SOLID STATE OPTRONICS

AD4C250




Dual 1 Form A
Solid State Relay

RoHS compliant

DESCRIPTION

The AD4C250 is a bi-directional, double-pole, single-throw, normally open multipurpose solid-state relay. It is designed to replace electromechanical relays and reed relays in special applications that call for very fast switching times. The relay consists of two integrated circuits, each driving a pair of rugged source-to-source enhancement type DMOS transistors. Each integrated circuit is optically coupled to a light emitting diode. The output MOS transistors are specially designed to exhibit extremely low output capacitance and leakage current characteristics, making this device ideal for switching high frequency signals.

FEATURES

- Two optically isolated SSRs in compact 8 pin DIP package
- Fast switching speed (Ton = 50us TYP)
- Low output capacitance (3pF MAX)
- Low input control power consumption (5mA MAX)
- 40mA maximum continuous load current
- Long life/high reliability
- RoHS / Pb-Free / REACH Compliant

APPLICATIONS

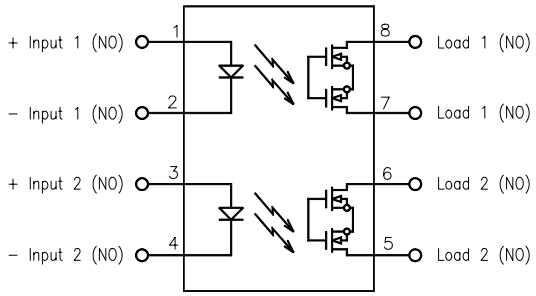
- Multiplexers
- Meter reading systems
- Data Acquisition
- Medical equipment
- Battery monitoring

OPTIONS/SUFFIXES*

- -H High Input / Output isolation
- -S Surface Mount Leadform Option (50 pcs / tube)
- -TR Tape and Reel Packing Option (1,000 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	-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

- Approved to UL1950, UL1577, UL508
- Approved to (BSI) EN60950, EN41003, EN60065
- CSA Approved

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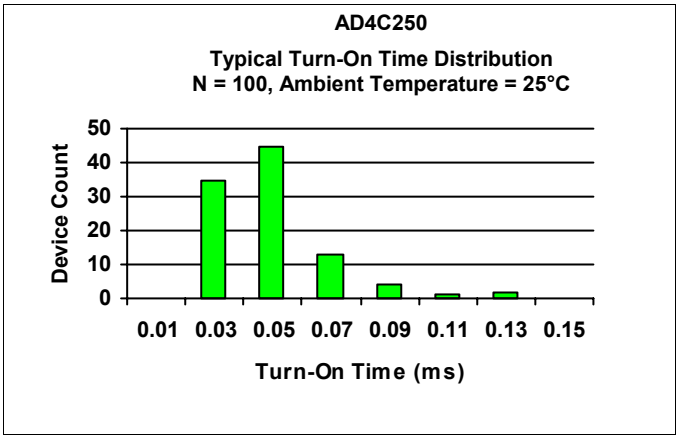
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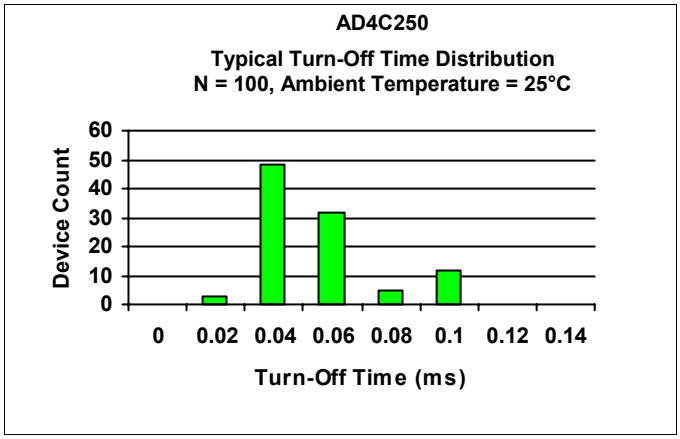
ELECTRICAL CHARACTERISTICS - 25°C

