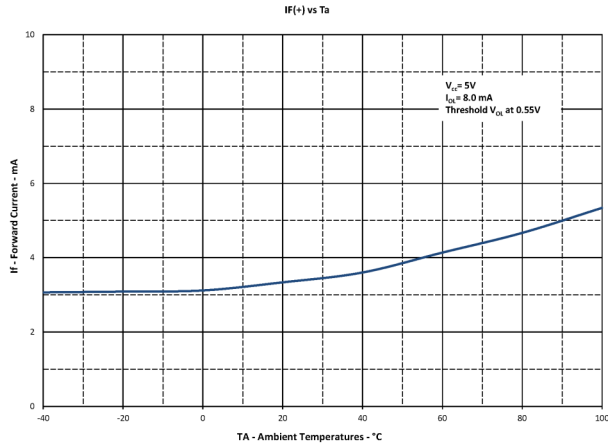
- Derate LED linearly 1.33 mW/ $^\circ\text{C}$ above 25°C.
- UL recognition is for 16kV dc for one minute.
- RMA flux is recommended. The duration can be extended to 10 seconds maximum when flow soldering.
- Derate linearly 0.54m W/ $^\circ\text{C}$.
- Measured with input leads shorted together and output leads shorted together in air with a maximum relative humidity of 50%.

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

Typical Performance Curves



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.

CIRCUIT VALUES

Condition #1: $V_{CC} = 5.0V$, $I_F = 30mA$, $R_L = 560\text{ Ohms}$

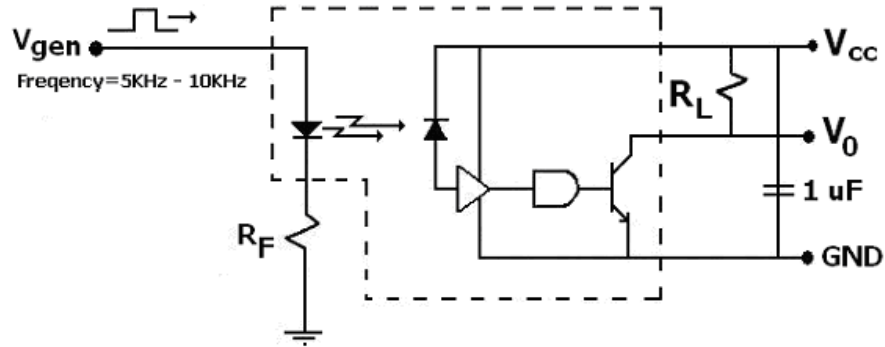
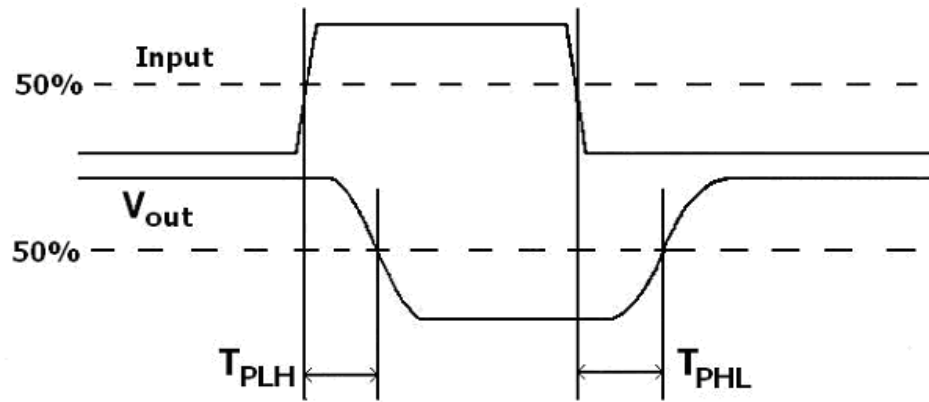


Figure 1





Стандарт Электрон Связь

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

Наши контакты:

Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург,
Промышленная ул, дом № 19, литера Н,
помещение 100-Н Офис 331