SOLID STATE OPTRONICS

AD2C101

1 Form A
Solid State Relay

RoHS compliant

DESCRIPTION

The AD2C101 is a bi-directional, single-pole, single-throw, normally open multipurpose solid-state relay. The relay consists of an IR LED optically coupled to a Photo Diode Array, which in turn drives two output MOSFETs. The AD2C101 provides high load voltage (600V) and high input-to-output isolation (5kV) in a miniature 4 pin DIP / SMD package, making it ideal for high-density board applications.

FEATURES

- High Blocking Voltage (600V)
- Small 4-pin DIP / SMD package
- High input-to-output isolation (5000Vrms)
- 100mA maximum continuous load current
- 40 ohms maximum on-resistance
- Long life/high reliability

APPLICATIONS

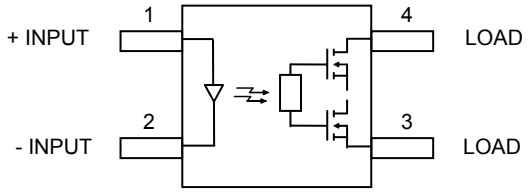
- Multiplexers
- Meter reading systems
- Data Acquisition
- Medical equipment
- Battery monitoring
- Home/Safety security systems

OPTIONS/SUFFIXES*

- -S Surface Mount Option (65 pcs / tube)
- -TR Tape and Reel Option (2000 pcs / reel)
- -V .04" (10.16mm) lead spacing (VDE0884)

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 Input Current	mA			50
Transient Input Current (1us)	mA			400
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.

