SOLID STATE OPTRONICS

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

APPLICATIONS

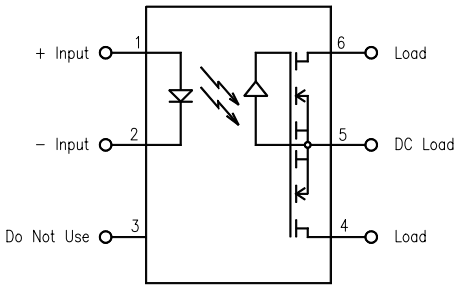
- Reed relay replacement
- Meter reading systems
- Medical equipment
- Battery monitoring
- Multiplexers

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



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

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

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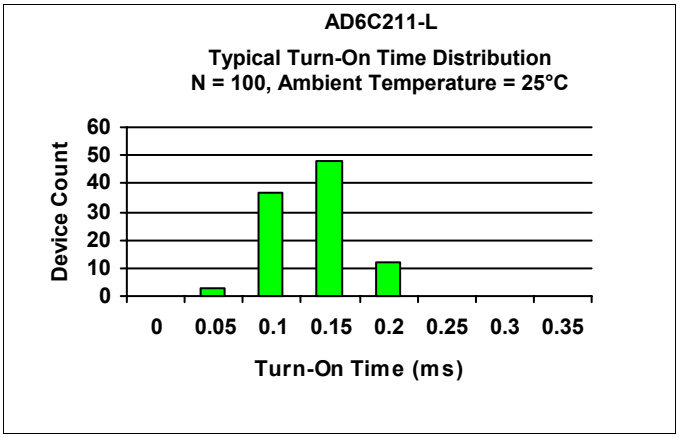
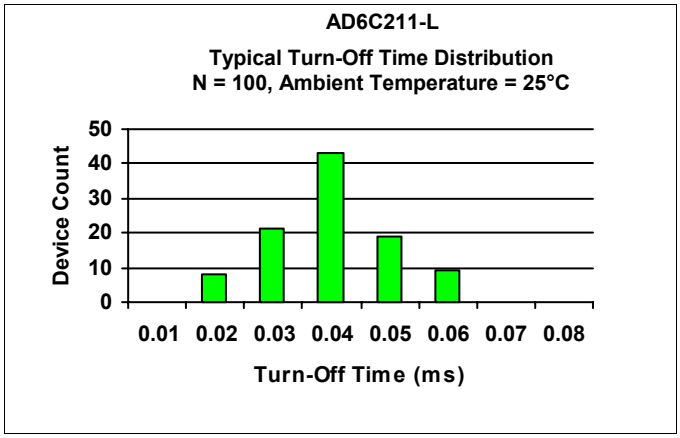
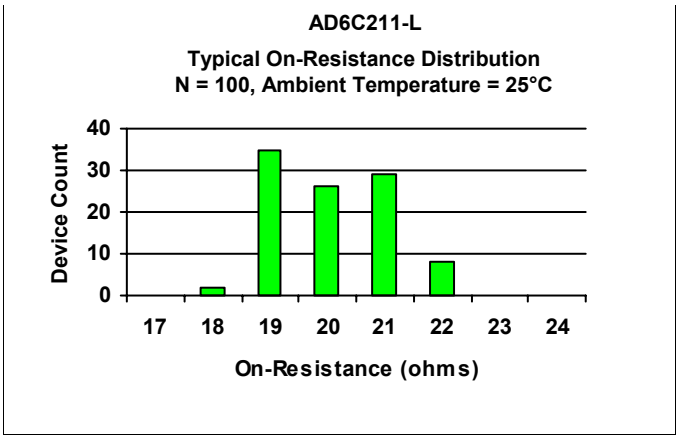
ELECTRICAL CHARACTERISTICS - 25°C

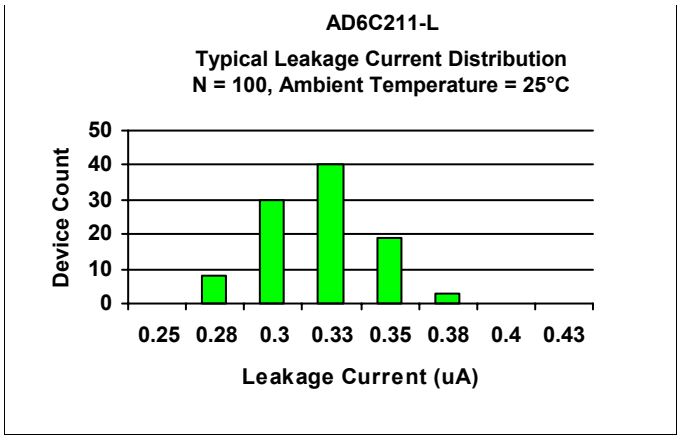
PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
INPUT SPECIFICATIONS					
LED Forward Voltage	V		1.2	1.5	If = 10mA
LED Reverse Voltage	V	6	12		Ir = 10uA
Turn-On Current	m A		2.5	5	Io = 140mA
Turn-Off Current	m A		0.5		
OUTPUT SPECIFICATIONS					
Continuous Load Current	m A			140	If = 5mA
Current Limit	m A	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

