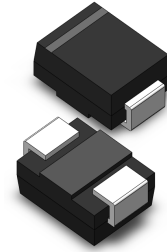


## SURFACE MOUNT SCHOTTKY BARRIER DIODES

**VOLTAGE RANGE: 20 - 100V**  
**CURRENT: 5.0 A**

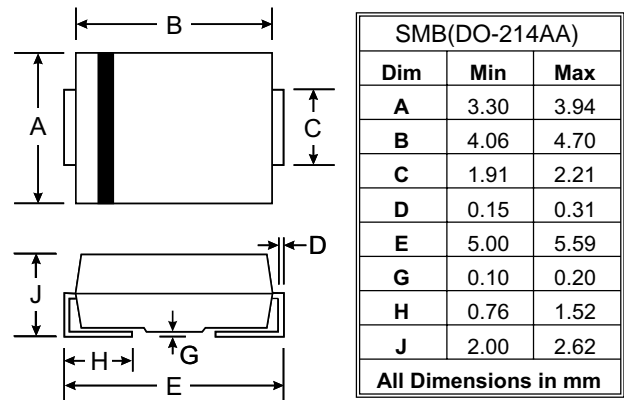


### Features

- Schottky Barrier Chip
- Ideally Suited for Automatic Assembly
- Low Power Loss, High Efficiency
- Surge Overload Rating to 175A Peak
- For Use in Low Voltage Application
- Guard Ring Die Construction

### Mechanical Data

- Case: SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.093 grams (approx.)



### Maximum Ratings and Electrical Characteristics T<sub>A</sub> = 25°C unless otherwise specified

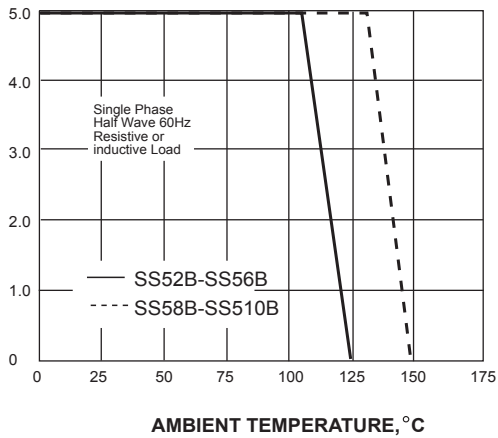
Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	SS52B	SS53B	SS54B	SS55B	SS56B	SS58B	SS510B	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	20	30	40	50	60	80	100	V
Maximum RMS voltage	V <sub>RMS</sub>	14	21	28	35	42	56	70	V
Maximum DC blocking voltage	V <sub>DC</sub>	20	30	40	50	60	80	100	V
Maximum average forward rectified current at T <sub>L</sub> (see fig.1)	I <sub>(AV)</sub>	5.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	120.0							A
Maximum instantaneous forward voltage at 5.0A	V <sub>F</sub>	0.55		0.70		0.85		V	
Maximum DC reverse current at rated DC blocking voltage	I <sub>R</sub>	0.5							mA
<small>T<sub>A</sub>=25°C</small> <small>T<sub>A</sub>=100°C</small>		20				10			
Typical junction capacitance (NOTE 1)	C <sub>J</sub>	200							pF
Typical thermal resistance (NOTE 2)	R <sub>θJA</sub>	50.0							°C/W
Operating junction temperature range	T <sub>J</sub>	-65 to +125					-65 to +150		°C
Storage temperature range	T <sub>STG</sub>	-65 to +150							°C

**Note:**1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 2. P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas

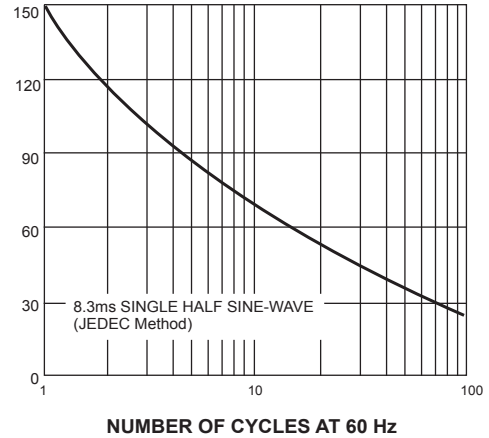
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