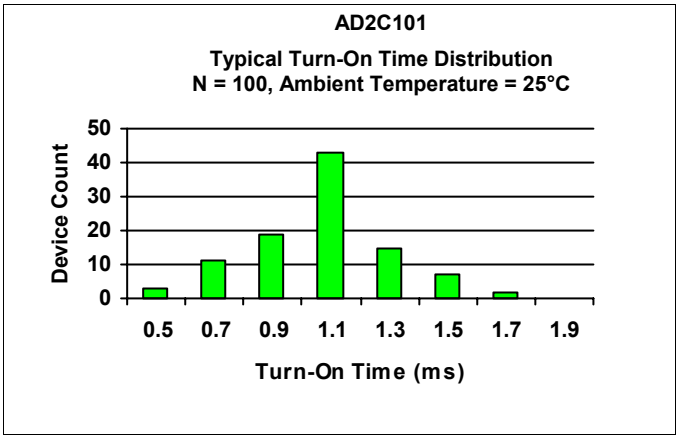
APPROVALS

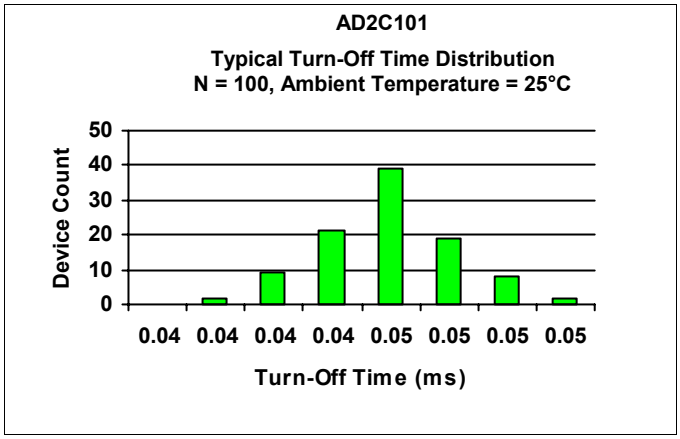
- UL / C-UL Approved: File E201932

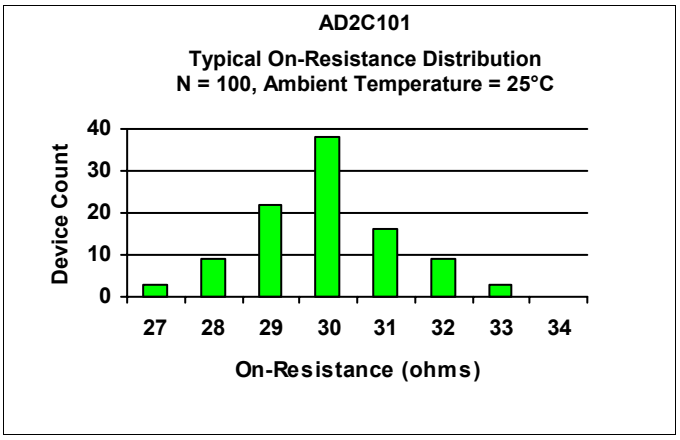
ELECTRICAL CHARACTERISTICS - 25°C

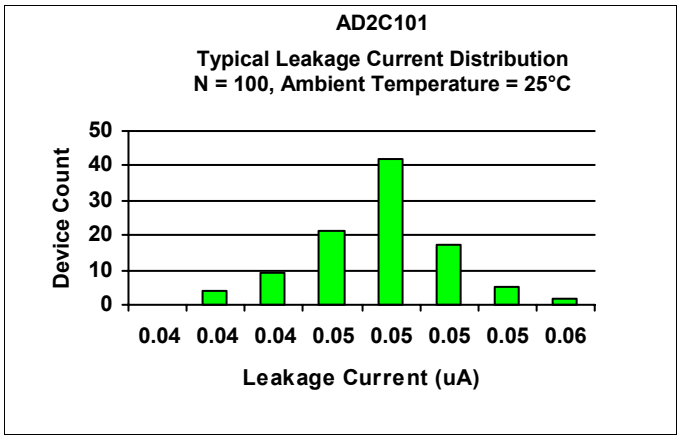
PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
INPUT SPECIFICATIONS					
LED Forward Voltage	V		1.8	2	If = 10mA
Turn-On Current	m A		2.5	5	Io = 100mA
Turn-Off Current	m A	0.2			
OUTPUT SPECIFICATIONS					
Blocking Voltage	V	600			Io = 1uA
Continuous Load Current	m A			100	If = 5mA
On-Resistance	Ω		30	40	Io = 100mA
Leakage Current	µ A		0.2	1	Vo = 600V
Output Capacitance	p F	6			If=0, f = 1.0MHz
Offset Voltage	m V			0.2	If = 5mA
COUPLED SPECIFICATIONS					
Isolation Voltage	V r m s	5000			T = 1 minute
Turn-On Time	m s		1	5	If = 5mA, Io = 100mA, Vo=20V, t=10ms
Turn-Off Time	m s		0.05	3	If = 0mA, Io = 100mA, Vo=20V, t=10ms
Isolation Resistance	G Ω	100			
Coupled Capacitance	p F		3		
Contact Transient Ratio	V / µ s	2000	7000		dV = 50V

