SOLID STATE OPTRONICS

AD2C541



1 Form A
Solid State Relay

RoHS compliant

DESCRIPTION

The AD2C541 is a bi-directional, single-pole, single-throw, normally open high power solid-state relay. The relay consists of IR LED optically coupled to an IC that drives two rugged source-to-source low on-resistance enhancement type DMOS transistors. With high load current rating (500mA), high isolation (5kV) and compact package size, the AD2C541 is ideally suited to high power applications where board space is at a premium.

FEATURES

- Low On-Resistance (1 ohm MAX)
- High Load Current (500mA)
- Small package outline (4DIP) - reduces board space
- High input-to-output Isolation (5kV)
- Low input control power consumption (2.5mA TYP)
- Long life / Solid State reliability

APPLICATIONS

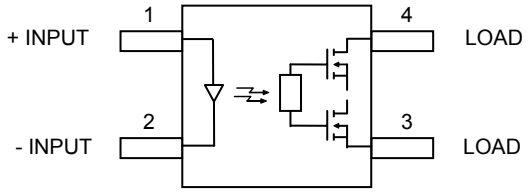
- Reed relay replacement
- Meter reading systems
- Medical equipment
- Battery monitoring
- Multiplexers

OPTIONS/SUFFIXES*

- -S Surface Mount leadform option (65 pcs / tube)
- -TR Tape & Reel option (2,000 pcs / reel)
- -V VDE0884 compliant lead spacing (0.4" / 10.16mm)

