SOLID STATE OPTRONICS

AD6C431



1 Form A
Solid State Relay

DESCRIPTION

The AD6C431 is a bi-directional, single-pole, single-throw, normally open multipurpose relay. It is designed to replace electro-mechanical relays in many higher load current applications. The relay consists of an integrated circuit that drives two rugged drain-to-drain enhancement type DMOS transistors - optically coupled to a light emitting diode. The output MOS transistors have low on resistance, making the relays ideal where switching higher current loads is required.

FEATURES

- 400mA maximum continuous load current
- 200V Blocking Voltage
- 3 Ohms maximum on-resistance
- High input-to-output isolation
- Long life/high reliability
- Low input control power consumption

APPLICATIONS

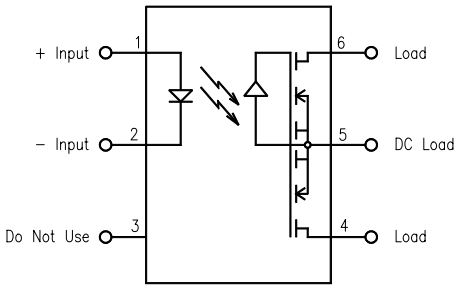
- Reed relay replacement
- Meter reading systems
- Medical equipment
- Battery monitoring
- Multiplexers

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: Pending
- UL/C-UL: Pending

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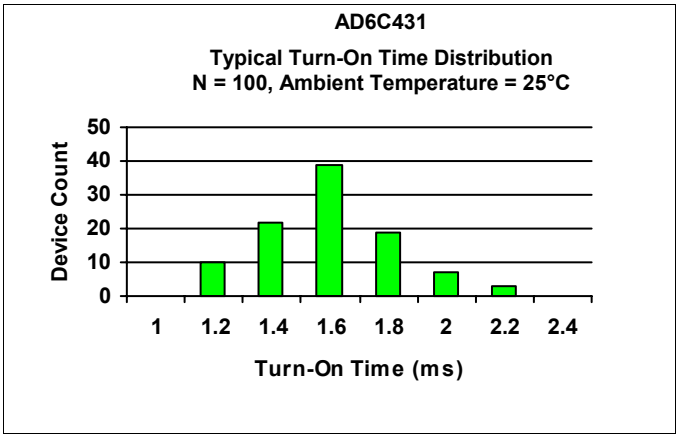
ELECTRICAL CHARACTERISTICS - 25°C

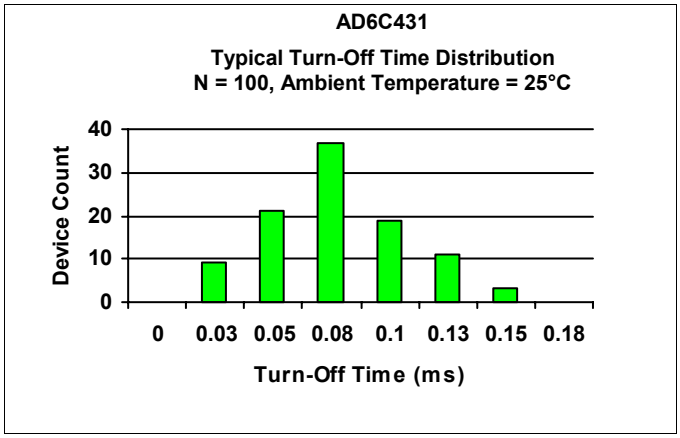
PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
INPUT SPECIFICATIONS					
LED Forward Voltage	V		1.2	1.5	If = 10mA
LED Reverse Voltage	V	6	12		Ir = 10uA
Turn-On Current	m A		2.5	5	Io = 400mA
Turn-Off Current	m A		0.5		
OUTPUT SPECIFICATIONS					
Blocking Voltage	V	200			Io = 1uA
Continuous Load Current	m A			400	If = 5mA
On-Resistance	Ω		1.5	3	Io = 400mA
Leakage Current	μ A		0.2	10	Vo = 200V
Output Capacitance	p F		125	200	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		1.65	5	If = 5mA, Io = 400mA
Turn-Off Time	m s		0.5	1	If = 5mA, Io = 400mA
Isolation Resistance	G Ω	100			
Coupled Capacitance	p F		2		
Contact Transient Ratio	V / μ s	2000	7000		dV = 50V