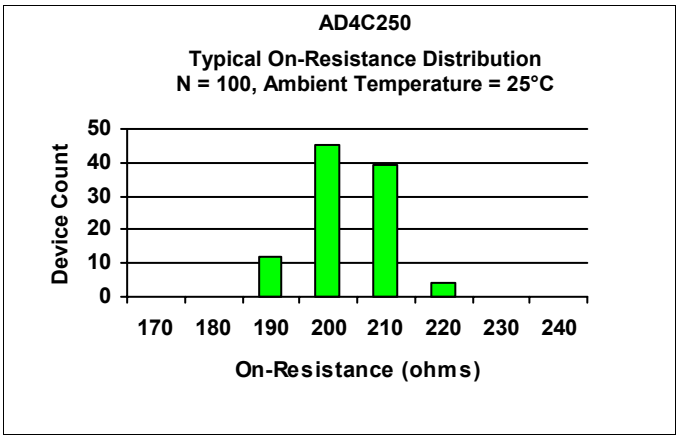
PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
INPUT SPECIFICATIONS					
LED Forward Voltage	V		1.2	1.5	If = 10mA
LED Reverse Voltage	V	6	12		Ir = 10uA
Turn-On Current	m A		2.5	5	Io = 40mA
Turn-Off Current	m A		0.5		
OUTPUT SPECIFICATIONS					
Blocking Voltage	V	250			Io = 1uA
Continuous Load Current	m A			40	If = 5mA
On-Resistance	Ω		225	300	Io = 40mA
Leakage Current	n A		10	100	Vo = 250V
Output Capacitance	p F		1.5	3	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	µ s		50	500	If = 5mA, Io = 40mA
Turn-Off Time	µ s		150	500	If = 0mA, Io = 40mA
Isolation Resistance	G Ω	100			
Coupled Capacitance	p F		3		
Contact Transient Ratio	V / µ s	2000	7000		dV = 50V

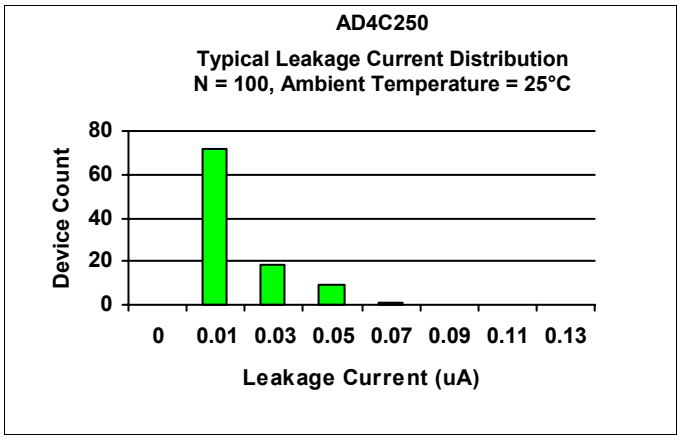
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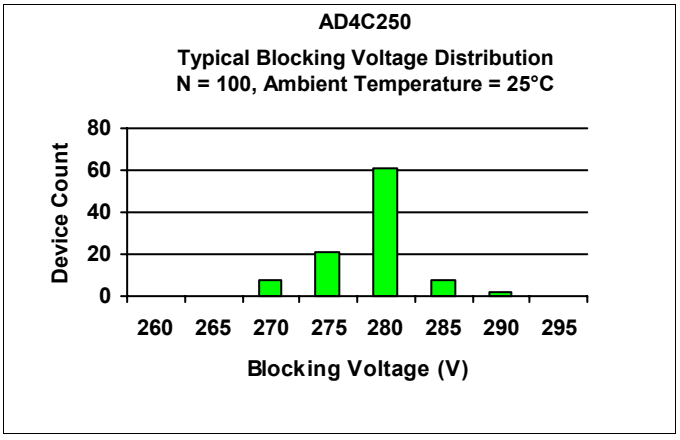
PERFORMANCE DATA