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

*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

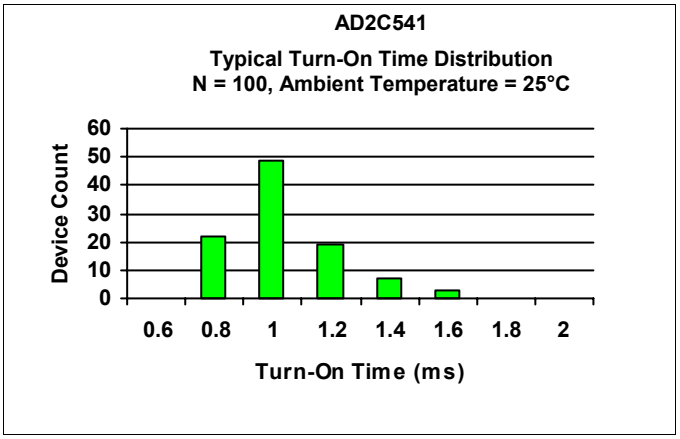
- UL/C-UL Approved: File E201932

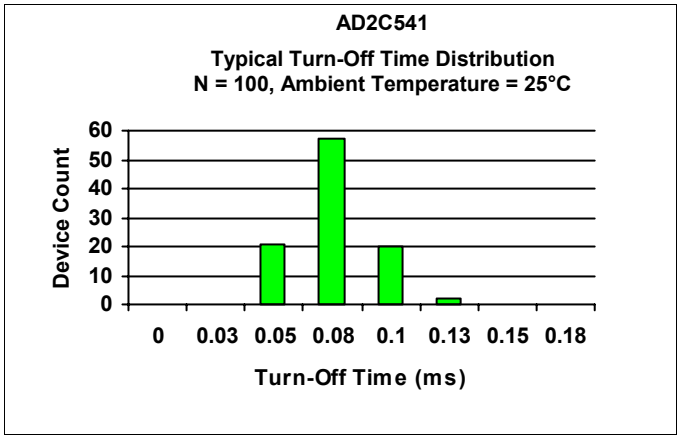
ELECTRICAL CHARACTERISTICS - 25°C

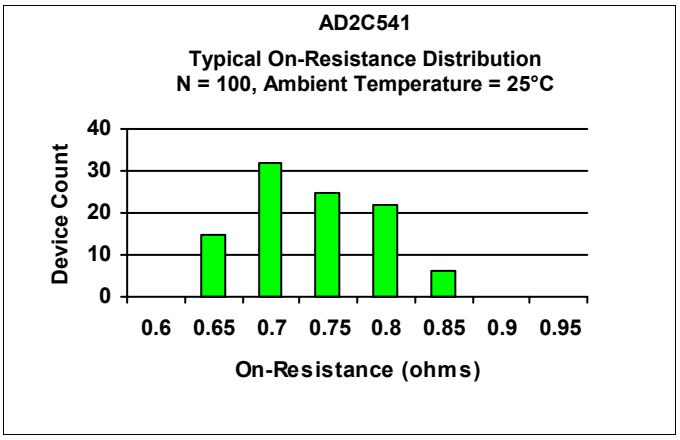
PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
INPUT SPECIFICATIONS					
LED Forward Voltage	V		1.2	1.5	If = 10mA
LED Reverse Voltage	V	6	12		Ir = 10uA
Turn-On Current	m A		2.5	5	Io = 500mA
Turn-Off Current	m A		0.5		
OUTPUT SPECIFICATIONS					
Blocking Voltage	V	60			Io = 1uA
Continuous Load Current	m A			500	If = 5mA
On-Resistance	Ω		0.7	1	Io = 500mA
Leakage Current	µ A		0.07	1	Vo = 60V
Output Capacitance	p F		125	200	Vo = 25V, f = 1.0MHz
Offset Voltage	m V			0.2	If = 5mA
COUPLED SPECIFICATIONS					
Isolation Voltage	V	5000			T = 1 minute
Turn-On Time	m s		1	5	If = 5mA, Io = 500mA
Turn-Off Time	m s		0.075	2	If = 0mA, Io = 500mA
Isolation Resistance	G Ω	100			
Coupled Capacitance	p F		2		
Contact Transient Ratio	V / µ s	2000	7000		dV = 50V

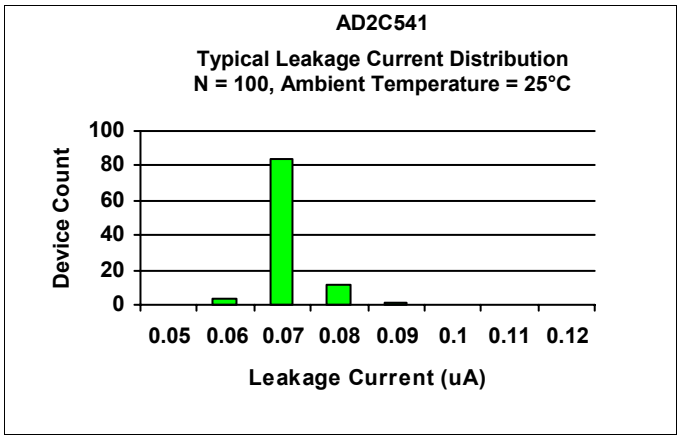
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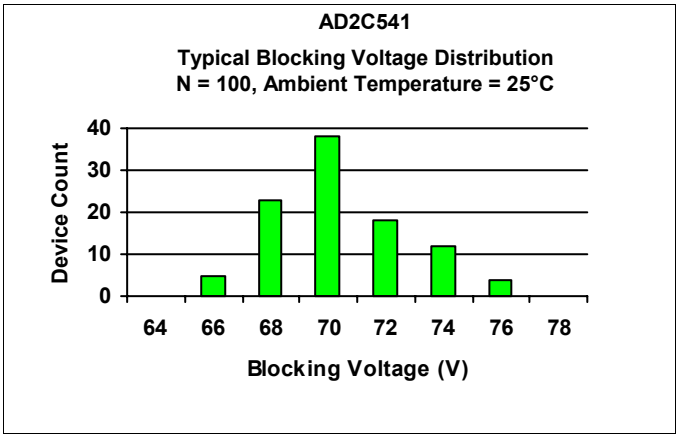
PERFORMANCE DATA

