



# DATA SHEET

## SS12E~SS16E

### SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

**VOLTAGE** 20 to 60 Volts **CURRENT** 1.0 Amperes

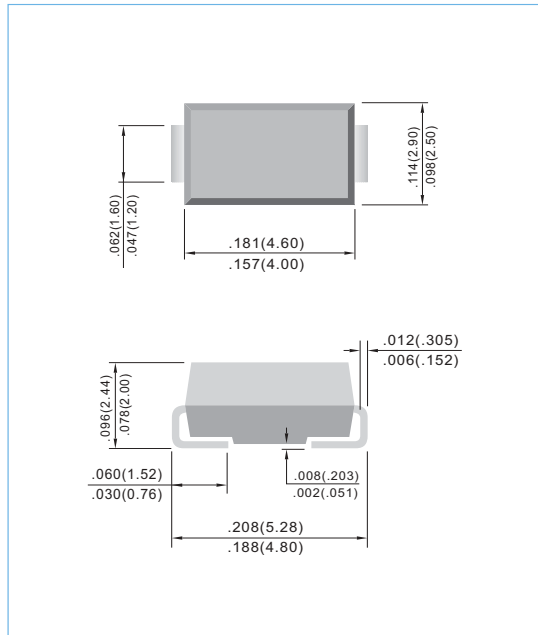
**SMA/DO-214AC** Unit: inch (mm)

#### 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.
- Pb free product are available : 99% Sn above can meet Rohs environment substance directive request
- ESD Passed devices : Air mode 15KV ,human body mode 8KV

#### MECHANICAL DATA

Case: JEDEC DO-214AC molded plastic  
 Terminals: Solder plated, solderable per MIL-STD-202G, Method 208  
 Polarity: Color band denotes positive end (cathode)  
 Standard packaging: 12mm tape (EIA-481)  
 Weight: 0.002 ounce, 0.064 gram



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

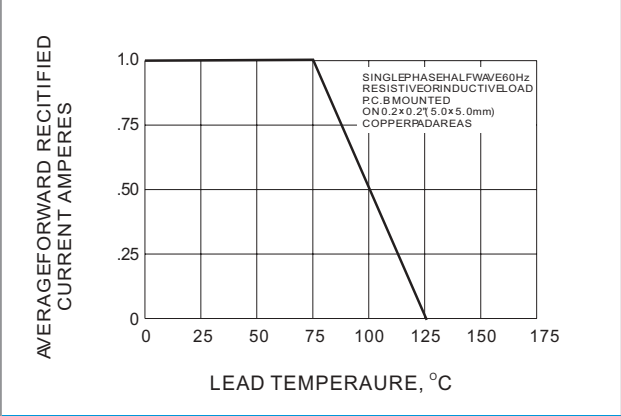
| PARAMETER  | SYMBOL                             | SS12E       | SS13E | SS14E | SS15E | SS16E | UNITS          |
|--|------------------------------------|-------------|-------|-------|-------|-------|----------------|
| Maximum Recurrent Peak Reverse Voltage   | $V_{RRM}$                          | 20          | 30    | 40    | 50    | 60    | V              |
| Maximum RMS Voltage  | $V_{RMS}$                          | 14          | 21    | 28    | 35    | 42    | V              |
| Maximum DC Blocking Voltage  | $V_{DC}$                           | 20          | 30    | 40    | 50    | 60    | V              |
| Maximum Average Forward Rectified Current .375" (9.5mm) lead length at $T_L = 75^\circ C$        | $I_{AV}$                           | 1           |       |       |       |       | 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  | $V_F$                              | 0.5         |       |       | 0.7   |       | V              |
| Maximum DC Reverse Current $T_A=25^\circ C$ at Rated DC Blocking Voltage $T_A=100^\circ C$       | $I_R$                              | 0.5<br>50   |       |       |       |       | mA             |
| Maximum Thermal Resistance   | $R_{\theta JL}$<br>$R_{\theta JA}$ | 28<br>88    |       |       |       |       | $^\circ C / W$ |
| Operating Junction and Storage Temperature Range   | $T_J, T_{STG}$                     | -50 to +125 |       |       |       |       | $^\circ C$     |

**NOTES:**

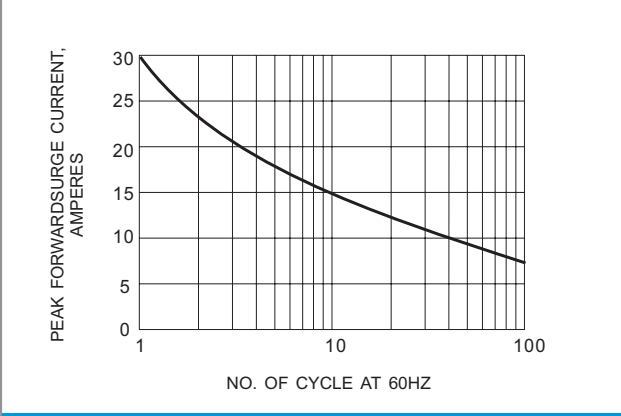
- A. Pulse Test with  $PW = 300\mu sec$ , 1% Duty Cycle.
- B. Mounted on P.C. Board with  $5.0mm^2$  (.013mm thick) copper pad areas.



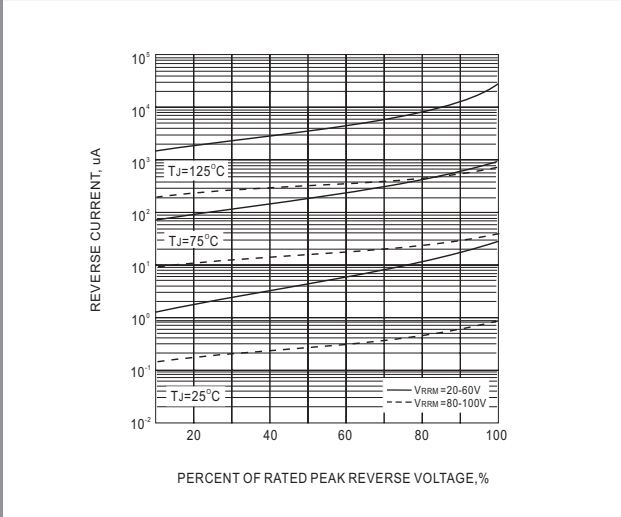
**RATING AND CHARACTERISTIC CURVES**



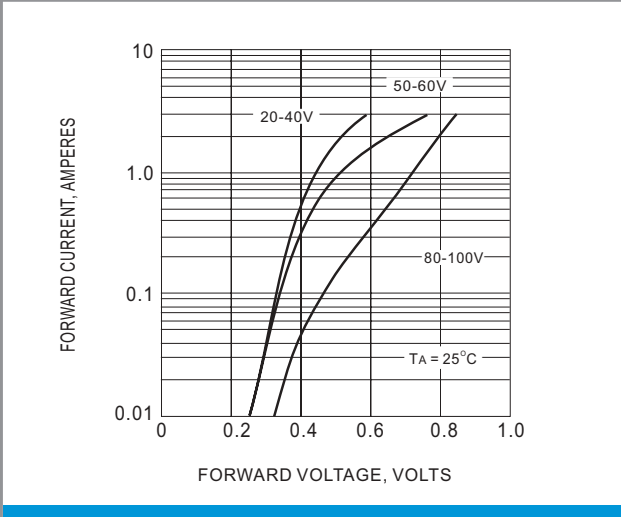
**Fig.1- FORWARD CURRENT DERATING CURVE**



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



**Fig.3- TYPICAL REVERSE CHARACTERISTIC**



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