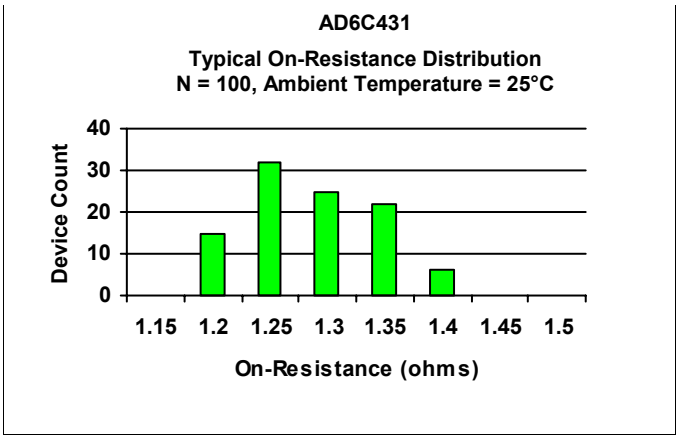
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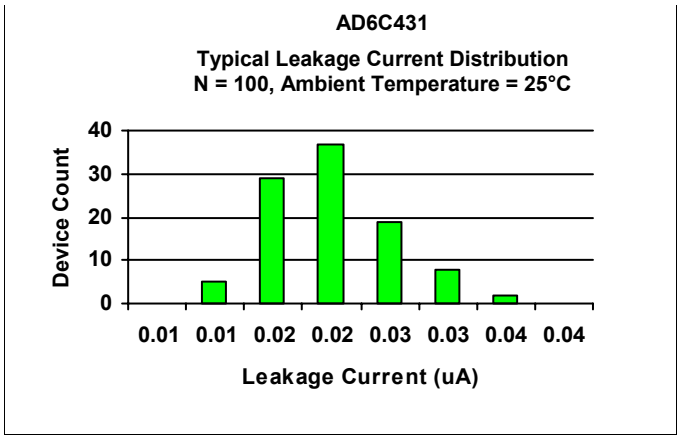
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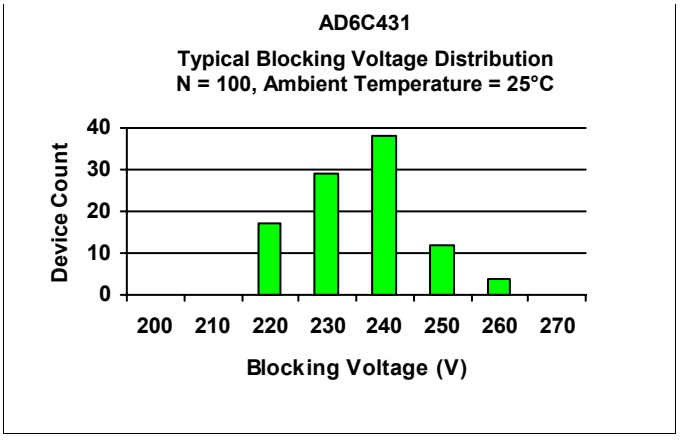
PERFORMANCE DATA

