



Dual 1 Form A
Solid State Relay



DESCRIPTION

The AD4C111 is a bi-directional, double-pole, single-throw, normally open multipurpose solid-state relay. It is designed to replace electromechanical relays in general purpose switching applications. The relay consists of two integrated circuits, each driving a pair of rugged source-to-source enhancement type DMOS transistors. Each integrated circuit is optically coupled to a light emitting diode. The output MOS transistors are protected with free-wheeling diodes that can handle up to 1.5A of inrush current, making the relay ideal for switching lamps and highly inductive loads.

FEATURES

- Two discrete 1 form A Relays in compact 8 pin DIP package
- Low input control power consumption (2mA TYP)
- 120mA maximum continuous load current
- 30 ohms maximum on-resistance
- High input-to-output isolation
- Long life/high reliability
- RoHS / Pb-Free / REACH Compliant

APPLICATIONS

- Multiplexers
- Meter reading systems
- Data Acquisition
- Medical equipment
- Battery monitoring
- Home/Safety security systems

OPTIONS/SUFFIXES*

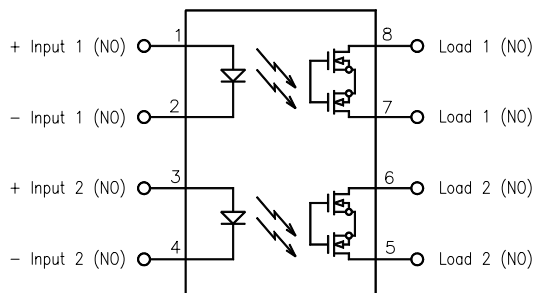
- -S Surface Mount Leadform Option (50 pcs / tube)
- -TR Tape and Reel Packing Option (1,000 pcs / reel)

NOTE: Suffixes listed above are not included in marking on device for part number identification.

ABSOLUTE MAXIMUM RATINGS*

| PARAMETER | UNIT | MIN | TYP | MAX |
|--------------------------------------|------|-----|-----|-----|
| Storage Temperature | °C | -55 | | 125 |
| Operating Temperature | °C | -40 | | 85 |
| Continuous Input Current | mA | | | 40 |
| Transient Input Current | mA | | | 400 |
| Reverse Input Control Voltage | V | 6 | | |
| Output Power Dissipation | mW | | | 800 |
| Solder Temperature - Wave (10s) | °C | | | 260 |
| Solder Temperature - IR Reflow (10s) | °C | | | 260 |

SCHEMATIC DIAGRAM



*The values indicated are absolute stress ratings. Functional operation of the device is not implied at these or any conditions in excess of those defined in electrical characteristics section of this document. Exposure to Absolute Ratings may cause permanent damage to the device and may adversely affect reliability.

