



1 Form A  
Solid State Relay



## DESCRIPTION

The M281 is a bi-directional, single-pole, single-throw, normally open solid-state relay in a miniature 4-pin small outline package. This device offers very low on-resistance--allowing for a high load current rating in a miniature package, ideal in higher power applications where board space is limited.

## FEATURES

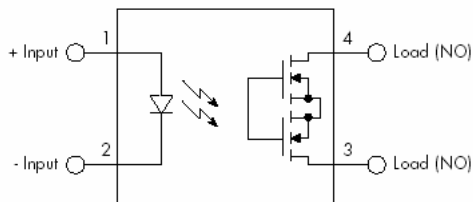
- Low On-Resistance (0.5 ohms MAX)
- 1A Continuous Load Current
- 60V load voltage rating
- Low input control current (3mA TYP)
- Miniature 4 pin SOP package
- High input-to-output isolation (1.5kV MIN)

## OPTIONS/SUFFIXES\*

- -TR Tape & Reel Option (2,000 pcs / reel)

NOTE: Suffixes listed above are not included in marking on device for part number identification.

## SCHEMATIC DIAGRAM



## APPLICATIONS

- Automated Test Equipment
- 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 Forward Current	mA			50
Peak Forward Current (1us)	A			1
Reverse Input Control Voltage	V			5
Output Power Dissipation	mW			400

\*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.

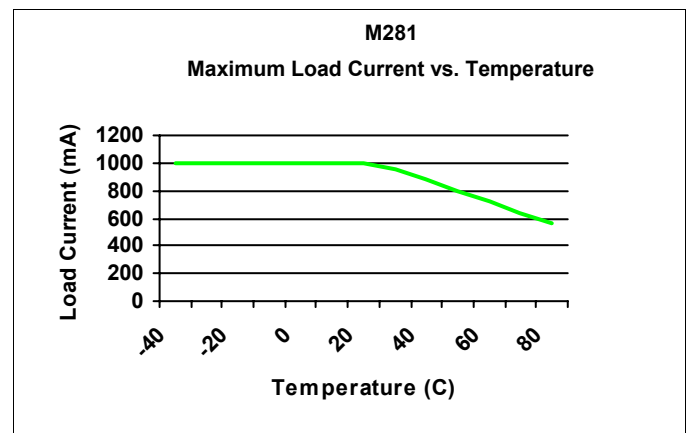
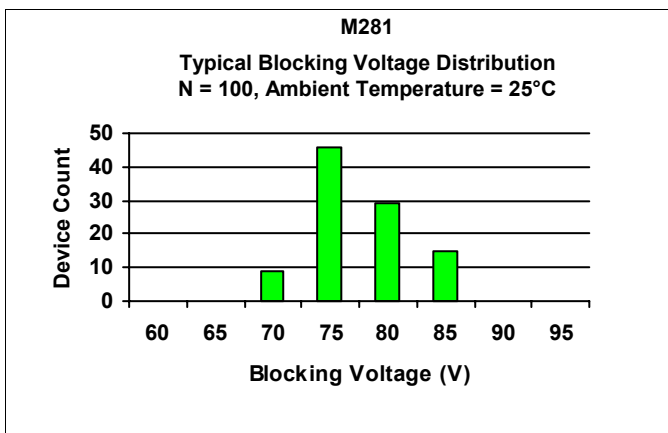
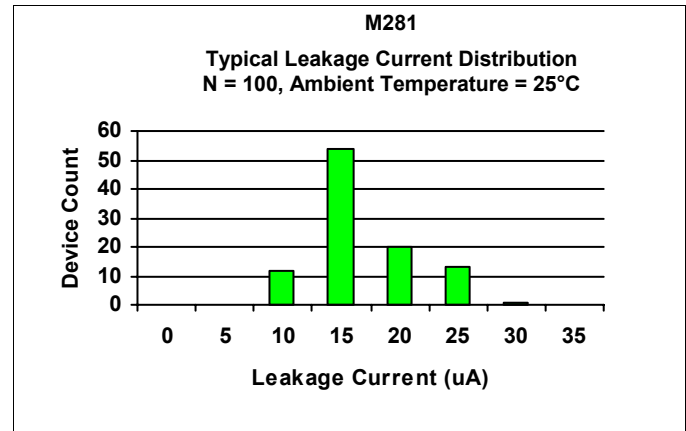
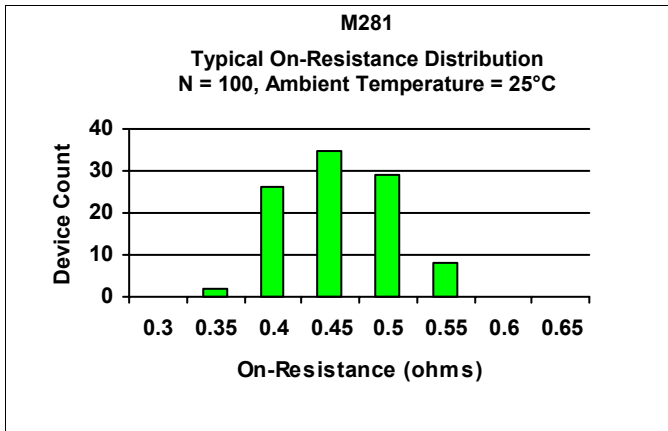
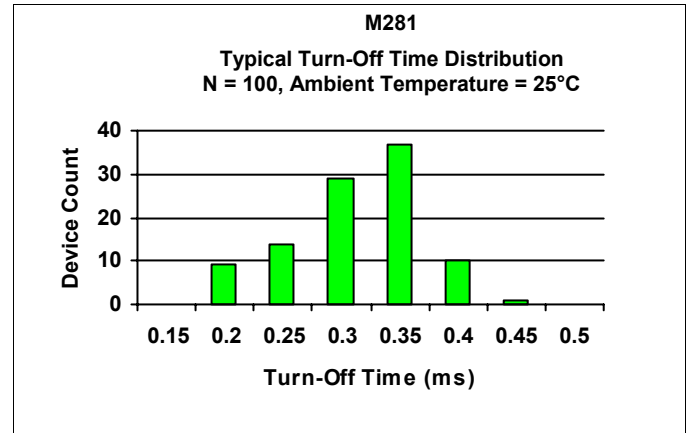
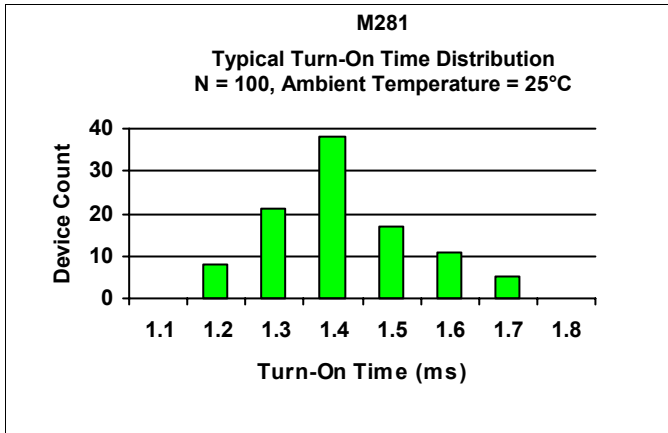
## APPROVALS

