



| Parameter | Rating | Units |
|-------------------------------|--------|---------------|
| Typical Open Circuit Voltage | 5.5 | V |
| Typical Short Circuit Current | 2.5 | μA |
| Input Control Current | 5 | mA |

Features

- Optically Isolated, Input to Output
- Dual Independent, Floating Outputs for Parallel, Series, or Isolated Configuration
- 5mA Control Current
- May Be Configured for AC and DC Switching
- Replacement of Discrete Components
- VDE Compatible
- Solid State Reliability
- No EMI/RFI Generation
- Machine Insertable, Wave Solderable
- Surface Mount and Tape & Reel Version Available

Applications

- MOSFET Driver
- Programmable Control
- Process Control
- Instrumentation
- Telecommunications

Description

The FDA215 is a dual photovoltaic MOSFET driver that uses a pair of optically coupled GaAlAs LEDs to drive two photodiode arrays. When the input current is applied to the LED, the light emitted activates the photodiode array, and generates a voltage at the output. The photodiode arrays are capable of generating a floating source voltage and current sufficient to drive high power MOSFET transistors. The optical coupling provides a high level of input to output isolation. The FDA215 is well suited for use in discrete solid state relay designs and other isolated switching applications.

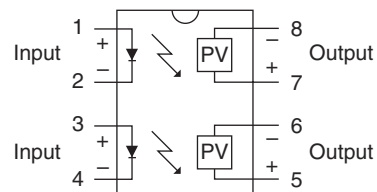
Approvals

- EN/IEC 60950-1 Certified Component:
TUV Certificate B 10 05 49410 006

Ordering Information

| Part # | Description |
|-----------|---------------------------------|
| FDA215 | 8-Pin DIP (50/tube) |
| FDA215S | 8-Pin Surface Mount (50/tube) |
| FDA215STR | 8-Pin Surface Mount (1000/reel) |

Pin Configuration



Absolute Maximum Ratings @ 25°C

| Parameter | Ratings | Units |
|--------------------------------------|-------------|------------------|
| Reverse Input Voltage | 5 | V |
| Input Control Current Peak (10ms) | 100 | mA |
| | 1 | A |
| Input Power Dissipation ¹ | 150 | mW |
| Total Power Dissipation ² | 500 | mW |
| Capacitance, Input to Output | 1 | pF |
| Isolation Voltage, Input to Output | 3750 | V _{rms} |
| Operational Temperature | -40 to +85 | °C |
| Storage Temperature | -40 to +125 | °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.

¹ Derate linearly 1.33 mW / °C

² Derate linearly 6.67 mW / °C

Electrical Characteristics @ 25°C

| Parameter | Conditions | Symbol | Min | Typ | Max | Units |
|-------------------------------|---|-----------------|------------------|-----|------|-------|
| Output Characteristics | | | | | | |
| Open Circuit Voltage | I _F =5mA | V _{OC} | 3 | 5.5 | 8 | V |
| Short Circuit Current | I _F =5mA | I _{SC} | 1 | 2.5 | 9 | μA |
| | I _F =25mA | | 2.5 | 3.5 | 20 | |
| Switching Speeds | I _F =5mA, C _{LOAD} =200pF | t _{on} | - | - | 5 | ms |
| Turn-On | | | t _{off} | - | - | |
| Turn-Off | | | | | | |
| Offstate Clamping Resistance | V _L =1V | R _{CL} | 100 | 250 | 3300 | Ω |
| Input Characteristics | | | | | | |
| Input Control Current | - | I _F | - | - | 5 | mA |
| Input Voltage Drop | I _F =5mA | V _F | 0.9 | 1.2 | 1.4 | V |
| Reverse Input Current | V _R =5V | I _R | - | - | 10 | μA |
| Common Characteristics | | | | | | |
| Capacitance, Input to Output | - | - | - | 3 | - | pF |

Manufacturing Information

Moisture Sensitivity



All plastic encapsulated semiconductor packages are susceptible to moisture ingress. IXYS Integrated Circuits Division classified all of 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) rating** 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) Rating |
|------------------|---|
| FDA215 / FDA215S | MSL 1 |

ESD Sensitivity



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

Reflow Profile

This product has a maximum body temperature and time rating as shown below. All other guidelines of **J-STD-020** must be observed.

| Device | Maximum Temperature x Time |
|------------------|----------------------------|
| FDA215 / FDA215S | 250°C for 30 seconds |

