SOLID STATE OPTRONICS

AD2C111

1 Form A
Solid State Relay

RoHS compliant

DESCRIPTION

The AD2C111 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.

FEATURES

- Small 4 pin DIP package outline - reduces board space
- High input-output isolation (5kVrms)
- Low input control power consumption (2mA TYP)
- 130mA maximum continuous load current
- 30 ohms maximum on-resistance
- Long life/high reliability
- RoHS / Pb-Free / REACH Compliant

APPLICATIONS

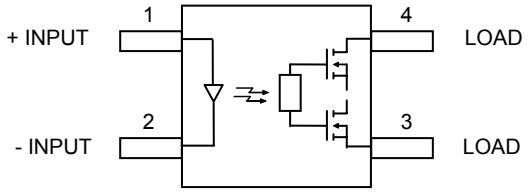
- Reed relay replacement
- Meter reading systems
- Medical Equipment
- Battery Monitoring
- Multiplexers

OPTIONS/SUFFIXES*

- -S Surface Mount Leadform Option (65pcs / tube)
- -TR Tape and Reel Packing 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		125
Operating Temperature	°C	-40		85
Continuous Input Current	mA			50
Transient Input Current (1us)	mA			1
Reverse Input Control Voltage	V			5
Output Power Dissipation	mW			500
Solder Temperature - Wave (10s)	°C			260
Solder Temperature - IR Reflow (10s)	°C			260

*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.

