



# SK52B THRU SK510B

## 5.0 AMPS. Surface Mount Schottky Barrier Rectifiers



Voltage Range  
20 to 100 Volts  
Current  
5.0 Amperes

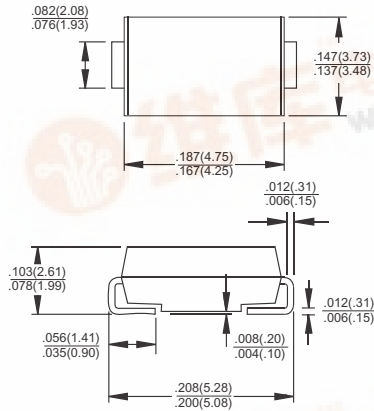
### Features

- ✦ For surface mounted application
- ✦ Metal to silicon rectifier, majority carrier conduction
- ✦ Low forward voltage drop
- ✦ Easy pick and place
- ✦ High surge current capability
- ✦ Plastic material used carriers Underwriters Laboratory Classification 94V-O
- ✦ Epitaxial construction
- ✦ High temperature soldering: 260°C / 10 seconds at terminals

### Mechanical Data

- ✦ Case: Molded plastic
- ✦ Terminals: Solder plated
- ✦ Polarity: Indicated by cathode band
- ✦ Packaging: 16mm tape per EIA STD RS-481
- ✦ Weight: 0.1 gram

### SMB/DO-214AA



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical 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%

Type Number	Symbol	SK 52B	SK 53B	SK 54B	SK 55B	SK 56B	SK 59B	SK 510B	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	20	30	40	50	60	90	100	V
Maximum RMS Voltage	$V_{RMS}$	14	21	28	35	42	63	70	V
Maximum DC Blocking Voltage	$V_{DC}$	20	30	40	50	60	90	100	V
Maximum Average Forward Rectified Current at $T_L$ (See Fig. 1)	$I_{(AV)}$	5.0							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	100					150		A
Maximum Instantaneous Forward Voltage @ 5.0A	$V_F$	0.55			0.75		0.85		V
Maximum DC Reverse Current (Note 1) @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	$I_R$	0.5					0.6		mA
		20			10.0		20.0		
Typical Thermal Resistance ( Note 2 )	$R_{\theta JL}$	17							$^\circ\text{C/W}$
	$R_{\theta JA}$	75							$^\circ\text{C/W}$
Operating Temperature Range	$T_J$	-55 to +125			-55 to +150			$^\circ\text{C}$	
Storage Temperature Range	$T_{STG}$	-55 to +150							$^\circ\text{C}$

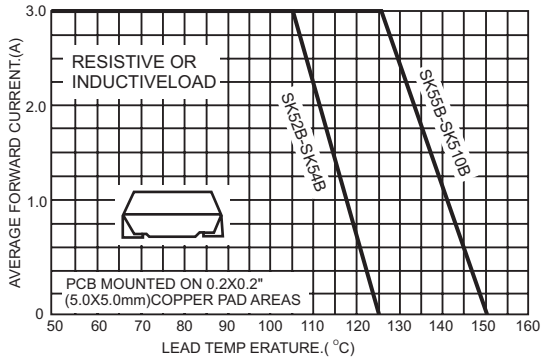
Notes: 1. Pulse Test with PW=300 usec, 1% Duty Cycle

2. Measured on P.C.Board with 0.4 x 0.4"(10.0 x 10.0mm) Copper Pad Areas.

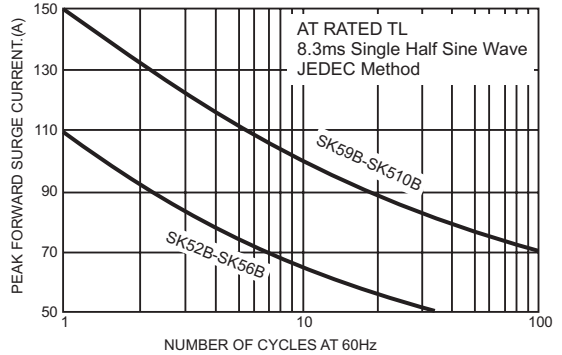


## RATINGS AND CHARACTERISTIC CURVES (SK52B THRU SK510B)

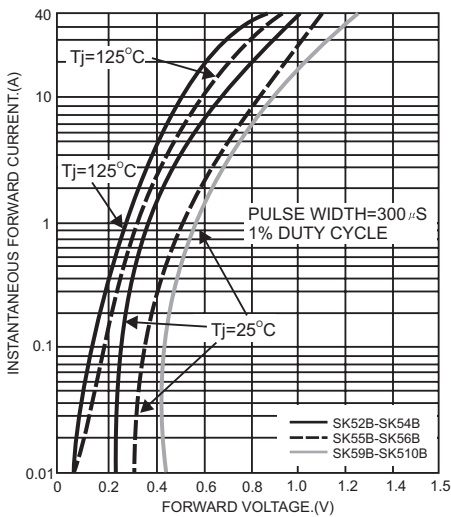
**FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE**



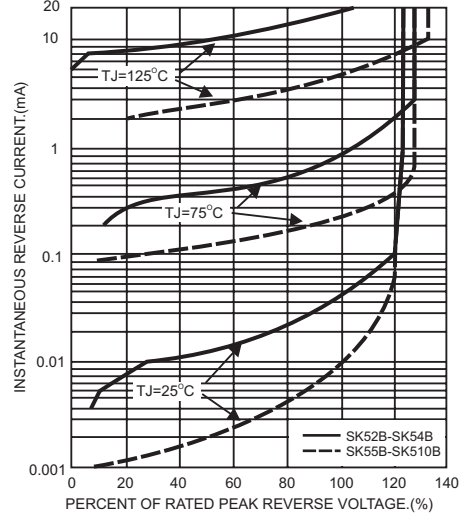
**FIG. 2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



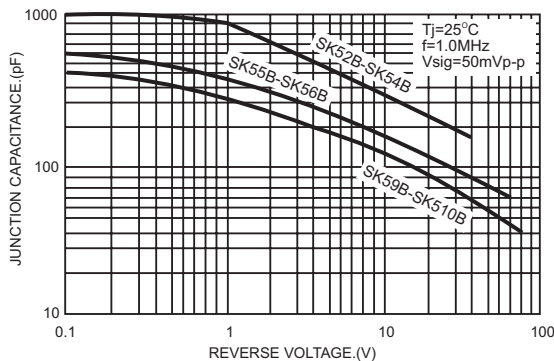
**FIG. 3- TYPICAL FORWARD CHARACTERISTICS**



**FIG. 4- TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5- TYPICAL JUNCTION CAPACITANCE**



**FIG. 6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS**

