

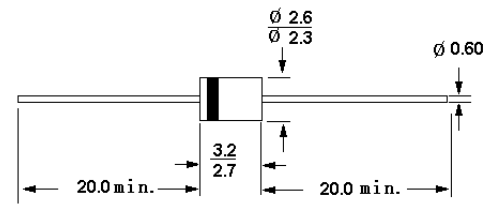
# 1A1S THRU 1A7S

## SILICON RECTIFIERS

Reverse Voltage – 50 to 1000 Volts

Forward Current – 1.0 Amperes

R-1



Dimensions in mm

### Features

- High reliability
- Low leakage
- Low forward voltage drop
- High current capability

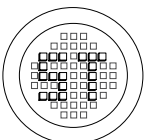
### Mechanical Data

- Case: Molded plastic black body
- Mounting Position: Any
- Lead: MIL-STD 202E method 208C guaranteed

### Absolute Maximum Ratings and Characteristics

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

	Symbols	1A1S	1A2S	1A3S	1A4S	1A5S	1A6S	1A7S	Units
Maximum repetitive 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 at $T_A = 25^\circ\text{C}$	$I_o$	1							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	25							A
Maximum instantaneous forward voltage at 1A DC	$V_F$	1.1							V
Maximum DC reverse current at rated DC blocking voltage	@ $T_A = 25^\circ\text{C}$	5							uA
	@ $T_A = 100^\circ\text{C}$	50							
Maximum full load reverse current full cycle average 0.375" (9.5mm) lead length at $T_L = 75^\circ\text{C}$		100							uA
Typical junction capacitance at 4 V, 1MHz	$C_J$	15							pF
Typical thermal resistance	$R_{\theta JA}$	60							$^\circ\text{C/W}$
Operating and storage temperature range	$T_J, T_S$	-65 to +150							$^\circ\text{C}$



®

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# 1A1S THRU 1A7S

## RATING AND CHARACTERISTIC CURVES ( 1A1S thru 1A7S)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

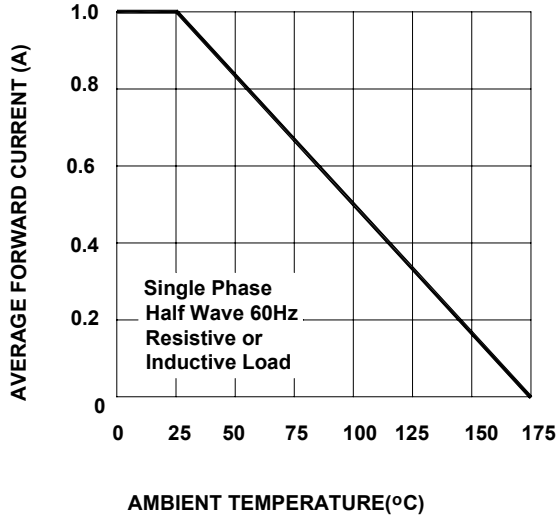


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

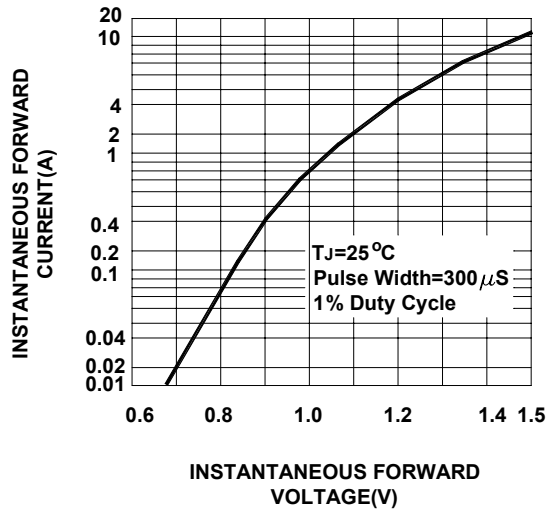


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

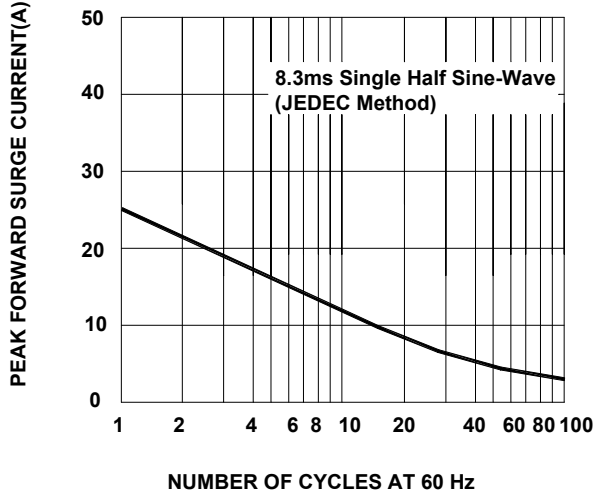


FIG.4-TYPICAL REVERSE CHARACTERISTICS

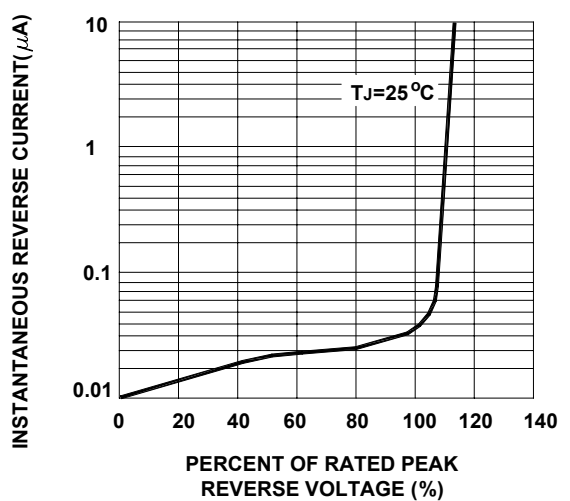
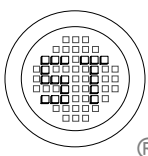
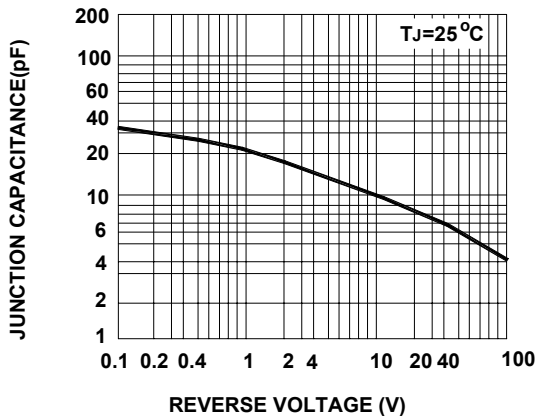
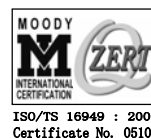


FIG.5-TYPICAL JUNCTION CAPACITANCE



## SEMTECH ELECTRONICS LTD.

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



ISO/TS 16949 : 2002  
Certificate No. 05103



ISO 14001  
Certificate No. 7116



ISO 9001 : 2000  
Certificate No. 5509-1999-00-002-001

Dated : 23/12/2003