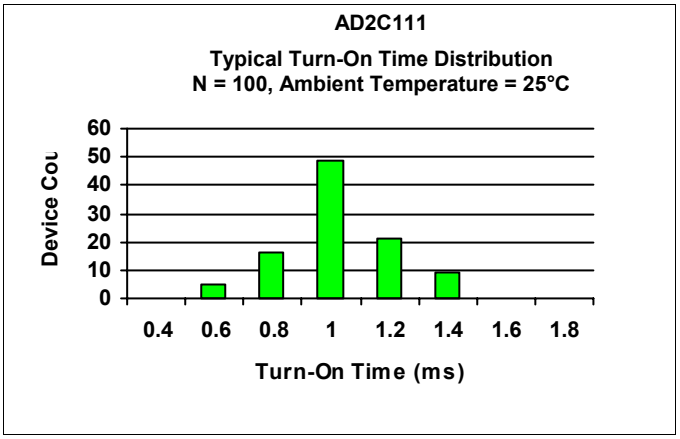
APPROVALS

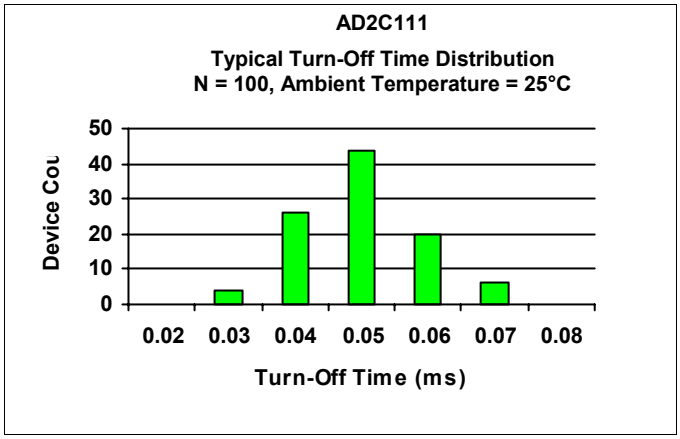
- UL / C-UL Approved: File # E201932

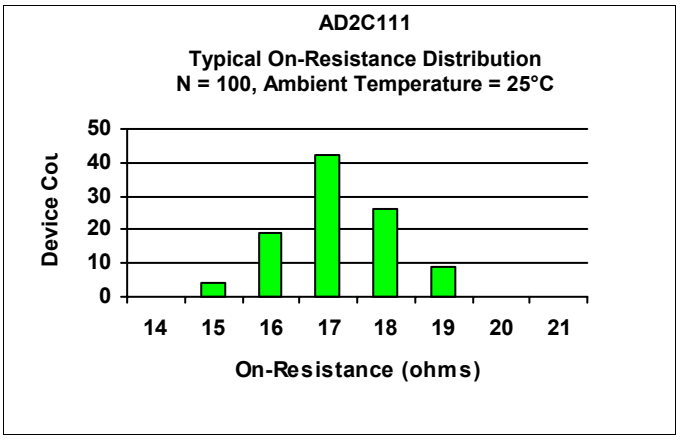
ELECTRICAL CHARACTERISTICS - 25°C

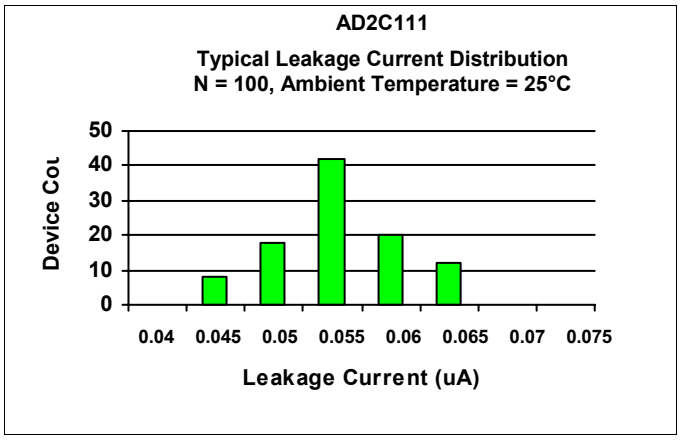
PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
INPUT SPECIFICATIONS					
LED Forward Voltage	V		1.8	2	If = 10mA
Turn-On Current	m A		2	5	Io = 100mA, Vo=20V T=10ms
Turn-Off Current	m A	0.2			
OUTPUT SPECIFICATIONS					
Blocking Voltage	V	400			Io = 1uA
Continuous Load Current	m A			130	If = 5mA
On-Resistance	Ω		17	30	Io = 130mA
Output Off-State Leakage Current	μ A		0.2	1	Vo = 400V
I/O Capacitance	p F	6			If=0, f = 1.0MHz
COUPLED SPECIFICATIONS					
Isolation Voltage	V	5000			T = 1 min
Turn-On Time	m s		1	2	If = 5mA, Io = 130mA
Turn-Off Time	m s		0.05	1	If = 0mA, Io = 130mA
Isolation Resistance	G Ω	100			

