



| Parameter | Rating | Units |
|---------------------|--------|--------------------------------------|
| Blocking Voltage | 250 | V _P |
| Load Current | 250 | mA _{rms} / mA _{DC} |
| On-Resistance (max) | 7 | Ω |

Features

- 3750V_{rms} Input/Output Isolation
- Low Drive Power Requirements
- High Reliability
- Arc-Free With No Snubbing Circuits
- FCC Compatible
- VDE Compatible
- No EMI/RFI Generation
- Small 6-Pin Package
- Flammability Rating UL 94 V-0
- Surface Mount Tape & Reel Version Available

Applications

- Telecommunications
 - Telecom Switching
 - Tip/Ring Circuits
- Modem Switching (Laptop, Notebook, Pocket Size)
- Hook Switch
- Dial Pulsing
- Instrumentation
- Multiplexers
- Data Acquisition
- Electronic Switching
- I/O Subsystems
- Meters (Watt-Hour, Water, Gas)
- Medical Equipment—Patient/Equipment Isolation
- Security Systems
- Aerospace
- Industrial Controls

Description

PLB150 is a 250V, 250mA, 7Ω, single-pole, normally closed (1-Form-B) solid state relay that uses optically coupled technology to provide an enhanced 3750V_{rms} isolation barrier between the input and the output of the relay. The efficient MOSFET switches use IXYS Integrated Circuits' patented OptoMOS architecture while the optically coupled output is controlled by a highly efficient infrared LED.

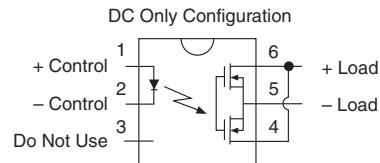
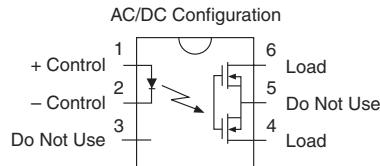
Approvals

- UL Recognized Component: File E76270
- CSA Certified Component: Certificate 1175739
- EN/IEC 60950-1 Certified Component:
Certificate available on our website

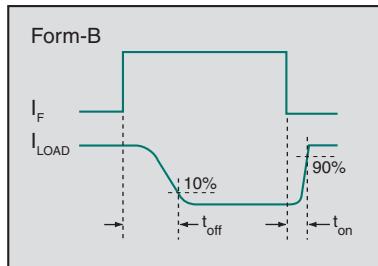
Ordering Information

| Part Number | Description |
|-------------|----------------------------------|
| PLB150 | 6-Pin DIP (50/Tube) |
| PLB150S | 6-Pin Surface Mount (50/Tube) |
| PLB150STR | 6-Pin Surface Mount (1,000/Reel) |

Pin Configuration



Switching Characteristics of Normally Closed Devices



Absolute Maximum Ratings @ 25°C

| Parameter | Ratings | Units |
|--|-------------|------------------|
| Blocking Voltage | 250 | V _P |
| Reverse Input Voltage | 5 | V |
| Input Control Current Peak (10ms) | 50 | mA |
| | 1 | A |
| Input Power Dissipation ¹ | 150 | mW |
| Total Power Dissipation ² | 800 | mW |
| Isolation Voltage, Input to Output (60 sec.) | 3750 | V _{rms} |
| Operational Temperature | -40 to +85 | °C |
| Storage Temperature | -40 to +125 | °C |

¹ Derate linearly 1.33 mW / °C² Derate linearly 6.67 mW / °C

Absolute Maximum Ratings are stress ratings. Stresses in excess of these ratings can cause permanent damage to the device. Functional operation of the device at conditions beyond those indicated in the operational sections of this data sheet is not implied.

Typical values are characteristic of the device at +25°C, and are the result of engineering evaluations. They are provided for information purposes only, and are not part of the manufacturing testing requirements.

Electrical Characteristics @ 25°C (Unless Otherwise Noted)

