

AD6C211-L



1 Form A
Solid State Relay

DESCRIPTION

The AD6C211-L is a bi-directional, single-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 an integrated circuit that drives two rugged source-to-source enhancement type DMOS transistors - optically coupled to a light emitting diode. This device also includes current-limiting circuitry. During increased load currents or transient current spikes, this circuitry acts to limit load current, thereby protecting the device as well as downstream components.

FEATURES

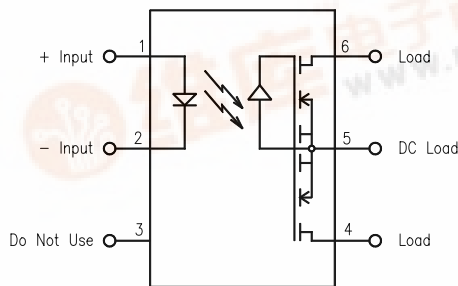
- Current limiting
- Low input control power consumption (2.5mA TYP)
- 140mA maximum continuous load current
- 25 ohms maximum on-resistance
- High input-to-output isolation
- Long life/high reliability

OPTIONS/SUFFIXES*

- -S Surface Mount Leadform Option
- -TR Tape and Reel Option

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

SCHEMATIC DIAGRAM



APPLICATIONS

- Reed relay replacement
- Meter reading systems
- Medical equipment
- Battery monitoring
- Multiplexers

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 |

*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.

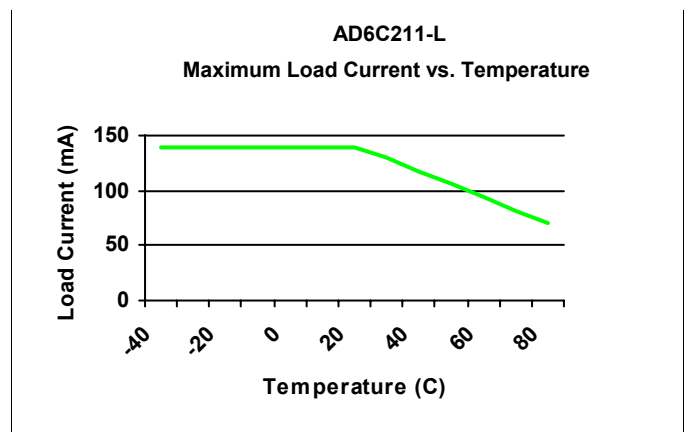
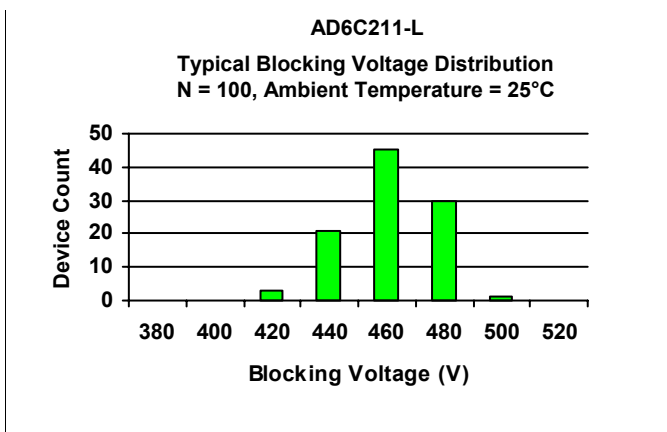
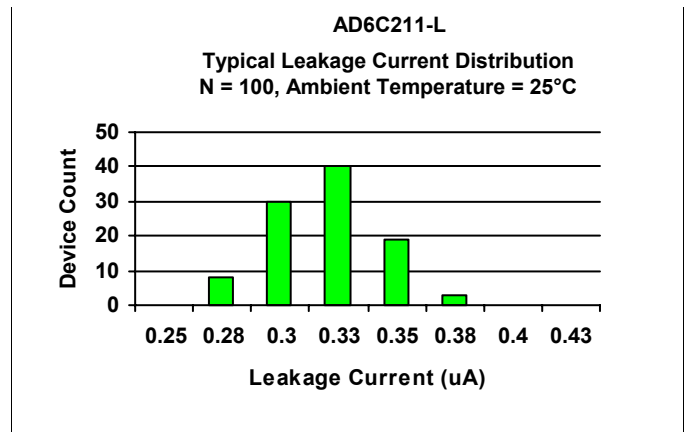
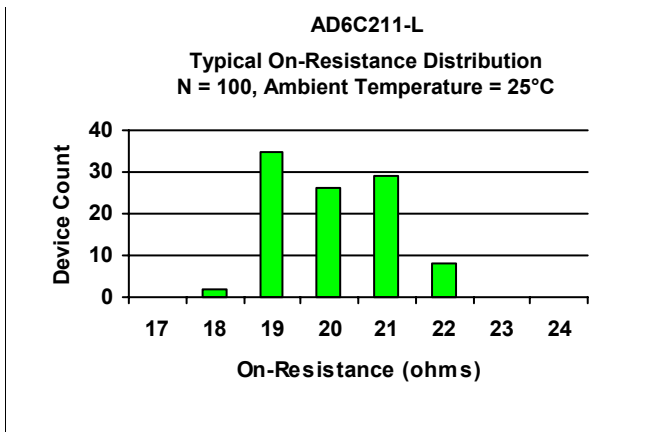
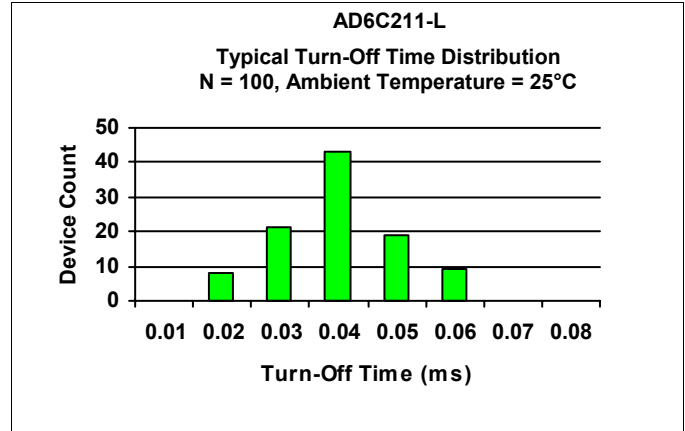
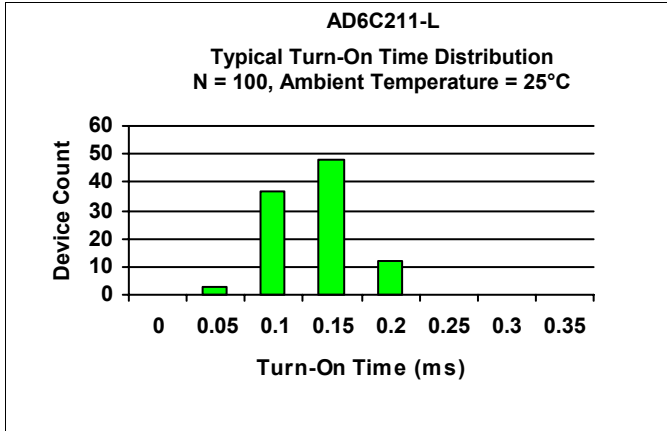
APPROVALS