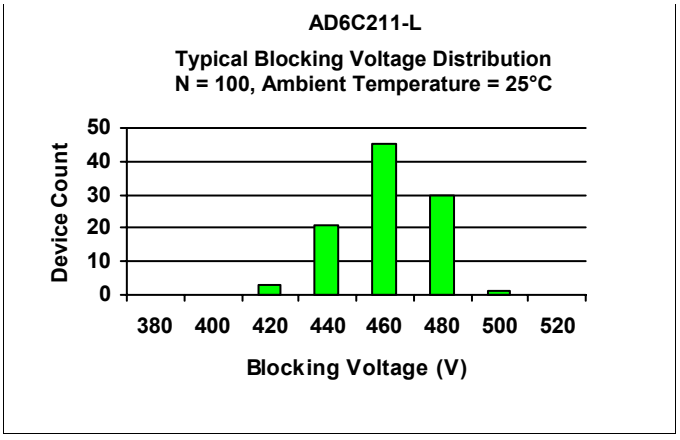
PERFORMANCE DATA

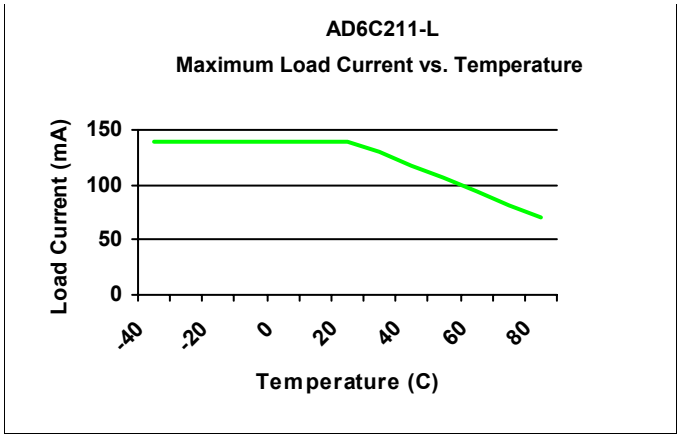






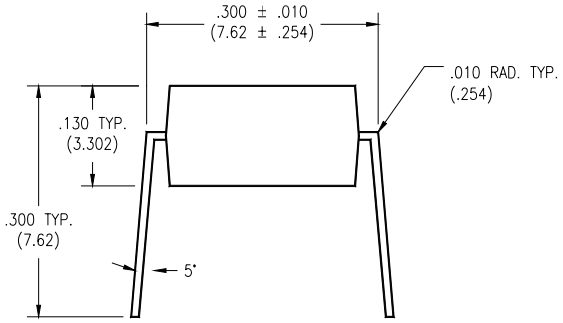




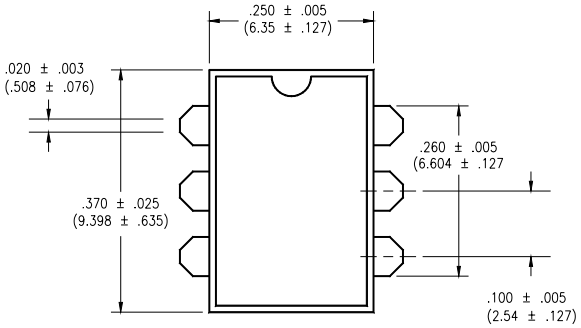


MECHANICAL DIMENSIONS

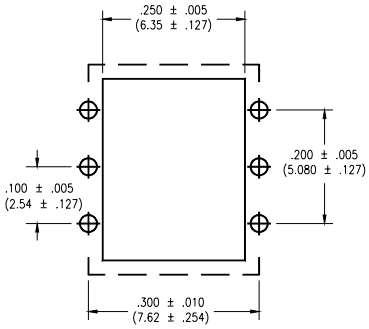
6 PIN DUAL IN-LINE PACKAGE



END VIEW

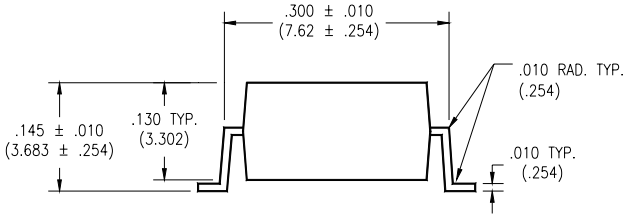


TOP VIEW

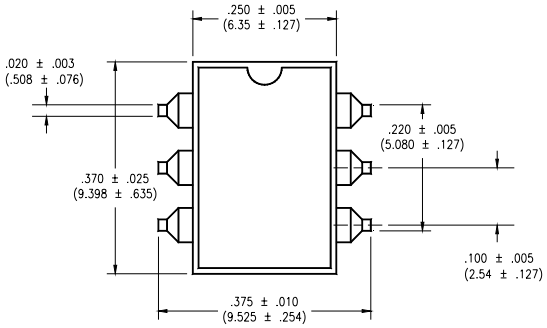


BOTTOM VIEW/
BOARD PATTERN

6 PIN SURFACE MOUNT DEVICE



END VIEW



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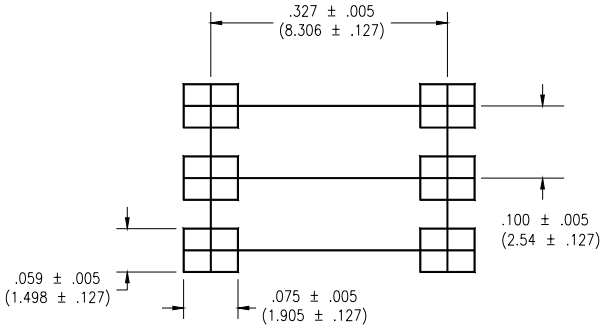

BOTTOM VIEW/
BOARD PATTERN

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