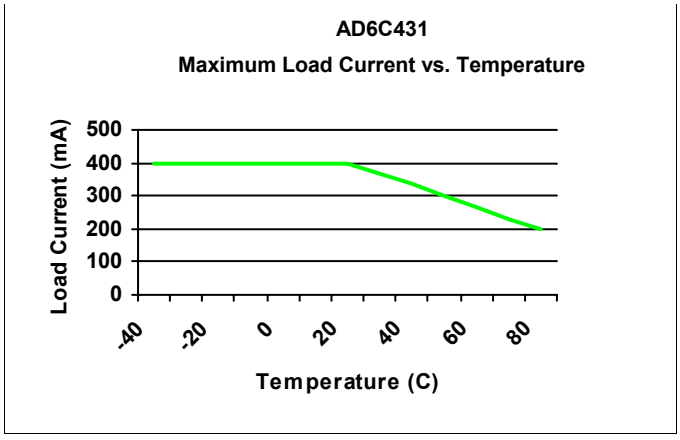








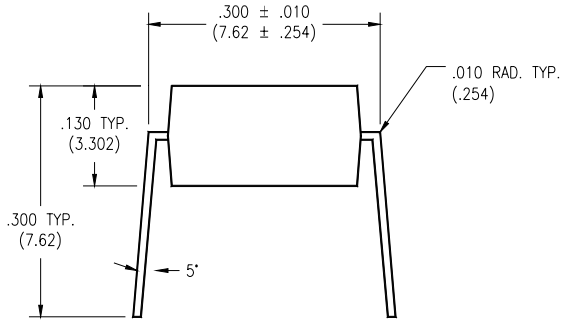




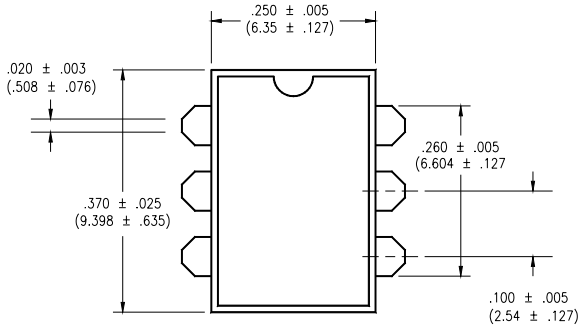
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MECHANICAL DIMENSIONS

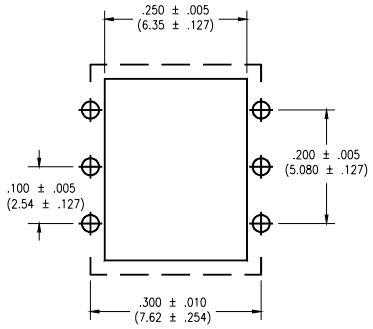
6 PIN DUAL IN-LINE PACKAGE



END VIEW

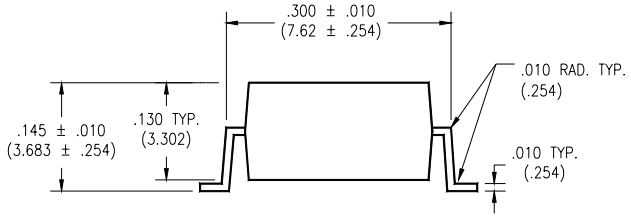


TOP VIEW

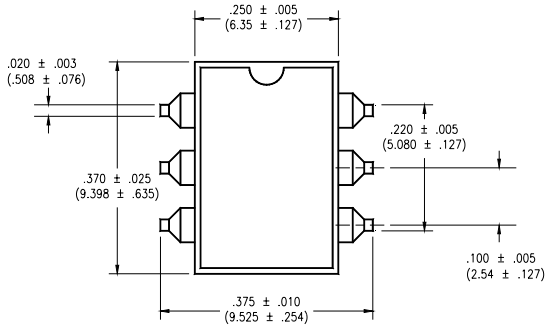


BOTTOM VIEW/
BOARD PATTERN

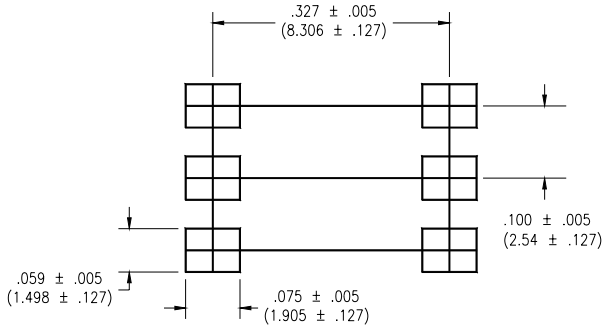
6 PIN SURFACE MOUNT DEVICE



END VIEW



TOP VIEW



BOTTOM VIEW/
BOARD PATTERN

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