- BAPT CERTIFICATE #607836:
BS EN 60950, BS EN 41003, BS EN 60065
- CSA CERTIFICATE #LR111581-1
- UL FILE #E90096

ELECTRICAL CHARACTERISTICS - 25°C

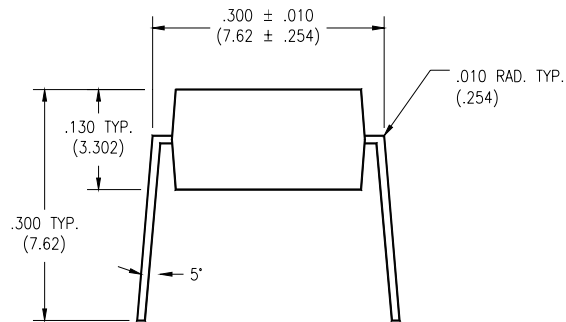
| PARAMETER | UNIT | MIN | TYP | MAX | TEST CONDITIONS |
|-------------------------------|---------|------|------|-----|----------------------|
| INPUT SPECIFICATIONS | | | | | |
| LED Forward Voltage | V | | 1.2 | 1.5 | If = 10mA |
| LED Reverse Voltage | V | 6 | 12 | | Ir = 10uA |
| Turn-On Current | m A | | 2.5 | 5 | Io = 140mA |
| Turn-Off Current | m A | | 0.5 | | |
| OUTPUT SPECIFICATIONS | | | | | |
| Continuous Load Current | m A | | | 140 | If = 5mA |
| Current Limit | m A | 180 | 220 | 250 | If = 5mA |
| On-Resistance | Ω | | 18 | 25 | Io = 140mA |
| Leakage Current | μ A | | 0.2 | 1 | Vo = 400V |
| Blocking Voltage | V | 400 | | | Io = 1uA |
| Output Capacitance | p F | | 25 | 50 | Vo = 25V, f = 1.0MHz |
| Offset Voltage | m V | | | 0.2 | If = 5mA |
| COUPLED SPECIFICATIONS | | | | | |
| Isolation Voltage | V | 2500 | | | T = 1 minute |
| -H Suffix | V | 3750 | | | T = 1 minute |
| Turn-on Time | m s | | 1 | 2 | If = 5mA, Io = 140mA |
| Turn-off Time | m s | | 0.5 | 1 | if = 5mA, Io = 140mA |
| Isolation Resistance | G Ω | 100 | | | |
| Coupled Capacitance | p F | | 3 | | |
| Contact Transient Ratio | V / μ s | 2000 | 7000 | | dV = 50V |