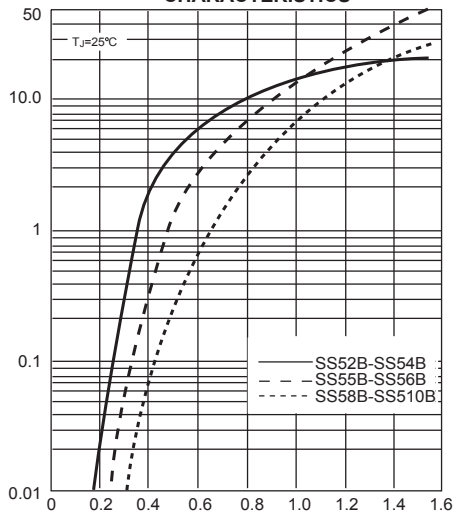
PEAK FORWARD SURGE CURRENT, AMPERES

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



INSTANTANEOUS FORWARD CURRENT, AMPERES

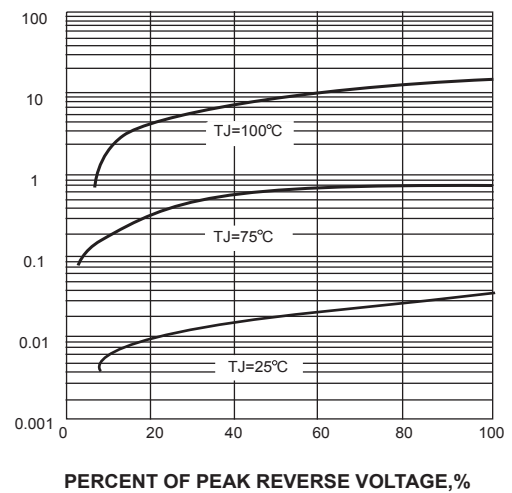
FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS FORWARD VOLEAGE, VOLTS

INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

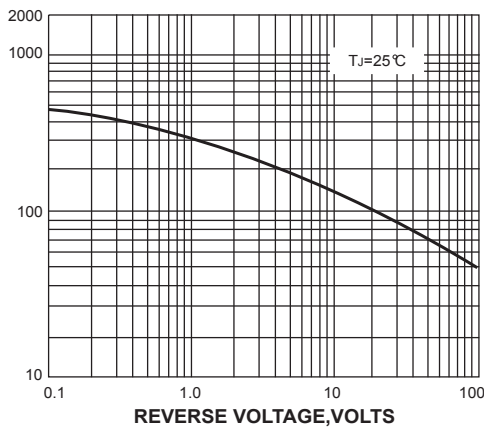
FIG. 4-TYPICAL REVERSE CHARACTERISTICS



PERCENT OF PEAK REVERSE VOLTAGE, %

JUNCTION CAPACITANCE, pF

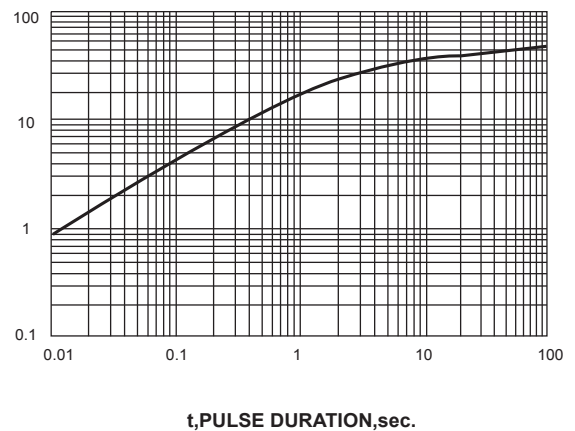
FIG. 5-TYPICAL JUNCTION CAPACITANCE



REVERSE VOLTAGE, VOLTS

TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



t, PULSE DURATION, sec.