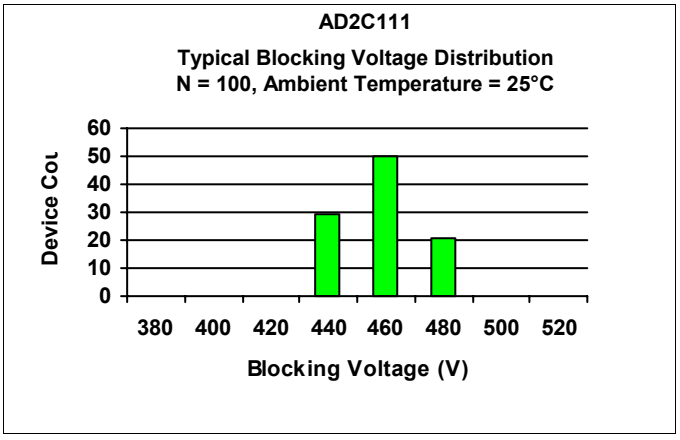
PERFORMANCE DATA

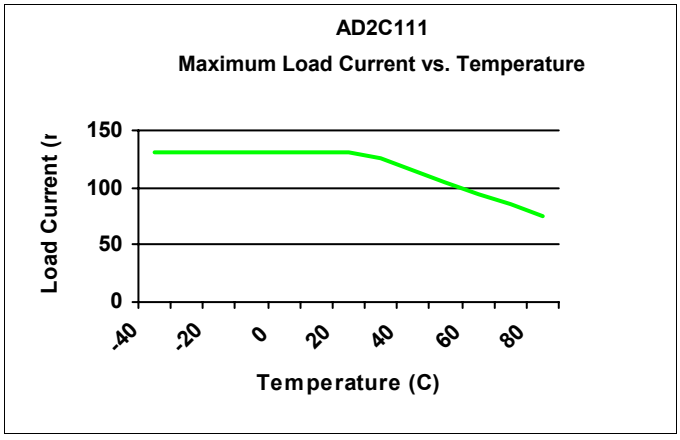






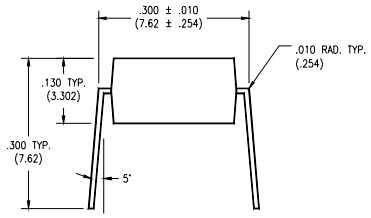




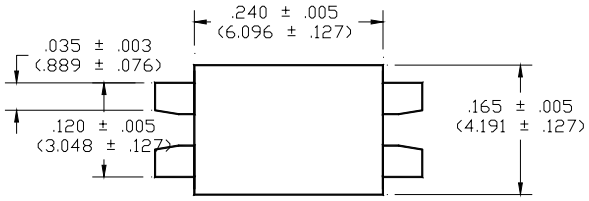


MECHANICAL DIMENSIONS

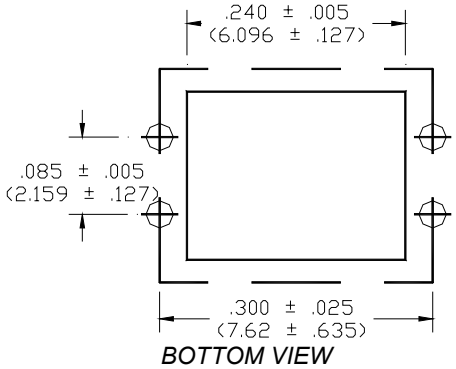
4 PIN DUAL IN-LINE PACKAGE



END VIEW

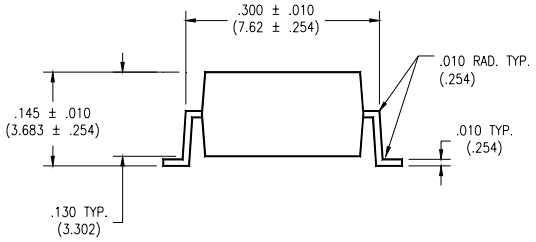


TOP VIEW

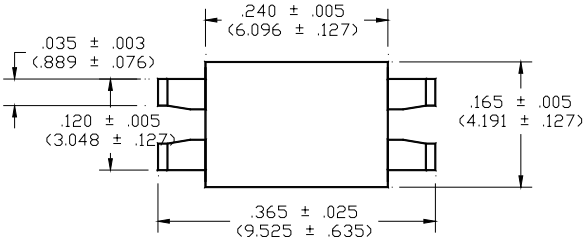


BOTTOM VIEW

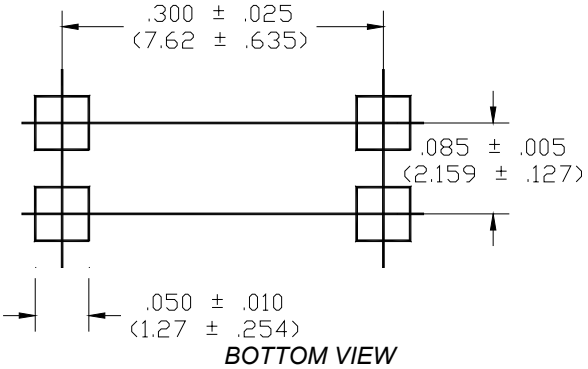
4 PIN SURFACE MOUNT DEVICE



END VIEW



TOP VIEW



BOTTOM VIEW

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