Silicon Diode

S1J

600V / 1A

DATASHEET

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OEM – General Semiconductor

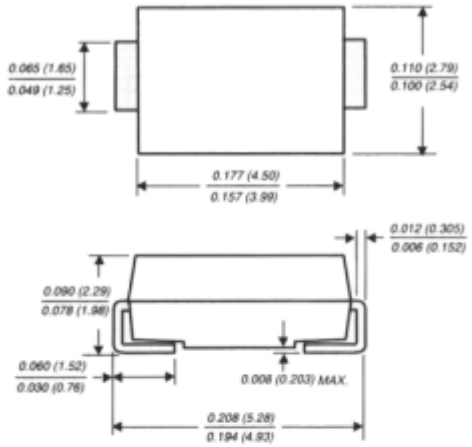
Source: General Semiconductor Databook 1998

S1A THRU S1M

SURFACE MOUNT RECTIFIER

***Reverse Voltage** - 50 to 1000 Volts* ***Forward Current** - 1.0 Ampere*

DO-214AC



Dimensions are in inches and (millimeters)

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Low profile package
- Built-in strain relief, ideal for automated placement
- Glass passivated chip junction
- High temperature soldering: 250°C/10 seconds at terminals

MECHANICAL DATA

Case: JEDEC DO-214AC molded plastic over passivated chip
Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Weight: 0.002 ounce, 0.064 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	S1A	S1B	S1D	S1G	S1J	S1K	S1M	UNITS
Device marking code		SA	SB	SD	SG	SJ	SK	SM	
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	VDC	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current See Figure 1	$I_{(AV)}$	1.0							Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) T_L=110°C	I_{FSM}	40.0					30.0		Amps
Maximum instantaneous forward voltage at 1.0A	V_F	1.10							Volts
Maximum DC reverse current T_A=25°C	I_R	1.0					5.0		µA
at Rated DC blocking voltage T_A=125°C		50.0							
Typical reverse recovery time (NOTE 1)	t_{rr}	1.8							µs
Typical junction capacitance (NOTE 2)	C_J	12.0							pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	75.0					85.0		°C/W
	$R_{\theta JL}$	27.0					30.0		
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150							°C

NOTES:
(1) Reverse recovery test conditions: I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
(3) Thermal resistance from junction to ambient and from junction to lead mounted on 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas

RATING AND CHARACTERISTIC CURVES S1A THRU S1M

FIG. 1 - FORWARD CURRENT DERATING CURVE

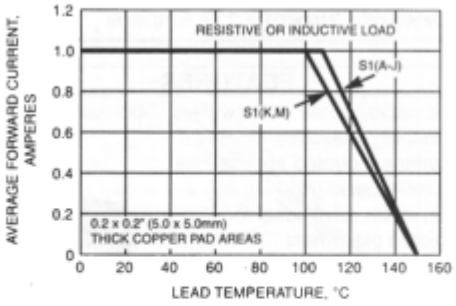


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

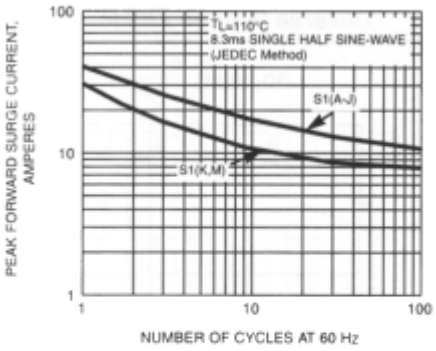


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

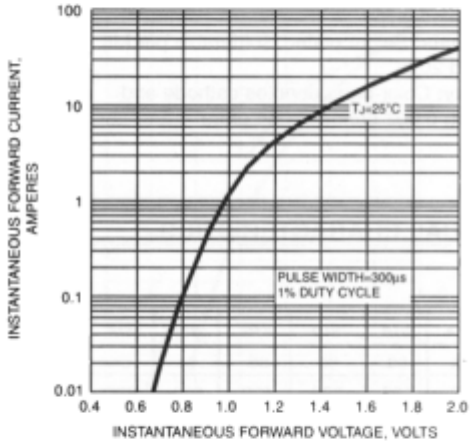


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

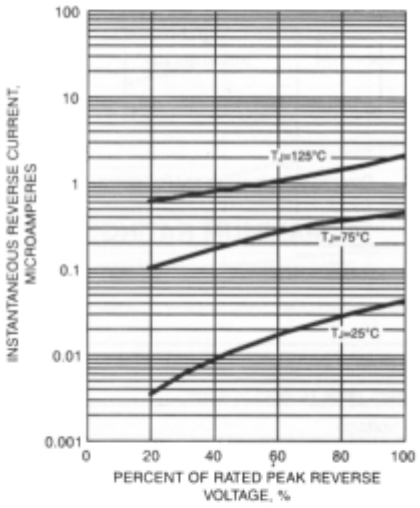


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

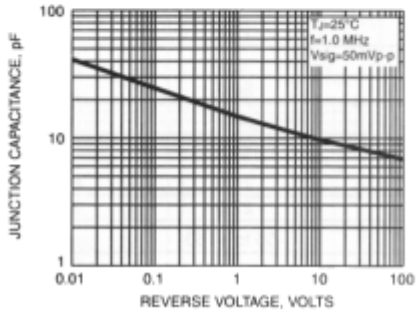


FIG. 6 - TRANSIENT THERMAL IMPEDANCE