| Parameter | Conditions | Symbol | Min | Typ | Max | Units |
|-------------------------------------|--|-------------------|-----|-----|------|--------------------------------------|
| Output Characteristics | | | | | | |
| Load Current (Continuous) | | I _L | - | - | 250 | mA _{rms} / mA _{DC} |
| AC/DC Configuration | - | | - | - | 350 | mA _{DC} |
| DC Configuration | | | | | | |
| Peak Load Current | 10ms | I _{LPK} | - | - | ±500 | mA _P |
| On-Resistance | | | | | | |
| AC/DC Configuration | I _L =250mA | R _{ON} | - | - | 7 | Ω |
| DC Configuration | I _L =350mA | | - | - | 3 | |
| Off-State Leakage Current | V _L =250V _P | I _{LEAK} | - | - | 1 | μA |
| Switching Speeds | | | | | | |
| Turn-On | | t _{on} | - | - | 1 | ms |
| Turn-Off | I _F =5 mA, V _L =10V | t _{off} | - | - | 2.5 | |
| Output Capacitance | I _F =5mA, V _L =50V, f=1MHz | C _{OUT} | - | 110 | - | pF |
| Input Characteristics | | | | | | |
| Input Control Current to Activate | I _L =250mA | I _F | - | - | 5 | mA |
| Input Control Current to Deactivate | - | I _F | 0.4 | 0.7 | - | mA |
| Input Voltage Drop | I _F =5mA | V _F | 0.9 | 1.2 | 1.5 | V |
| Reverse Input Current | V _R =5V | I _R | - | - | 10 | μA |
| Common Characteristics | | | | | | |
| Input to Output Capacitance | V _{IO} =0V, f=1MHz | C _{IO} | - | 3 | - | pF |

Manufacturing Information

Moisture Sensitivity

 All plastic encapsulated semiconductor packages are susceptible to moisture ingress. IXYS Integrated Circuits classifies its plastic encapsulated devices for moisture sensitivity according to the latest version of the joint industry standard, **IPC/JEDEC J-STD-020**, in force at the time of product evaluation. We test all of our products to the maximum conditions set forth in the standard, and guarantee proper operation of our devices when handled according to the limitations and information in that standard as well as to any limitations set forth in the information or standards referenced below.

Failure to adhere to the warnings or limitations as established by the listed specifications could result in reduced product performance, reduction of operable life, and/or reduction of overall reliability.

This product carries a Moisture Sensitivity Level (MSL) classification as shown below, and should be handled according to the requirements of the latest version of the joint industry standard **IPC/JEDEC J-STD-033**.

| Device | Moisture Sensitivity Level (MSL) Classification |
|------------------|---|
| PLB150 / PLB150S | MSL 1 |

ESD Sensitivity



This product is **ESD Sensitive**, and should be handled according to the industry standard **JESD-625**.

Soldering Profile

Provided in the table below is the Classification Temperature (T_c) of this product and the maximum dwell time the body temperature of this device may be ($T_c - 5$)°C or greater. The classification temperature sets the Maximum Body Temperature allowed for this device during lead-free reflow processes. For through-hole devices, and any other processes, the guidelines of **J-STD-020** must be observed.

| Device | Classification Temperature (T_c) | Dwell Time (t_d) | Max Reflow Cycles |
|---------|--------------------------------------|----------------------|-------------------|
| PLB150 | 250°C | 30 seconds | 1 |
| PLB150S | 250°C | 30 seconds | 3 |