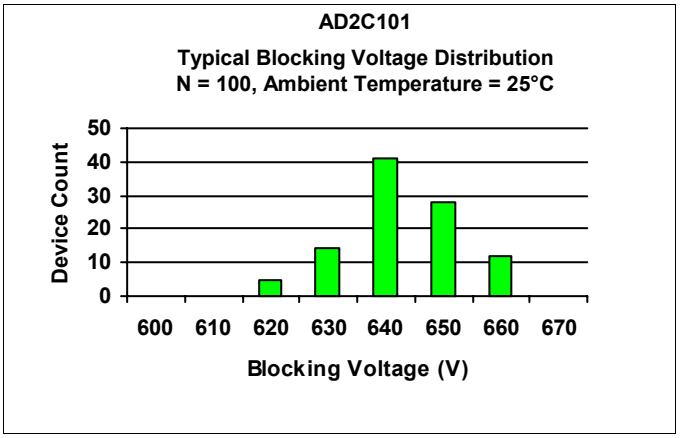
PERFORMANCE DATA

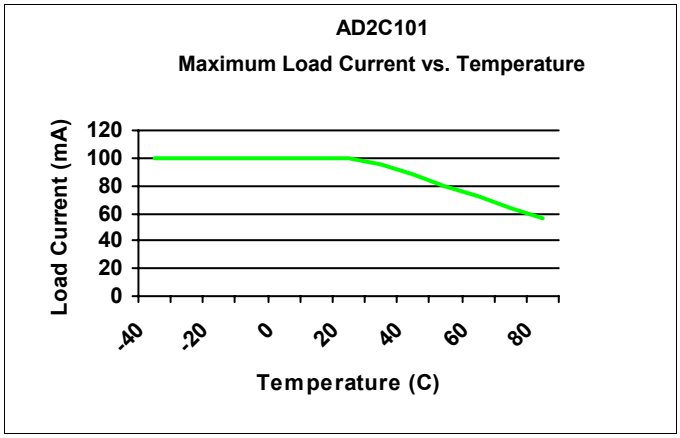






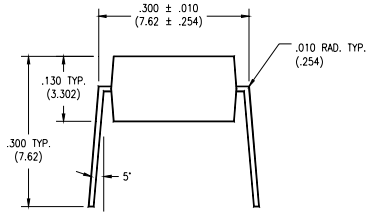




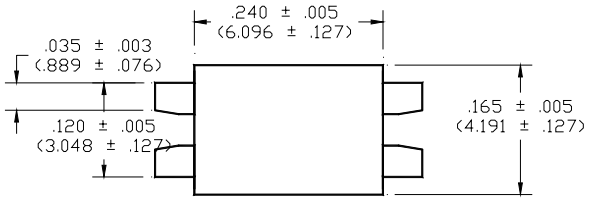


MECHANICAL DIMENSIONS

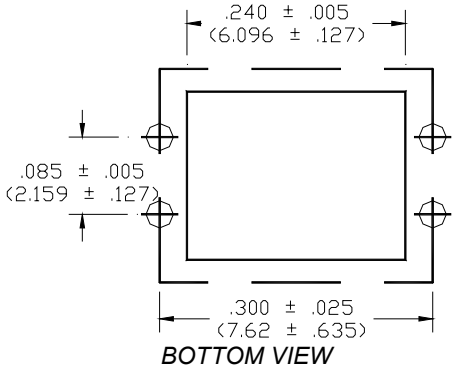
4 PIN DUAL IN-LINE PACKAGE



END VIEW

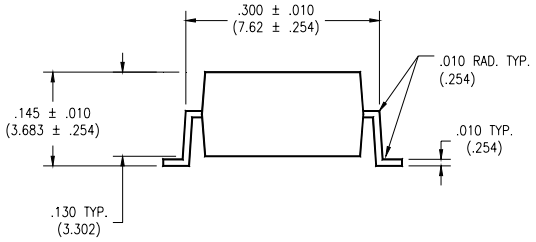


TOP VIEW

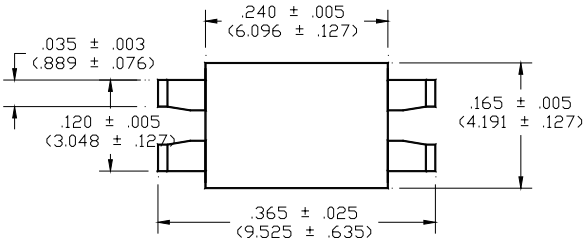


BOTTOM VIEW

4 PIN SURFACE MOUNT DEVICE



END VIEW



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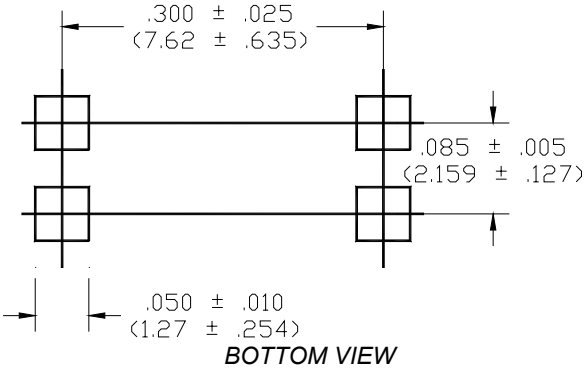

BOTTOM VIEW

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