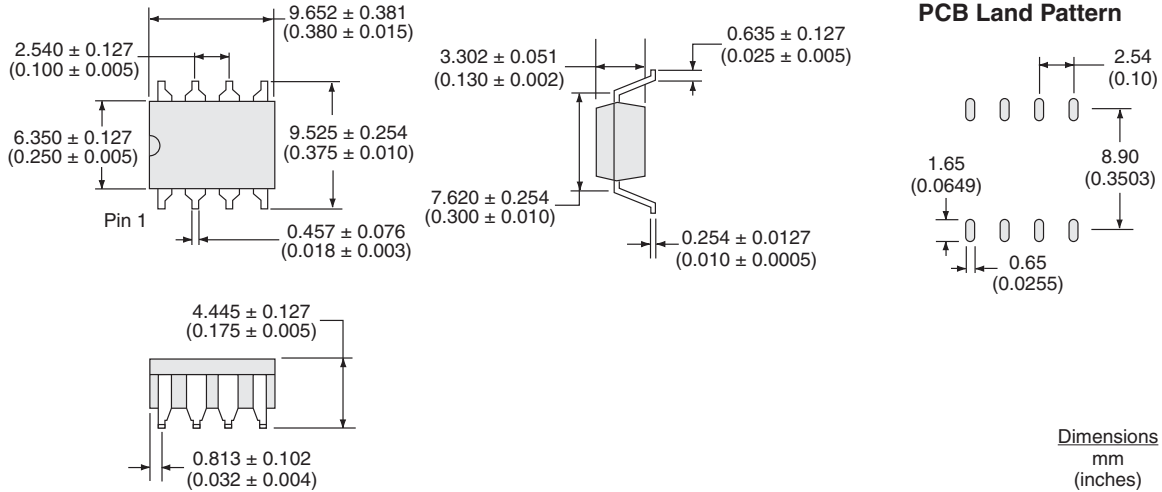
Board Wash

IXYS Integrated Circuits Division recommends the use of no-clean flux formulations. However, board washing to remove flux residue is acceptable. Since IXYS Integrated Circuits Division employs the use of silicone coating as an optical waveguide in many of its optically isolated products, the use of a short drying bake could be necessary if a wash is used after solder reflow processes. Chlorine- or Fluorine-based solvents or fluxes should not be used. Cleaning methods that employ ultrasonic energy should not be used.

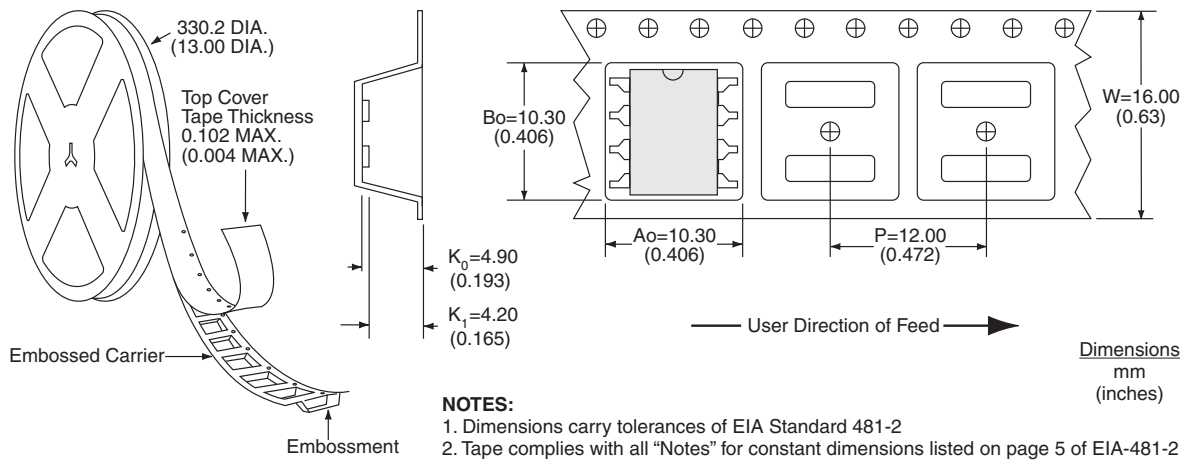


MECHANICAL DIMENSIONS

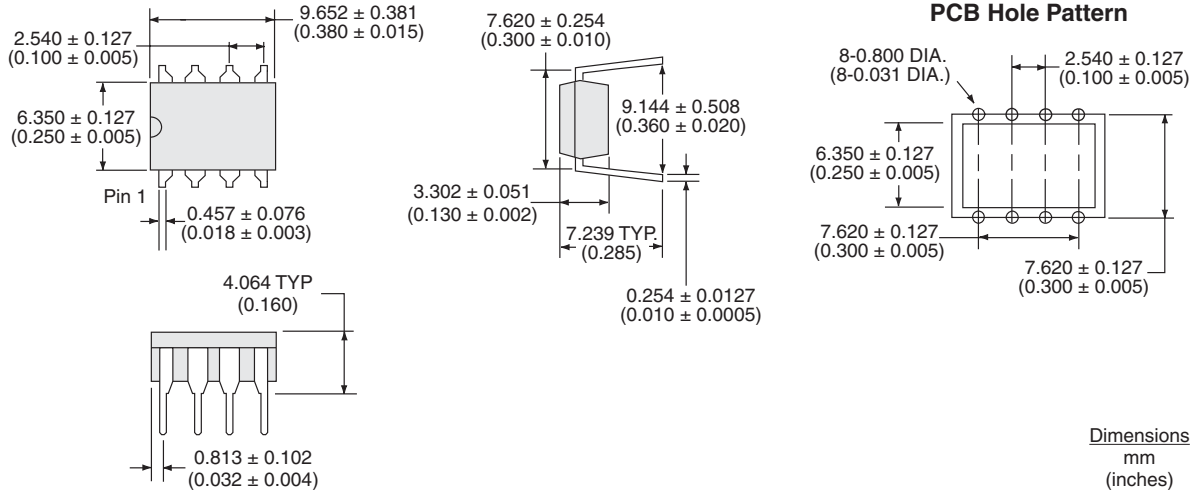
FDA215S



FDA215STR Tape & Reel



FDA215



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- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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