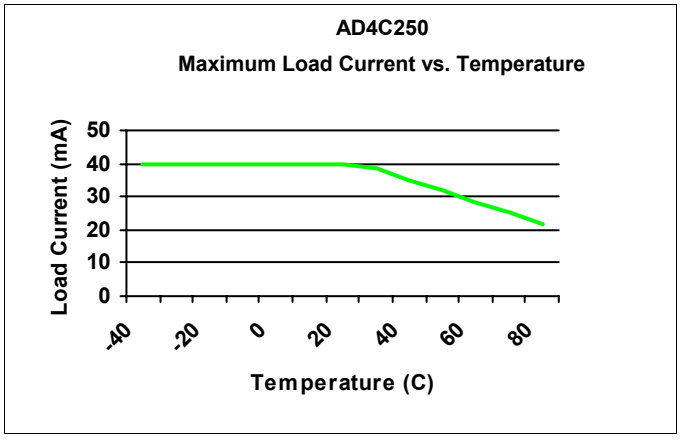






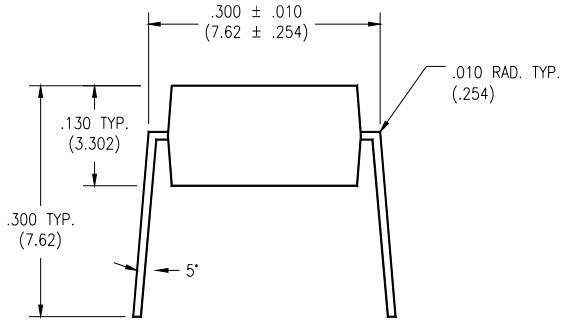




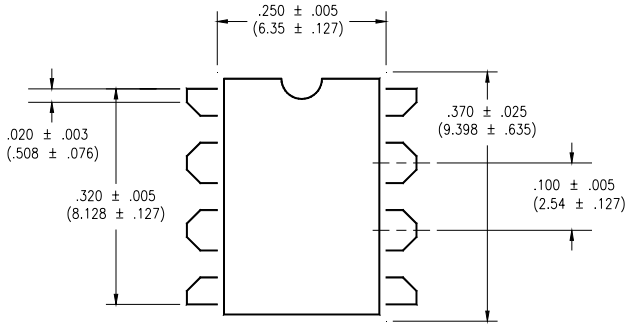


MECHANICAL DIMENSIONS

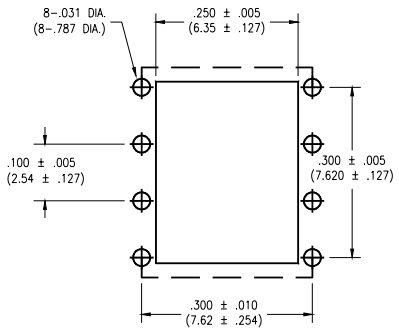
8 PIN DUAL IN-LINE PACKAGE



END VIEW

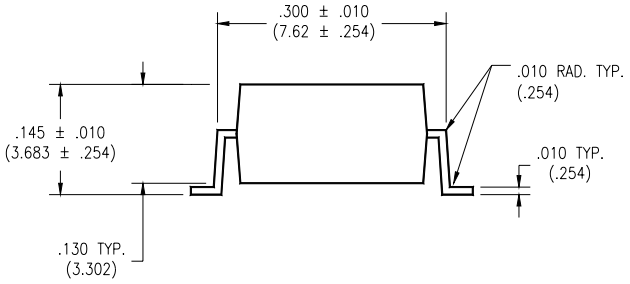


TOP VIEW

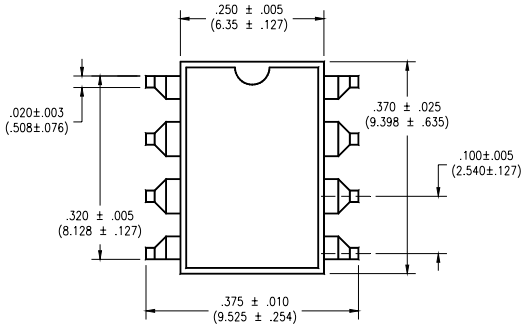


BOTTOM VIEW/
BOARD PATTERN

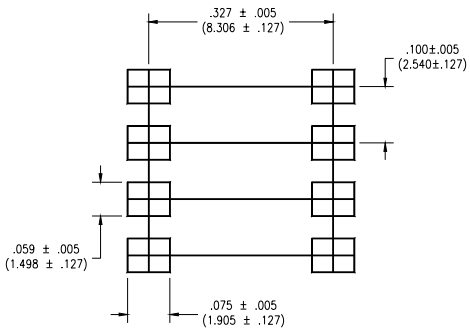
8 PIN SURFACE MOUNT DEVICE



END VIEW



TOP VIEW



BOTTOM VIEW/
BOARD PATTERN

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