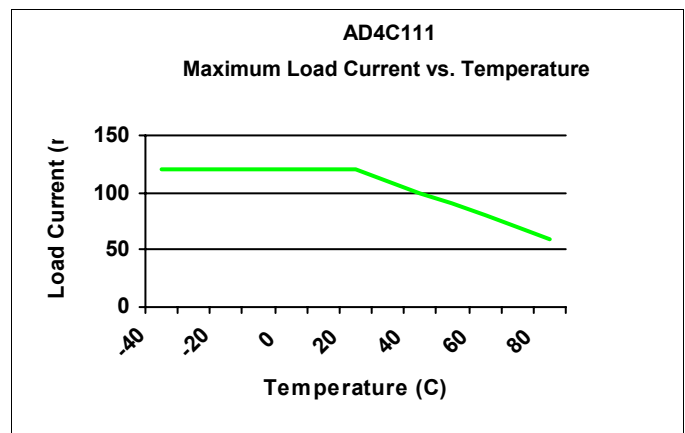
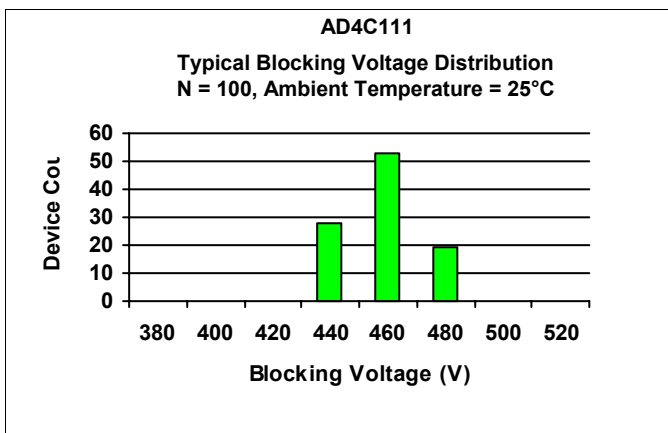
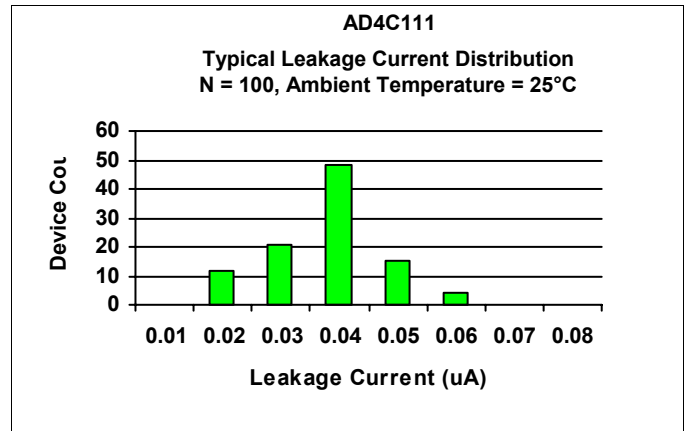
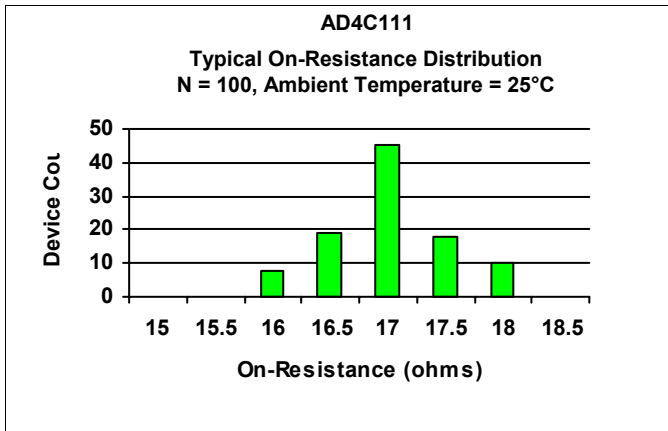
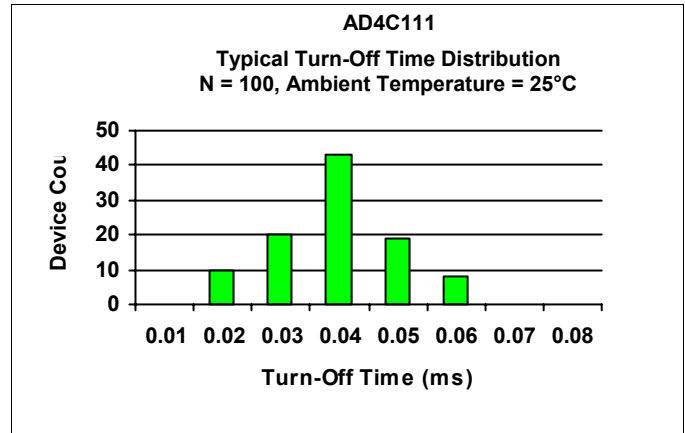
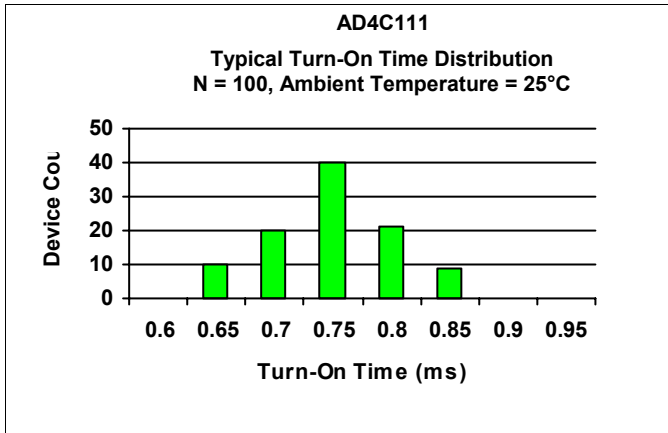
APPROVALS

- UL / C-UL Approved: FILE #E90096, E201932
- CSA Approved: CERTIFICATE #LR111581-1

