



# DATA SHEET

## SK12~S110

### SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

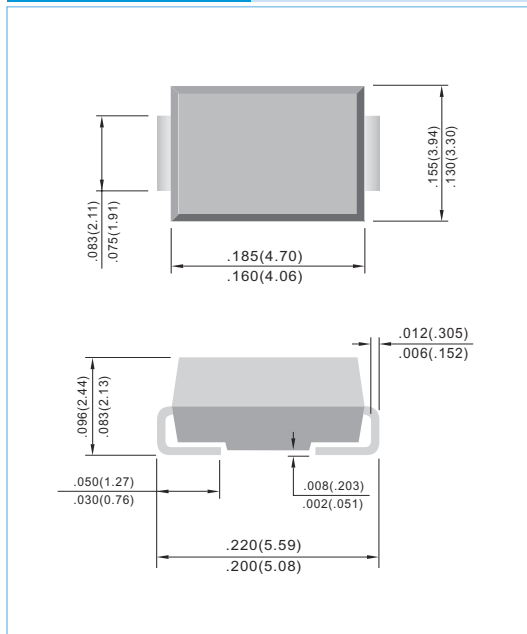
**VOLTAGE** 20 to 100 Volts **CURRENT** 1.0 Ampere

**SMB/DO-214AA**

Unit: inch (mm)

#### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Metal to silicon rectifier. majority carrier conduction
- Low power loss,high efficiency
- High surge capacity
- High current capacity ,low  $V_F$
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications.
- Lead free in comply with EU RoHS 2011/65/EU directives.
- Green molding compound as per IEC61249 Std. . (Halogen Free)



#### MECHANICAL DATA

Case: JEDEC DO-214AA molded plastic  
 Terminals:Solder plated, solderable per MIL-STD-750, Method 2026  
 Polarity: Color band denotes positive end (cathode)  
 Standard packaging: 12mm tape (EIA-481)  
 Weight: 0.003 ounce, 0.093 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Resistive or inductive load.

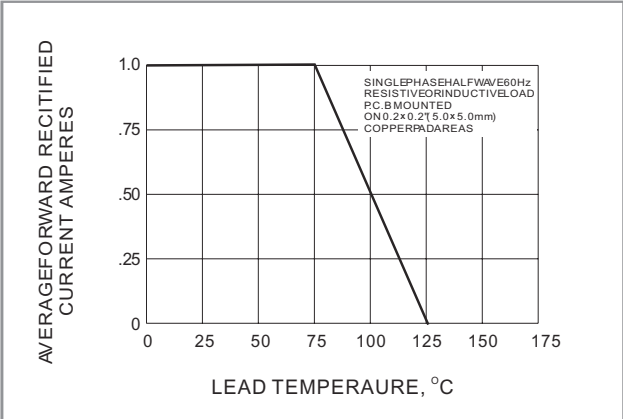
| PARAMETER  | SYMBOL          | SK12 | SK13 | SK14 | SK15 | SK16        | SK18 | SK19 | S110 | UNITS                       |
|--|-----------------|------|------|------|------|-------------|------|------|------|-----------------------------|
| Maximum Recurrent Peak Reverse Voltage   | $V_{RRM}$       | 20   | 30   | 40   | 50   | 60          | 80   | 90   | 100  | V                           |
| Maximum RMS Voltage  | $V_{RMS}$       | 14   | 21   | 28   | 35   | 42          | 56   | 63   | 70   | V                           |
| Maximum DC Blocking Voltage  | $V_{DC}$        | 20   | 30   | 40   | 50   | 60          | 80   | 90   | 100  | V                           |
| Maximum Average Forward Current .375"(9.5mm) lead length at $T_L=75^\circ\text{C}$                     | $I_{AV}$        | 1.0  |      |      |      |             |      |      |      | A                           |
| Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load(JEDEC method)       | $I_{FSM}$       | 30   |      |      |      |             |      |      |      | A                           |
| Maximum Forward Voltage at 1.0A ( Note 1)  | $V_F$           | 0.5  |      | 0.7  |      | 0.85        |      |      | V    |                             |
| Maximum DC Reverse Current $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A=100^\circ\text{C}$ | $I_R$           |      |      |      |      | 0.5         |      |      |      | mA                          |
| Maximum Thermal Resistance ( Note 2)   | $R_{\theta JL}$ |      |      |      |      | 30          |      |      |      | $^\circ\text{C} / \text{W}$ |
|  | $R_{\theta JA}$ |      |      |      |      | 95          |      |      |      |                             |
| Operating Junction Temperature Range   | $T_J$           |      |      |      |      | -50 to +125 |      |      |      | $^\circ\text{C}$            |
| Storage Temperature Range  | $T_{STG}$       |      |      |      |      | -50 to +150 |      |      |      | $^\circ\text{C}$            |