- UL / C-UL Approved (File # E201932)

**ELECTRICAL CHARACTERISTICS - 25°C**

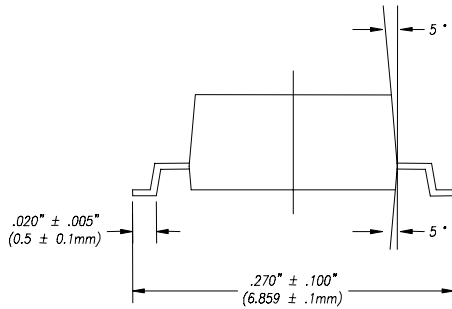
PARAMETER	UNIT	MIN	TYP	MAX	TEST CONDITIONS
<b>INPUT SPECIFICATIONS</b>					
LED Forward Voltage	V		1.2	1.5	If = 10mA
LED Reverse Voltage	V	6	12		Ir = 10uA
Turn-on Current	m A		1	5	Io = 10mA, t = 20ms
Turn-On Current	m A		2.1	5	Io = 1A, t = 5ms
Turn-off Current	m A		0.5	5	Io = 100mA
<b>OUTPUT SPECIFICATIONS</b>					
Blocking Voltage	V	60			Io = 1uA
Continuous Load Current	m A			1000	If = 5mA
On-Resistance	$\Omega$		0.5	0.7	Io = 1000mA
Leakage Current	$\mu$ A		0.2	1	Vo = 60V
Output Capacitance	p F		25	50	Vo = 25V, f = 1.0MHz
Offset Voltage	m V			0.2	If = 5mA
<b>COUPLED SPECIFICATIONS</b>					
Isolation Voltage	V r m s	1500			T = 1 minute
Turn-on Time	m s		1.4	5	If = 5mA, Io = 1000mA
Turn-off Time	m s		0.2	2	If = 0mA, Io = 100mA, Vo = 20V
Isolation Resistance	G $\Omega$	100			
Coupled Capacitance	p F		3		
Contact Transient Ratio	V r m s	2000	7000		dV = 50V

**PERFORMANCE DATA**

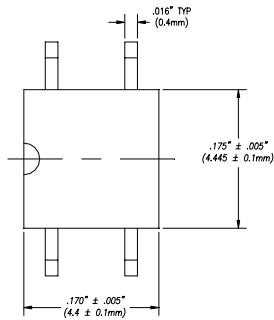


**MECHANICAL DIMENSIONS**

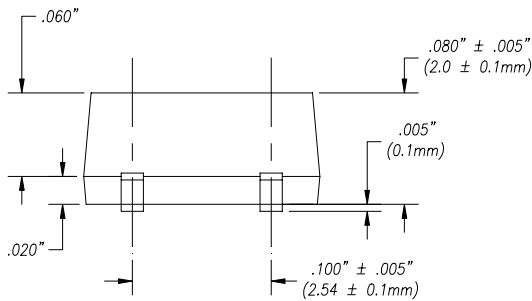
**4 PIN SMALL OUTLINE PACKAGE**



**END VIEW**



**TOP VIEW**



**BACK VIEW**

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