# JESTEK

S3AB Series

**Surface Mount General Purpose
Silicon Rectifiers**

FEATURES

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- Case: SMB
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.09g / 0.003oz

SMB

CIRCUIT DIAGRAM

1 — Cathode   2 — Anode

MARKING

Type number	Marking code
S3AB	S3A
S3BB	S3B
S3DB	S3D
S3GB	S3G
S3JB	S3J
S3KB	S3K
S3MB	S3M

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

Parameter	Symbols	S3AB	S3BB	S3DB	S3GB	S3JB	S3KB	S3MB	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	$I_{F(AV)}$	3							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	90							A
Maximum Instantaneous Forward Voltage at 3 A	V_F	1.1							V
Maximum DC Reverse Current T_a = 25 °C at Rated DC Blocking Voltage T_a =125 °C	I_R	5 100							μA
Typical Junction Capacitance [1]	C_j	35							pF
Typical Thermal Resistance [2]	$R_{\theta JA}$ $R_{\theta JC}$	48 16							°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							°C

(1)   Measured at 1 MHz and applied reverse voltage of 4 V D.C

(2)   P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

TYPICAL CHARACTERISTICS

Fig.1 Forward Current Derating Curve

Average Forward Current (A) vs Case Temperature (°C)

Single phase half-wave 60 Hz resistive or inductive load
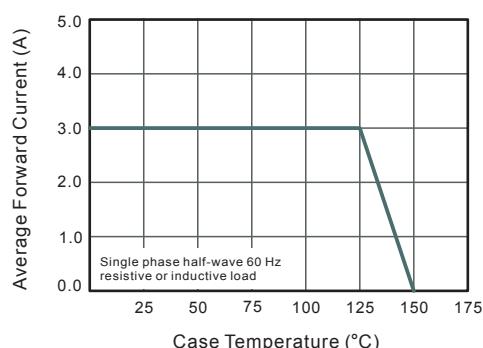
Fig.2 Typical Instaneous Reverse Characteristics

Instaneous Reverse Current (μA) vs Instaneous Reverse Voltage (V)

$T_J=150°C$
$T_J=125°C$
$T_J=100°C$
$T_J=75°C$
$T_J=25°C$
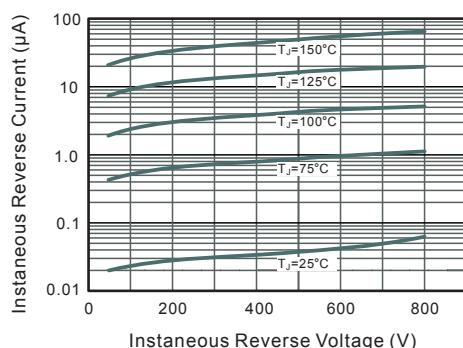
Fig.3 Typical Forward Characteristic

Instaneous Forward Current (A) vs Instaneous Forward Voltage (V)

$T_J=25°C$

Fig.4 Typical Junction Capacitance

Junction Capacitance (pF) vs Reverse Voltage (V)

$T_J=25°C$
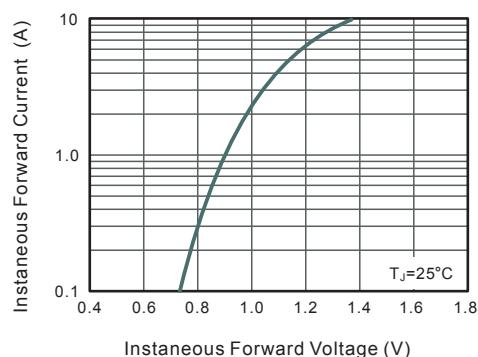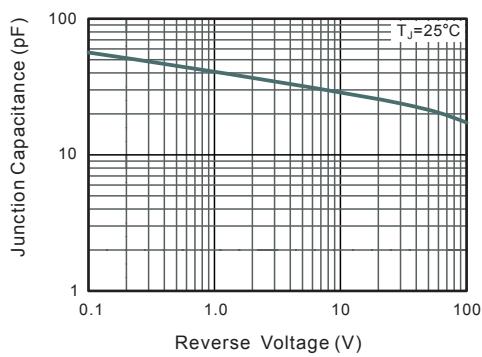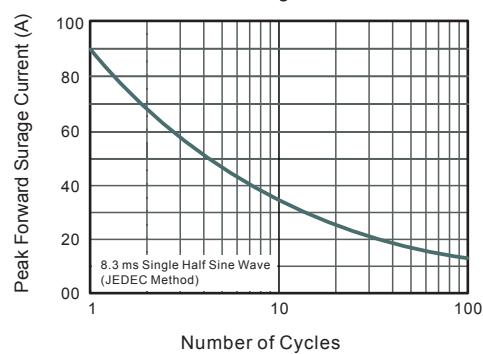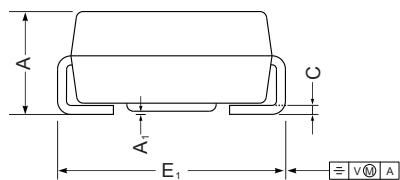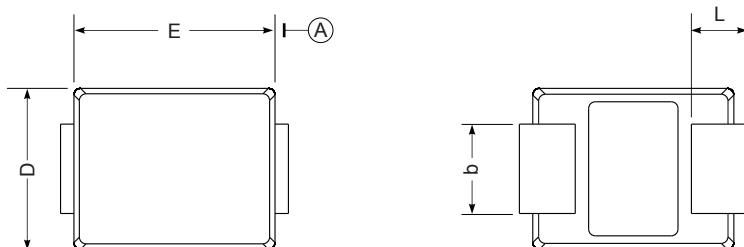
Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

Peak Forward Surage Current (A) vs Number of Cycles

8.3 ms Single Half Sine Wave (JEDEC Method)

SMB PACKAGE OUTLINE DRAWING

SYM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.13	2.44	0.084	0.096
E	4.06	4.70	0.160	0.185
D	3.3	3.94	0.130	0.155
E_1	5.08	5.59	0.200	0.220
A_1	0.05	0.20	0.002	0.0079
L	0.8	1.5	0.032	0.059
C	0.152	0.305	0.006	0.012
b	1.9	2.2	0.075	0.087