ELECTRICAL CHARACTERISTICS - 25°C

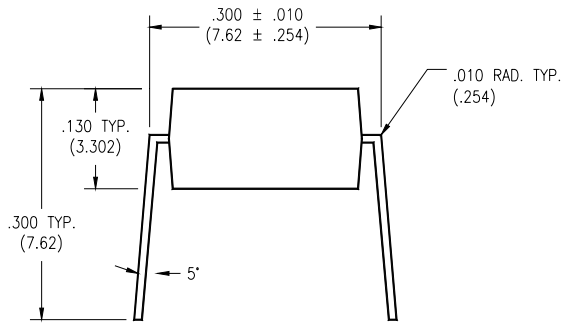
| PARAMETER | UNIT | MIN | TYP | MAX | TEST CONDITIONS |
|-------------------------------|---------|------|------|-----|----------------------|
| INPUT SPECIFICATIONS | | | | | |
| LED Forward Voltage | V | | 1.2 | 1.5 | If = 10mA |
| LED Reverse Voltage | V | 6 | 12 | | Ir = 10uA |
| Turn-On Current | m A | | 1.8 | 5 | Io = 120mA |
| Turn-Off Current | m A | | 1 | | |
| OUTPUT SPECIFICATIONS | | | | | |
| Blocking Voltage | V | 400 | | | Io = 1uA |
| Continuous Load Current | m A | | | 120 | If = 5mA |
| On-Resistance | Ω | | 17 | 30 | Io = 120mA |
| Leakage Current | μ A | | 0.1 | 1 | Vo = 400V |
| Output Capacitance | p F | | 25 | 50 | Vo = 25V, f = 1.0MHz |
| Offset Voltage | m V | | | 0.2 | If = 5mA |
| COUPLED SPECIFICATIONS | | | | | |
| Isolation Voltage | V | 5000 | | | t = 1 minute |
| Turn-On Time | m s | | 0.75 | 2 | If = 5mA, Io = 120mA |
| Turn-Off Time | m s | | 0.4 | 1 | If = 0mA, Io = 120mA |
| Isolation Resistance | G Ω | 100 | | | |
| Coupled Capacitance | p F | | 3 | | |
| Contact Transient Ratio | V / μ s | 2000 | 7000 | | dV = 50V |

PERFORMANCE DATA

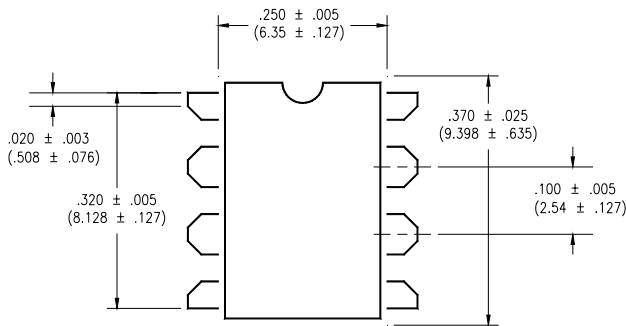


MECHANICAL DIMENSIONS

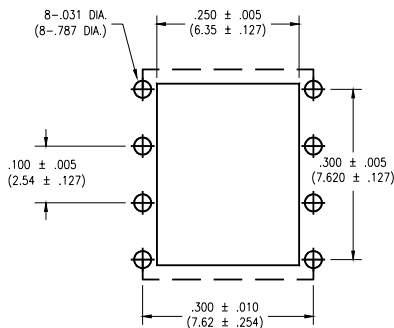
8 PIN DUAL IN-LINE PACKAGE



END VIEW

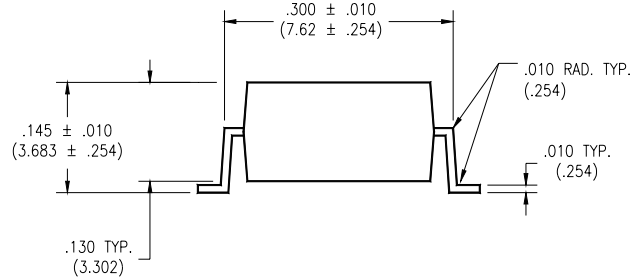


TOP VIEW

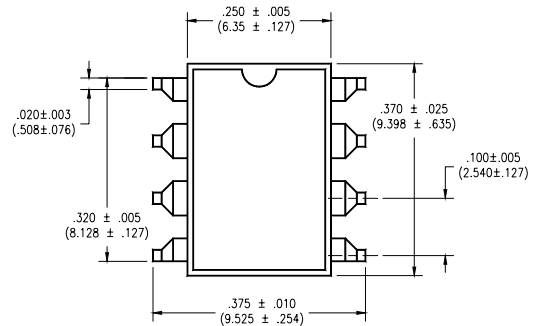


**BOTTOM VIEW/
BOARD PATTERN**

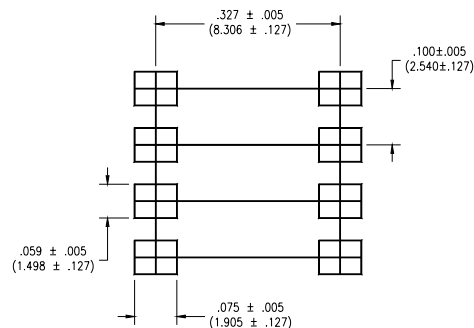
8 PIN SURFACE MOUNT DEVICE



END VIEW



TOP VIEW



**BOTTOM VIEW/
BOARD PATTERN**

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