#### NOTES:

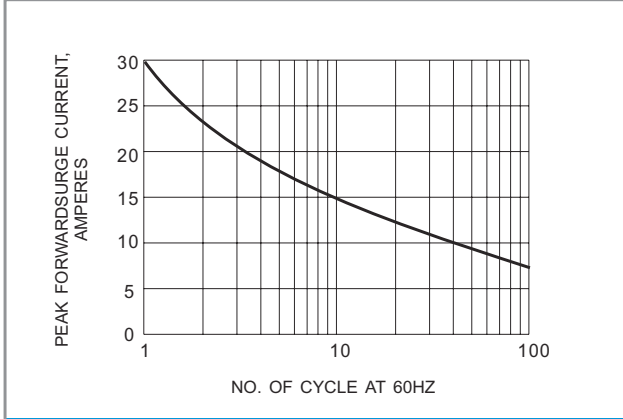
- A.Pulse Test with  $PW = 300\mu\text{sec}$ , 1% Duty Cycle.  
 B.Mounted on P.C. Board with  $5.0\text{mm}^2$  (.013mm thick) copper pad areas.



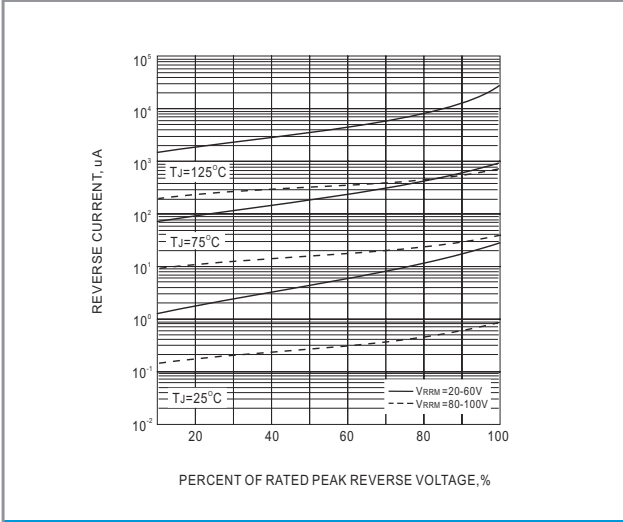
**RATING AND CHARACTERISTIC CURVES**



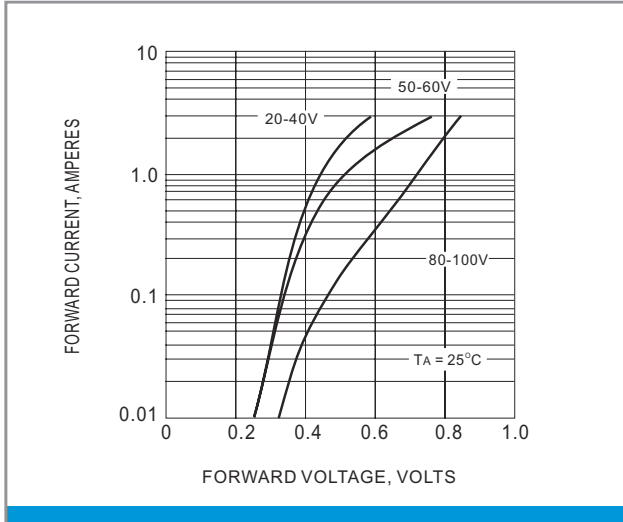
**Fig.1- FORWARD CURRENT DERATING CURVE**



