

1N4001S THRU 1N4007S

SILICON RECTIFIERS

Reverse Voltage – 50 to 1000 Volts

Forward Current – 1.0 Ampere

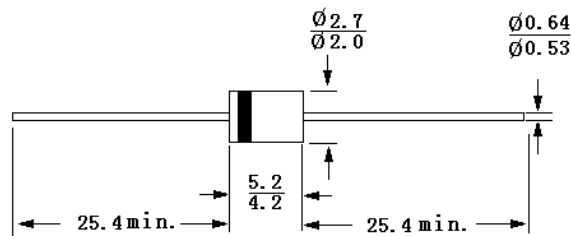
Features

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability
- &0.6mm leads

Mechanical Data

- **Cases:** Molded plastic.
- **Lead:** Axial leads, solderable per MIL-STD -202, method 208 guaranteed
- **Polarity:** Color band denotes cathode end
- **High temperature soldering guaranteed:** 250°C/ 10 seconds/ 0.375", (9.5 mm) lead lengths at 5 lbs., (2.3 kg) tension

A-405



Dimensions in mm

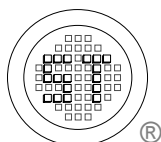
Absolute Maximum Ratings and Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

	Symbols	1N 4001S	1N 4002S	1N 4003S	1N 4004S	1N 4005S	1N 4006S	1N 4007S	Units
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length @ $T_A = 75^\circ\text{C}$	$I_{F(AV)}$	1							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30							A
Maximum instantaneous forward voltage @ 1A	V_F	1							V
Maximum DC reverse current @ $T_A = 25^\circ\text{C}$ at rated DC blocking voltage @ $T_A = 100^\circ\text{C}$	I_R	5 50							μA μA
Maximum full load reverse current, full cycle average 0.375" (9.5mm) lead length @ $T_A = 75^\circ\text{C}$	$I_{R(AV)}$	30							μA
Typical junction capacitance (Note 1)	C_J	15							pF
Typical thermal resistance (Note 2)	$R_{\theta JA}$	50							$^\circ\text{C/W}$
Operating and storage temperature range	T_J, T_S	-65 to +125/-65 to +150							$^\circ\text{C}$

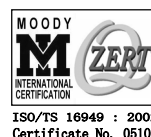
Notes: 1. Measured at 1 MHz and applied reverse voltage of 4volts D.C.

2. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length.



SEMTECH ELECTRONICS LTD.

(Subsidiary of Semtech International Holdings Limited, a company
listed on the Hong Kong Stock Exchange, Stock Code: 724)



Dated : 11/11/2002

1N4001S THRU 1N4007S

RATINGS AND CHARACTERISTIC CURVES (1N4001S THRU 1N4007S)

AVERAGE FORWARD RECTIFIED CURRENT AMPERES

FIG.1-MAXIMUM FORWARD CURRENT DERATING CURVE

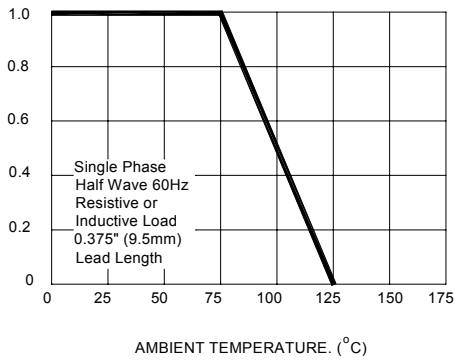


FIG.2-TYPICAL FORWARD CHARACTERISTICS

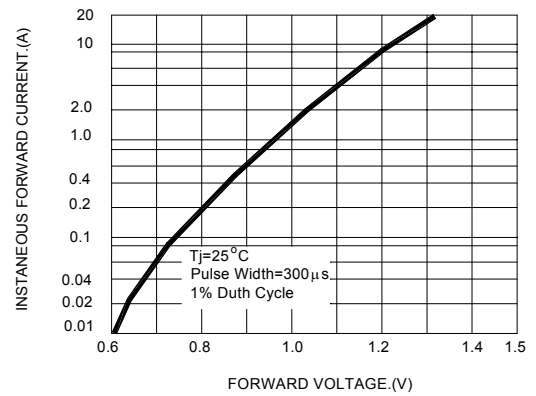


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

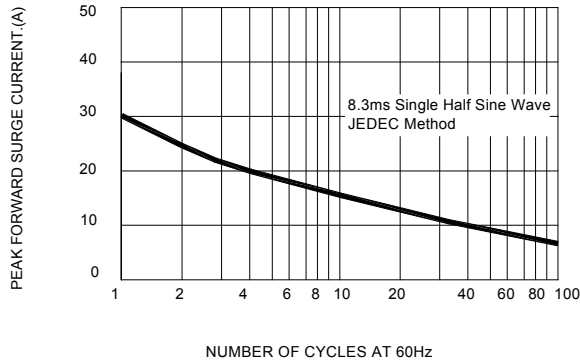


FIG.4-TYPICAL JUNCTION CAPACITANCE

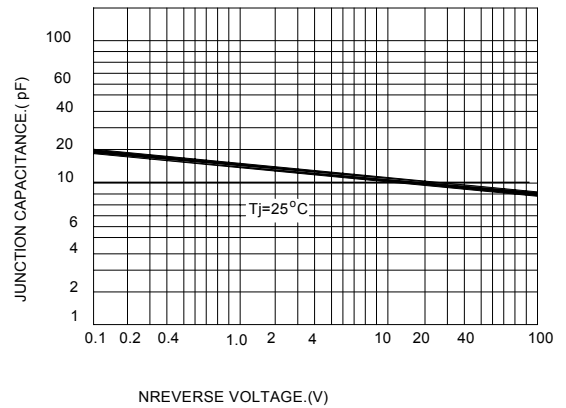
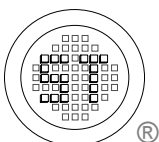
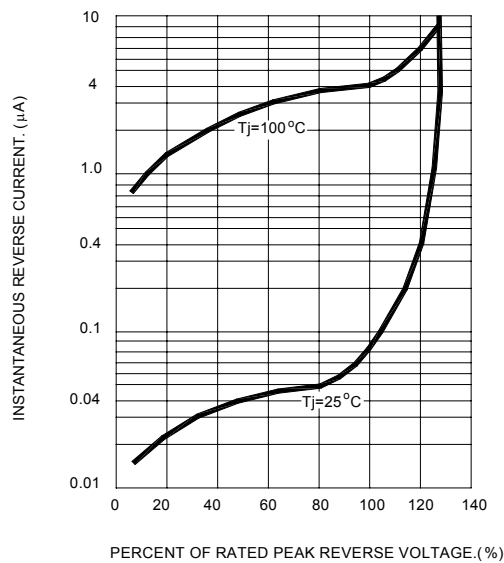
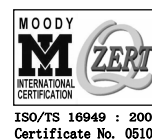


FIG.5-TYPICAL REVERSE CHARACTERISTICS



SEMTECH ELECTRONICS LTD.

(Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



Dated : 11/11/2002