



## DESCRIPTION

The AD6C101 is a bi-directional, single-pole, single-throw, normally open multipurpose solid-state relay. With a high blocking voltage (600V), it is designed to replace electromechanical relays in high voltage 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 1.5A of inrush current, making the relay ideal for switching lamps and highly inductive loads.

## FEATURES

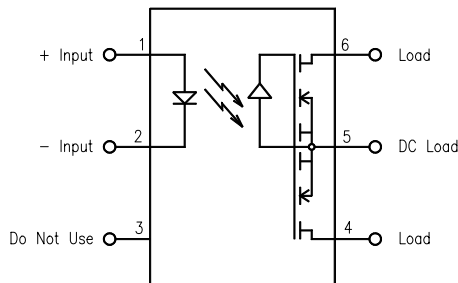
- High Blocking Voltage (600V)
- High Input-Output Isolation (3750V)
- 120mA MAX Continuous Load Current
- On Resistance 40 ohms MAX
- Long Life/High Reliability

## OPTIONS/SUFFIXES\*

- -H High Input-to-Output Isolation
- -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



## APPLICATIONS

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

## ABSOLUTE MAXIMUM RATINGS\*

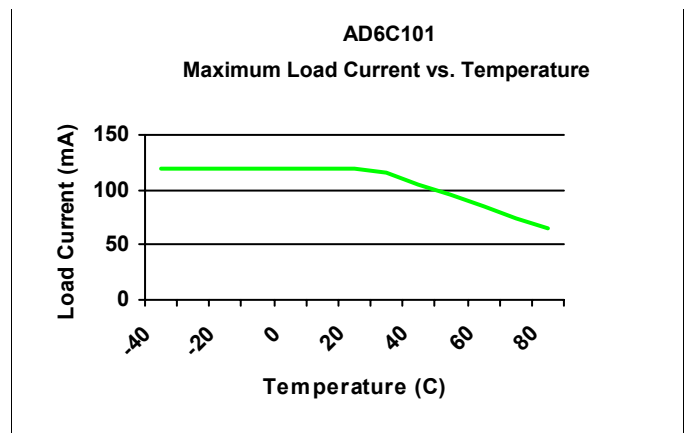
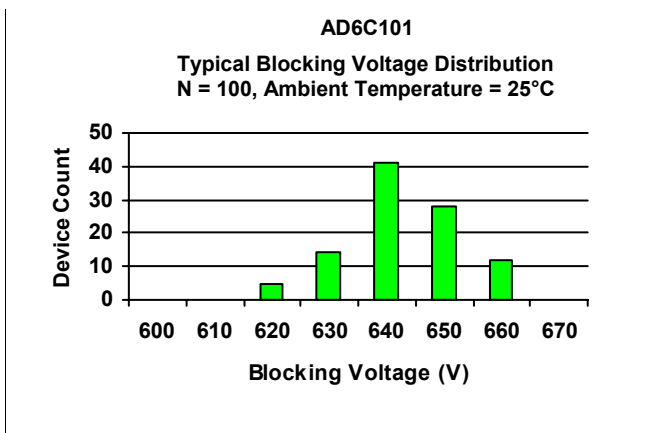
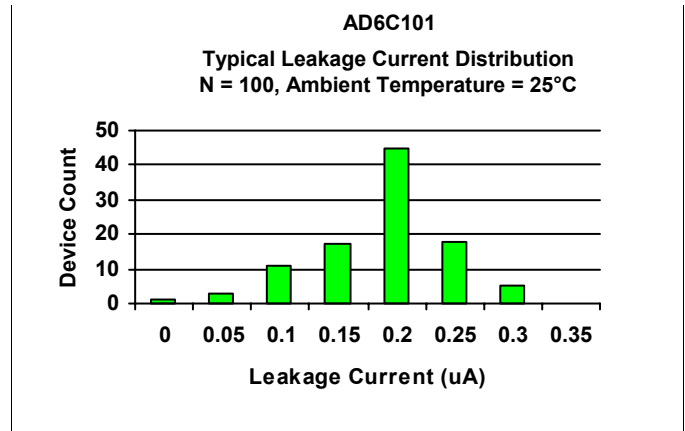
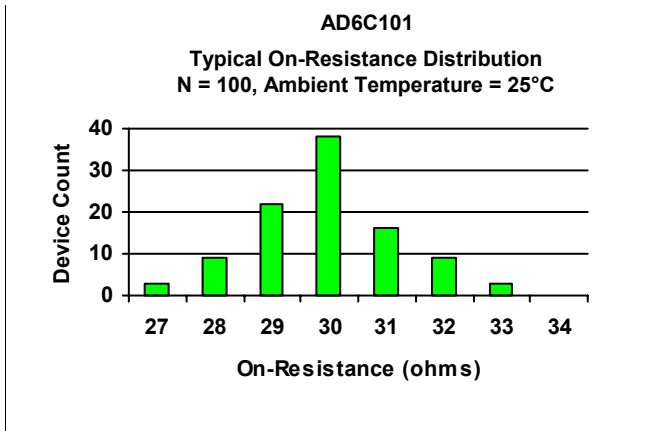
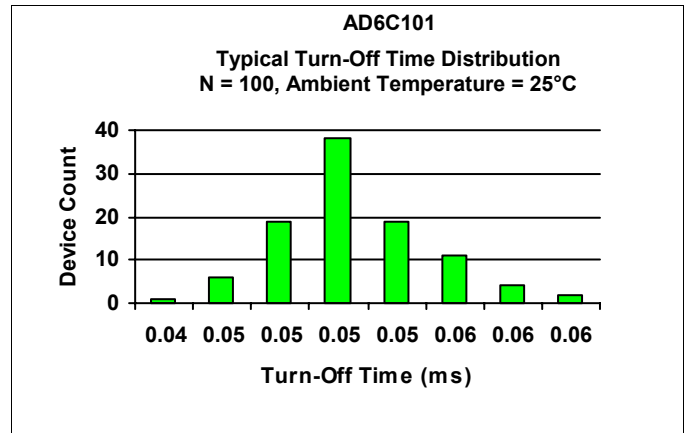
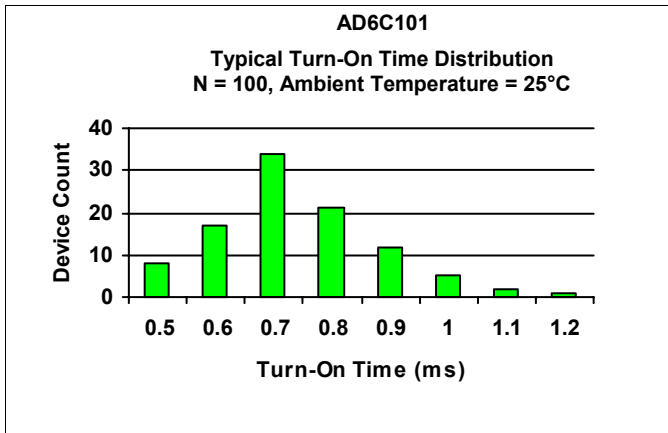
PARAMETER	UNIT	MIN	TYP	MAX
Storage Temperature	°C	-55		125
Operating Temperature	°C	-40		85
Continuous Input Current	mA			50
Transient Input Current	mA			400
Reverse Input Control Voltage	V	6		
Output Power Dissipation	mW			600

\*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.