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



**Fig.3- TYPICAL REVERSE CHARACTERISTIC**



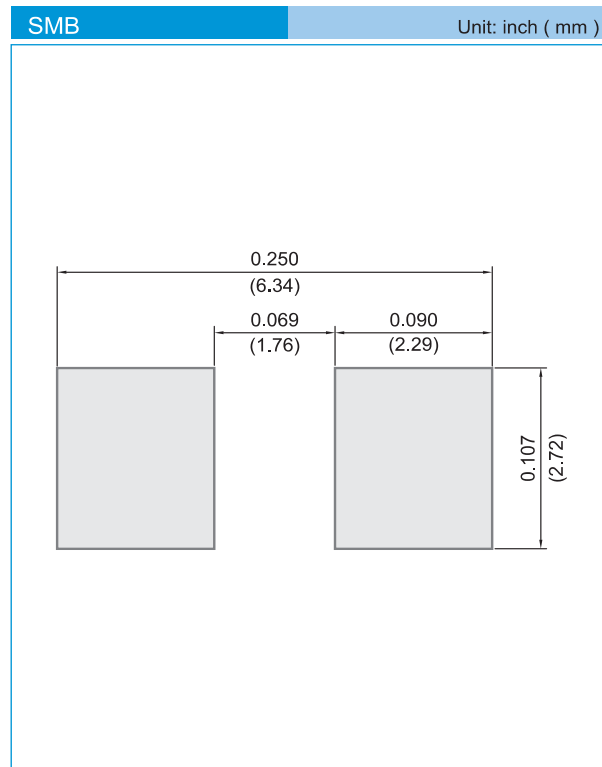
**Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC**



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## MOUNTING PAD LAYOUT

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## ORDER INFORMATION

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- Packing information
  - T/R - 3K per 13" plastic Reel
  - T/R - 0.5Kper 7" plastic Reel



**Part No\_packing code\_Version**

SK12\_R1\_00001

SK12\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



| Packing Code <b>XX</b>               |                      |                                  |                      | Version Code <b>XXXXX</b> |                      |                                       |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type                         | 1 <sup>st</sup> Code | Packing size code                | 2 <sup>nd</sup> Code | HF or RoHS                | 1 <sup>st</sup> Code | 2 <sup>nd</sup> ~5 <sup>th</sup> Code |
| Tape and Ammunition Box (T/B)        | <b>A</b>             | N/A                              | <b>0</b>             | <b>HF</b>                 | <b>0</b>             | serial number                         |
| Tape and Reel (T/R)                  | <b>R</b>             | 7"                               | <b>1</b>             | <b>RoHS</b>               | <b>1</b>             | serial number                         |
| Bulk Packing (B/P)                   | <b>B</b>             | 13"                              | <b>2</b>             |                           |                      |                                       |
| Tube Packing (T/P)                   | <b>T</b>             | 26mm                             | <b>X</b>             |                           |                      |                                       |
| Tape and Reel (Right Oriented) (TRR) | <b>S</b>             | 52mm                             | <b>Y</b>             |                           |                      |                                       |
| Tape and Reel (Left Oriented) (TRL)  | <b>L</b>             | PANASERT T/B CATHODE UP (PBCU)   | <b>U</b>             |                           |                      |                                       |
| FORMING                              | <b>F</b>             | PANASERT T/B CATHODE DOWN (PBCD) | <b>D</b>             |                           |                      |                                       |



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