





## **DESCRIPTION**

The AD8C211 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. The output MOS transistors are protected with free-wheeling diodes that can handle up to 5A of inrush current, making the relay ideal for switching lamps and highly inductive loads.

## **FEATURES**

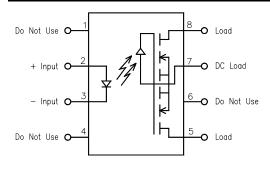
- Low input control power consumption (2.5mA TYP)
- 150mA maximum continuous load current
- 20 ohms maximum on-resistance
- High input-to-output isolation
- · Long life/high reliability

## **OPTIONS/SUFFIXES\***

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

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

## SCHEMATIC DIAGRAM



# **APPLICATIONS**

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

## 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

<sup>\*</sup>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**

- BABT CERTIFICATE #608204:
   BS EN 60950, BS EN 41003, BS EN 60065
- CSA CERTIFICATE #LR111581-1
- UL/ C-UL, FILE #E201932



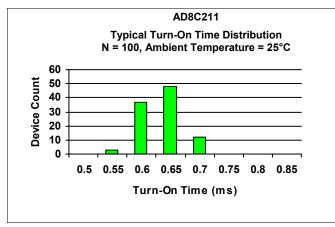


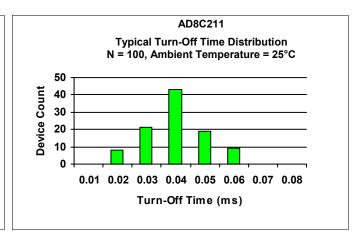
# ELECTRICAL CHARACTERISTICS - 25°C

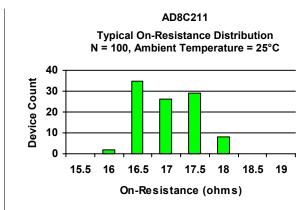
PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
INPUT SPECIFICATIONS					
LED Forward Voltage	V		1.2	1.5	If = 10mA
LED Reverse Voltage	V	6	12		Ir = 10uA
Turn-On Current	m A		2.5	5	Io = 150mA
Turn-Off Current	m A		0.5		
OUTPUT SPECIFICATIONS					
Blocking Voltage	V	400			Io = 1uA
Continuous Load Current	m A			150	If = 5mA
On-Resistance	Ω		15	20	Io = 150mA
Leakage Current	μА		0.2	1	Vo = 400V
Output Capacitance	рF		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 = 150mA
Turn-Off Time	m s		0.5	1	If = 5mA, Io = 150mA
Isolation Resistance	GΩ	100			
Coupled Capacitance	рF		3		
Contact Transient Ratio	V/ μs	2000	7000		dV = 50V

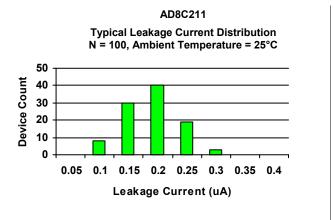


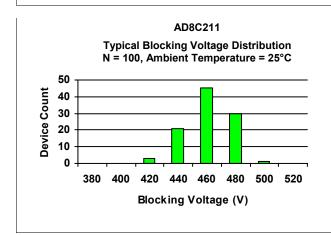
## PERFORMANCE DATA

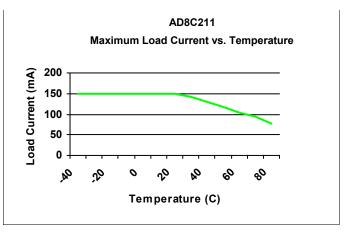








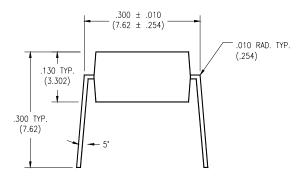




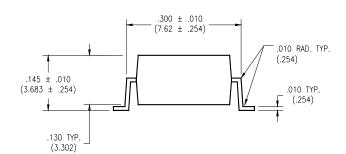


## MECHANICAL DIMENSIONS

## 8 PIN DUAL IN-LINE PACKAGE

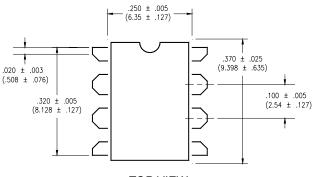


END VIEW

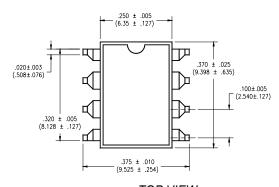


8 PIN SURFACE MOUNT DEVICE

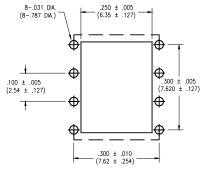
END VIEW



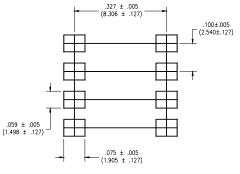
TOP VIEW



TOP VIEW



BOTTOM VIEW/ BOARD PATTERN



BOTTOM VIEW/ BOARD PATTERN



# **AD8C211**

1 Form A Solid State Relay

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