**ELECTRICAL CHARACTERISTICS - 25°C**

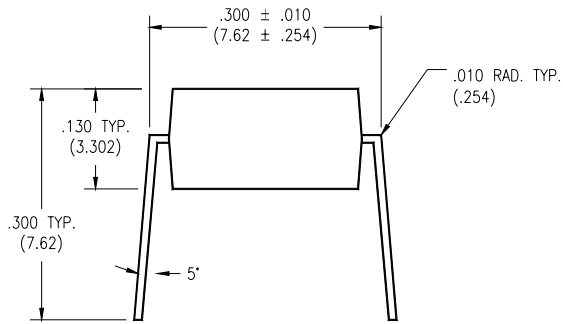
PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
<b>INPUT SPECIFICATIONS</b>					
LED Forward Voltage	V		1.8	2	If = 10mA
LED Reverse Voltage	V		0.5		Ir = 10uA
Turn-On Current	m A		1.75	5	Io = 120mA
Turn-Off Current	m A	0.2			
<b>OUTPUT SPECIFICATIONS</b>					
Blocking Voltage	V	600			Io = 1uA
Continuous Load Current	m A			120	If = 5mA
On-Resistance	Ω		30	40	Io = 120mA
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
<b>COUPLED SPECIFICATIONS</b>					
Isolation Voltage	V	2500			T = 1 minute
-H Suffix	V	3750			T = 1 minute
Turn-On Time	m s		1	5	If = 5mA, Io = 120mA
Turn-Off Time	m s		0.5	2	
Isolation Resistance	G Ω	100			
Coupled Capacitance	p F		3		
Contact Transient Ratio	V / μ s	2000	7000		dV = 50V

**PERFORMANCE DATA**

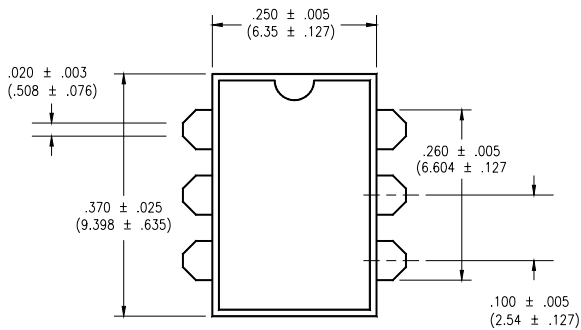


**MECHANICAL DIMENSIONS**

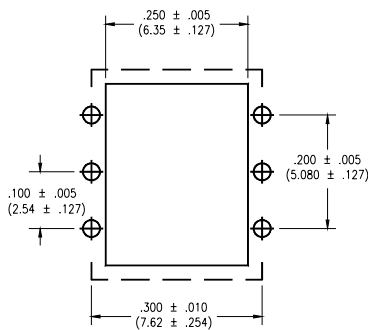
**6 PIN DUAL IN-LINE PACKAGE**



**END VIEW**

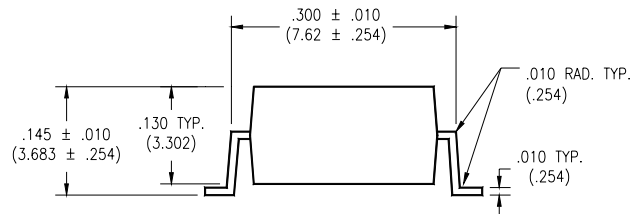


**TOP VIEW**

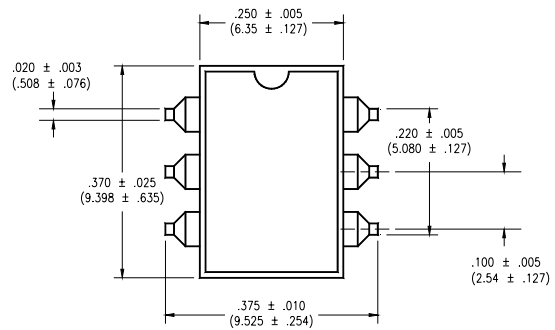


**BOTTOM VIEW/  
BOARD PATTERN**

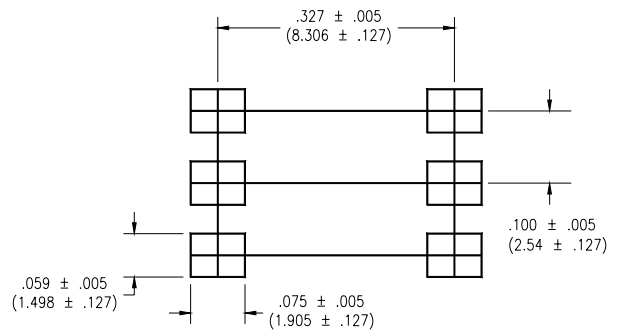
**6 PIN SURFACE MOUNT DEVICE**



**END VIEW**



**TOP VIEW**



**BOTTOM VIEW/  
BOARD PATTERN**

## **DISCLAIMER**

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