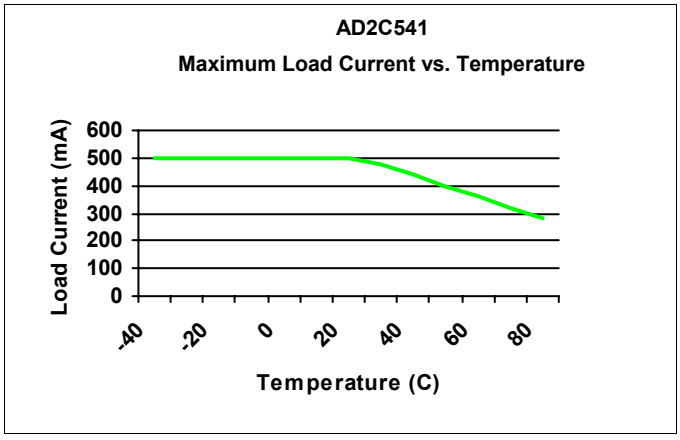






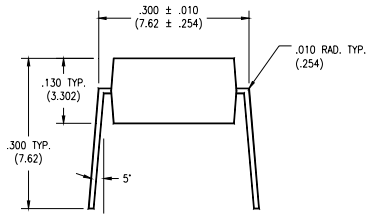




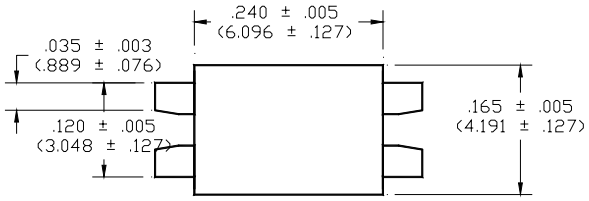


MECHANICAL DIMENSIONS

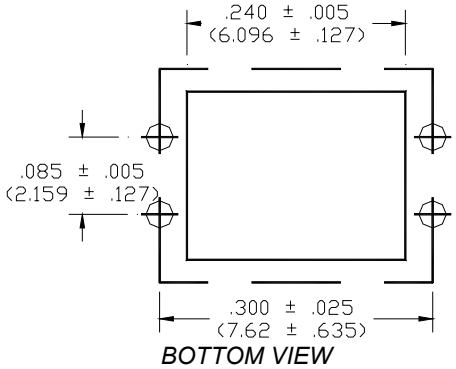
4 PIN DUAL IN-LINE PACKAGE



END VIEW

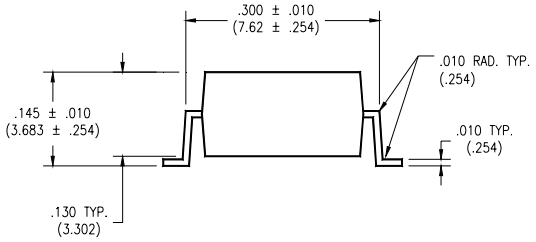


TOP VIEW

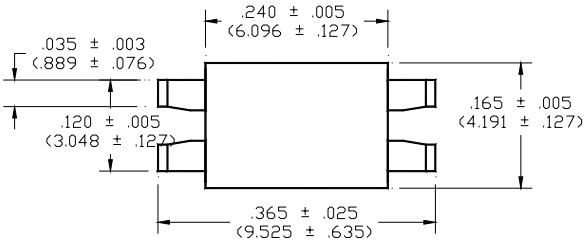


BOTTOM VIEW

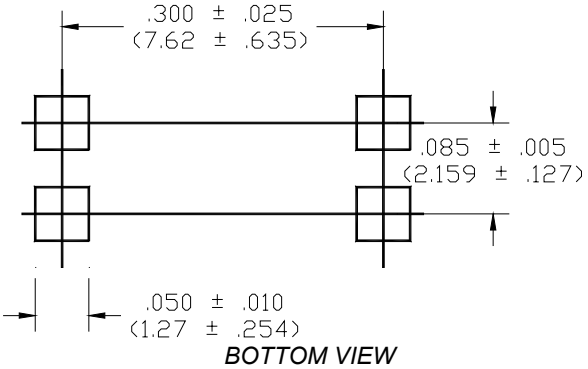
4 PIN SURFACE MOUNT DEVICE



END VIEW



TOP VIEW



BOTTOM VIEW

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