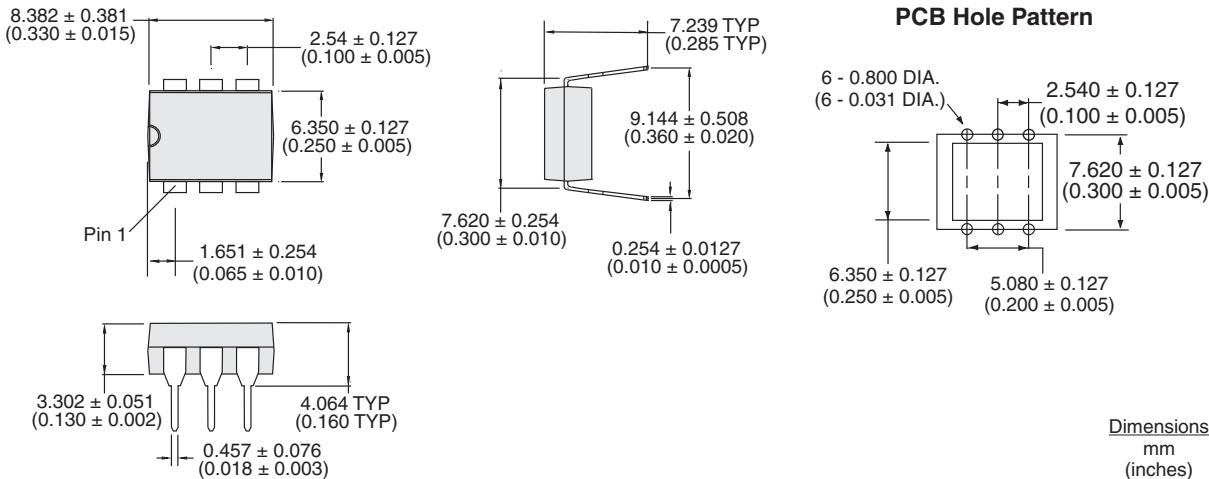
Board Wash

IXYS Integrated Circuits recommends the use of no-clean flux formulations. Board washing to reduce or remove flux residue following the solder reflow process is acceptable provided proper precautions are taken to prevent damage to the device. These precautions include, but are not limited to: using a low pressure wash and providing a follow up bake cycle sufficient to remove any moisture trapped within the device due to the washing process. Due to the variability of the wash parameters used to clean the board, determination of the bake temperature and duration necessary to remove the moisture trapped within the package is the responsibility of the user (assembler). Cleaning or drying methods that employ ultrasonic energy may damage the device and should not be used. Additionally, the device must not be exposed to flux or solvents that are Chlorine- or Fluorine-based.

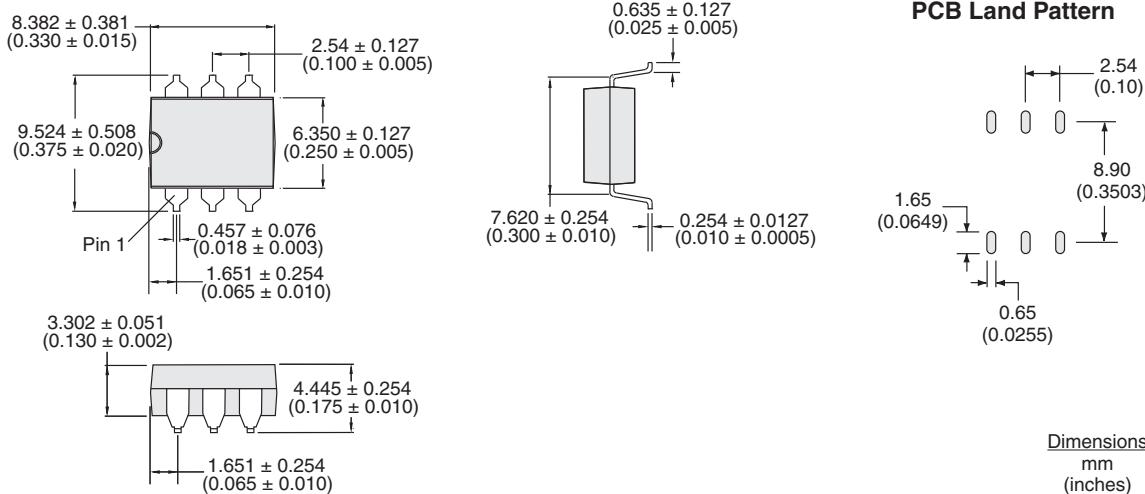


Mechanical Dimensions

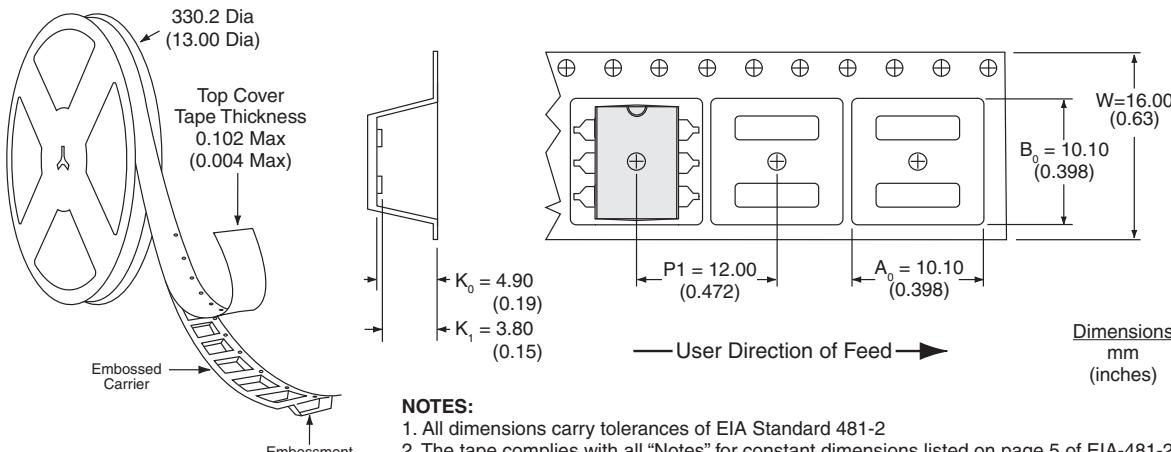
PLB150



PLB150S



PLB150STR Tape & Reel



For additional information please visit our website at: www.ixysic.com

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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, помошь 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;
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- 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

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