SOLID STATE OPTRONICS

AD2C111-L



1 Form A
Solid State Relay
with Current Limiting

RoHS compliant

DESCRIPTION

The AD2C111-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 IR LED optically coupled to a IC that drives two rugged source-to-source enhancement type DMOS transistors. The 4 pin DIP package offers the combination of reduced package size, with 5kV input to output isolation. This device also includes over-current circuitry that protects the device from high load currents and transient spikes by limiting the amount of current that can pass through its output.

FEATURES

- Small 4 pin DIP package outline - reduces board space
- Current Limiting - protects device from overcurrents
- High input-output isolation (5kV)
- Low input control power consumption (2.5mA TYP)
- 120mA maximum continuous load current
- 40 ohms maximum on-resistance
- Long life/high reliability

APPLICATIONS

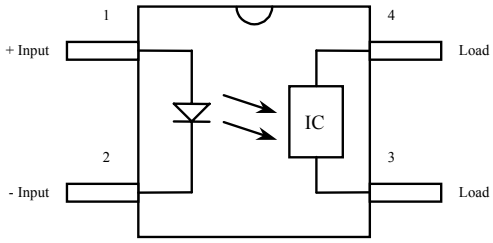
- Reed relay replacement
- Meter reading systems
- Medical equipment
- Battery monitoring
- Multiplexers

OPTIONS/SUFFIXES*

- -V VDE 0884 compliance (.04" / 10.16mm lead spacing)
- -S Surface mount leadform option (65pcs per tube)
- -TR Tape & Reel Option (2,000 pcs / reel)

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	-40		150
Operating Temperature	°C	-40		85
Continuous Forward Current	mA			50
Peak Forward Current	A			1
Reverse Voltage	V			5
Output Power Dissipation	mW			500

