S641

1 Form A
Solid State Relay

DESCRIPTION

The S641 is an AC relay designed for random switching of AC loads. An input control LED is optically coupled to the output IC allowing for high input to output isolation voltage. The IC circuitry design provides a high level of immunity to false triggering under most adverse conditions. Unlike zero-volt switching relays, the S641 can be switched randomly along an AC load, making it ideal for dimmer applications. The S641 works well with either inductive or resistive loads of up to 1.0A and 400V.

FEATURES

- 1.0A maximum Continuous Load Current
- 10A maximum Surge Current
- 400V maximum Blocking Voltage
- Random switching along AC cycle
- Inverse parallel SCR output
- DIP package for reduced board space
- Optional 300W resistor in series with input LED

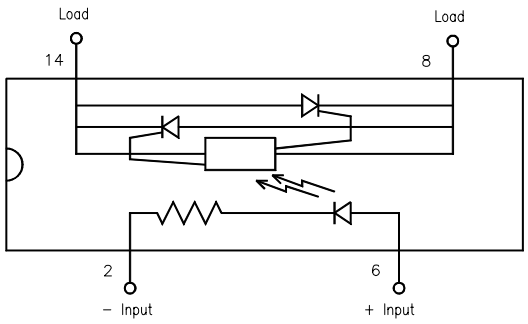
APPLICATIONS

- Interface between microprocessors and logic circuits
- Light dimming
- Inductive loads / solenoids
- Medical electronic equipment
- Power control
- Communication equipment
- Reed relay replacement

OPTIONS / SUFFIXES

- -H High Output Isolation
- -S Surface Mount Option
- -TR Tape and Reel
- -X 300W Input Resistor

SCHEMATIC DIAGRAM



MAXIMUM RATINGS

PARAMETER	UNIT	MIN	TYP	MAX
Storage Temperature	C	- 55°	-	125°
Operating Temperature	C	- 40°	-	100°
Continuous Input Current	mA	-	-	40
Transient Input Current	mA	-	-	400
Reverse Input Control Voltage	V	6.0	-	-
Blocking Voltage	V	-	-	± 400
Ouput Power Dissipation	W	-	-	1.2

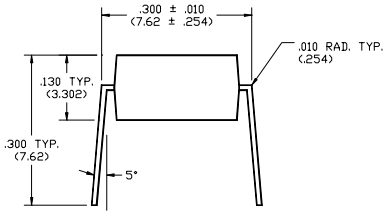
Solid State Optronics, Inc.
1.888.377.4776
www.ssousa.com

ELECTRICAL CHARACTERISTICS - 25°C

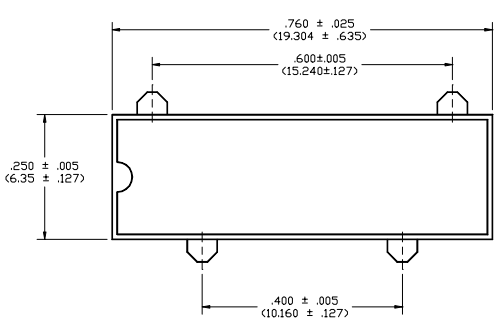
PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
INPUT SPECIFICATIONS					
LED Forward Voltage	V	-	1.2	1.5	I_f = 10mA
LED Reverse Voltage	V	6.0	12	-	I_r = 10µA
Must Operate Current	mA	-	8.0	10	Full Load
Reverse Current	µA	-	-	10	V_r = 5.0V
Junction Capacitance	pF	5.0	-	-	V_f = 0V
Input Resistor	Ω	-	250	300	-
OUTPUT SPECIFICATIONS					
Blocking Voltage	V	-	-	400	I_O = 10µA
Continuous Load Current	A	-	-	1.0	I_{in} = 10mA
Surge Current Rating	A	-	-	10	T = 10µS
Holding Current	mA	-	-	10	-
On-Voltage	V	-	-	1.2	I_O = 1.0A
Leakage Current	µA	-	100	250	V_o = 250V
Thermal Resistance	°C/W	-	70	-	-
Power Factor	-	0.3	-	-	-
Critical Rate of Rise (dV/dt)	V/µS	400	-	-	-
COUPLED SPECIFICATIONS					
Isolation Voltage -H Suffix	V	3750 5000	-	-	T = 1 Minute
Isolation Resistance	Ω	10^{11}	-	-	-
Coupled Capacitance	pF	-	6.0	-	-

MECHANICAL DIMENSIONS

14 PIN DUAL IN-LINE PACKAGE

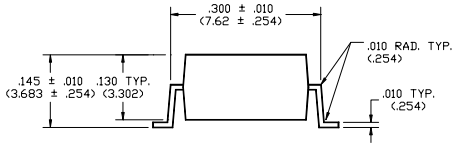


END VIEW

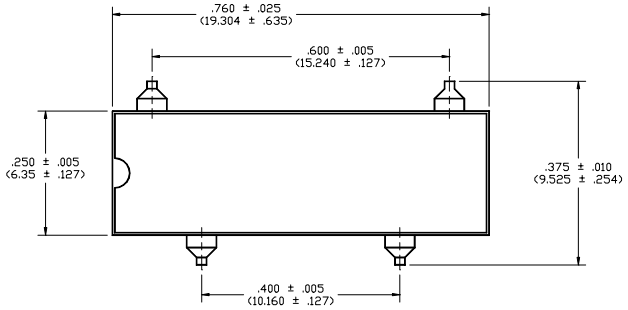


TOP VIEW

14 PIN SURFACE MOUNT DEVICE



END VIEW



TOP VIEW

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