PERFORMANCE DATA

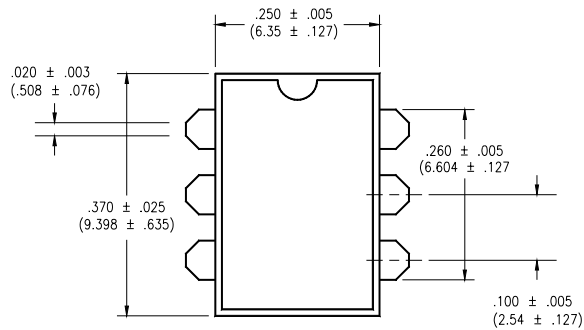


MECHANICAL DIMENSIONS

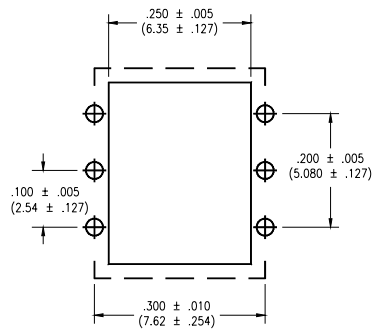
6 PIN DUAL IN-LINE PACKAGE



END VIEW

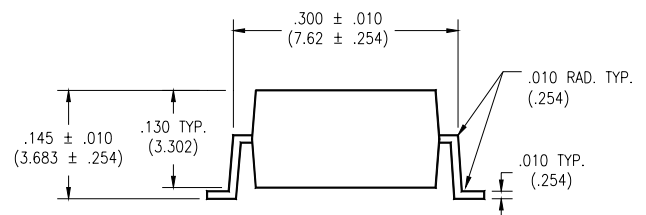


TOP VIEW

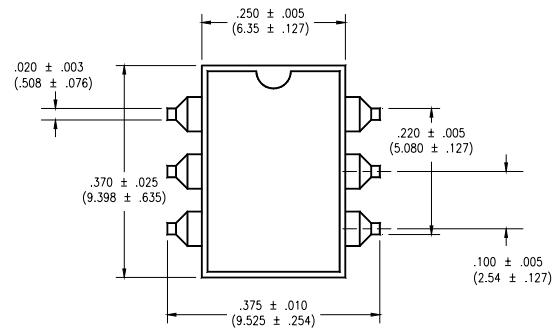


BOTTOM VIEW/
BOARD PATTERN

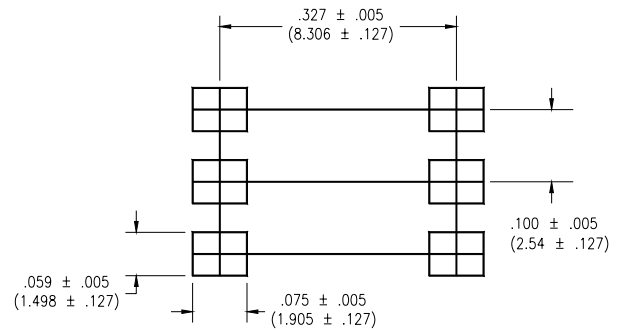
6 PIN SURFACE MOUNT DEVICE



END VIEW



TOP VIEW



BOTTOM VIEW/
BOARD PATTERN

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