*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

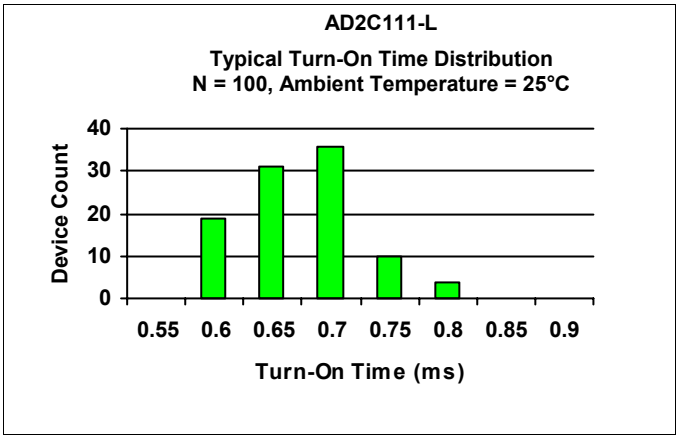
- UL / C-UL Approved: File E90096

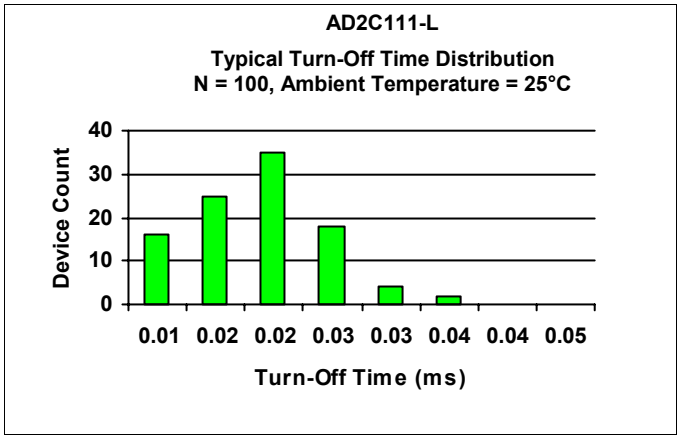
ELECTRICAL CHARACTERISTICS - 25°C

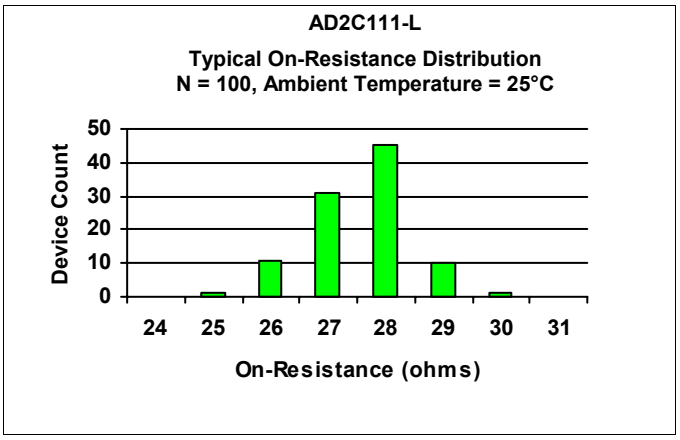
PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
INPUT SPECIFICATIONS					
LED Forward Voltage	V		1.2	1.5	If = 10mA
LED Reverse Voltage	V	6	12		Ir = 10uA
Turn-On Current	m A		2.5	5	Io = 120mA
Turn-Off Current	m A		0.5		
OUTPUT SPECIFICATIONS					
Blocking Voltage	V	400			Io = 1uA
Continuous Load Current	m A			120	If = 5mA
Current Limit	m A		150	180	If = 5mA
On-Resistance	Ω		30	40	Io = 120mA
Leakage Current	µ A		0.2	1	Vo = 400V
Output Capacitance	p A		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		1.25	3	If = 5mA, Io = 120mA
Turn-Off Time	m s		0.1	0.5	If = 0, Io = 120mA
Coupled Capacitance	p F		3		
Contact Transient Ratio	V / µ s	2000	7000		dV = 50V

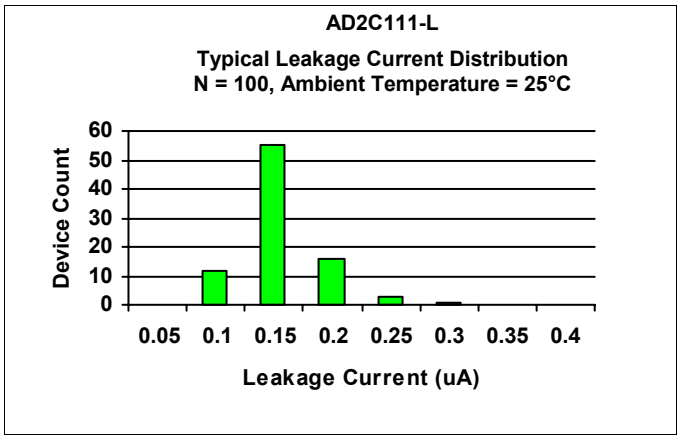
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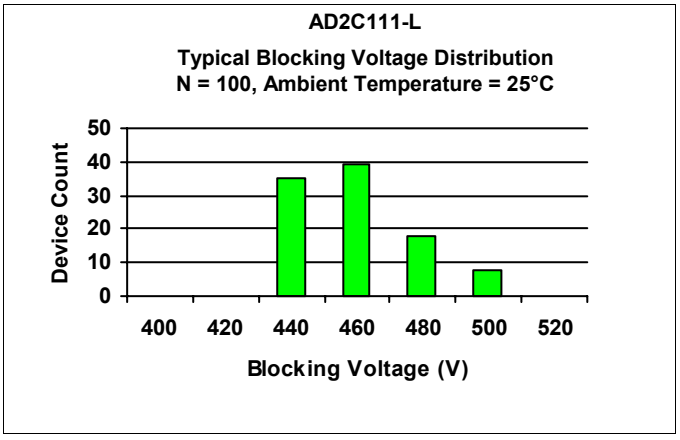
PERFORMANCE DATA

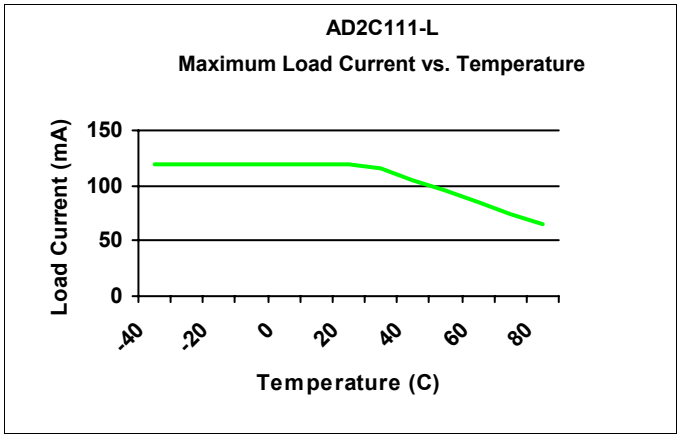








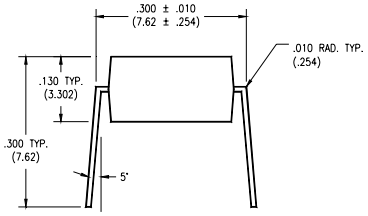




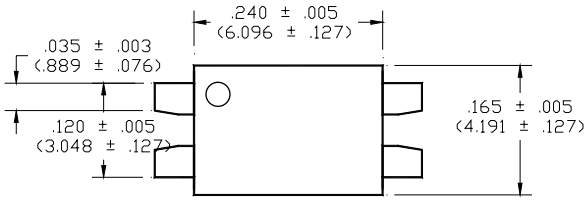
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MECHANICAL DIMENSIONS

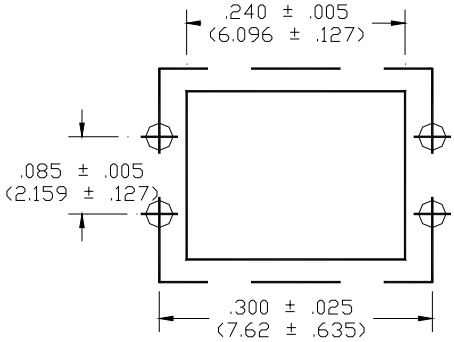
4 PIN DUAL IN-LINE PACKAGE



END VIEW

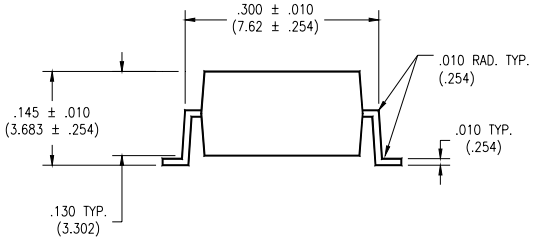


TOP VIEW

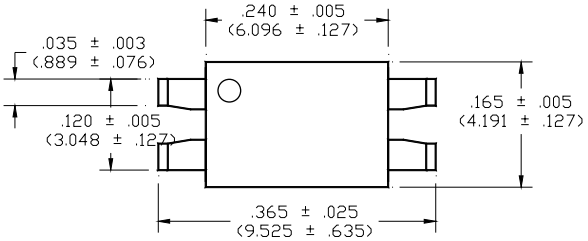


BOTTOM VIEW

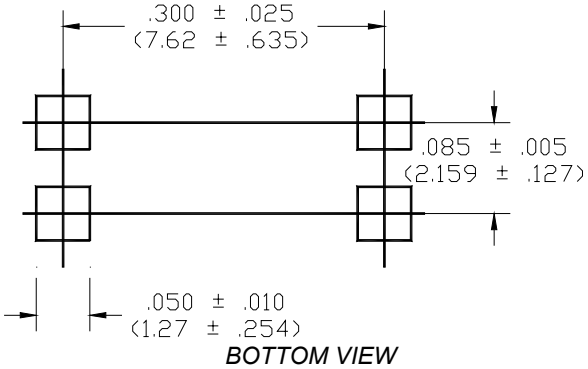
4 PIN SURFACE MOUNT DEVICE



END VIEW



TOP VIEW



BOTTOM VIEW

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