PANJIT SEMI CONDUCTOR

# DATA SHEET

## SK52~S510

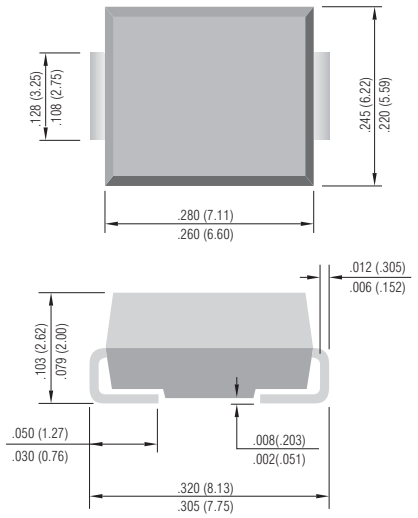
### SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

### VOLTAGE- 20 to 100 Volts CURRENT- 5.0 Amperes

### 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
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed: 260°C /10 seconds at terminals

SMC / DO-214AB Unit: inch ( mm )




### MECHANICAL DATA

Case: JEDEC DO-214AB molded plastic

Terminals:Solder plated, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes positive end (cathode)

Standard packaging: 16mm tape (EIA-481)

Weight: 0.007 ounce, 0.21 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Resistive or inductive load.

| | SYMBOLS | SK52 | SK53 | SK54 | SK55 | SK56 | SK58 | SK59 | S510 | UNITS |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 20.0 | 30.0 | 40.0 | 50.0 | 60.0 | 80.0 | 90.0 | 100.0 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 14.0 | 21.0 | 28.0 | 35.0 | 42.0 | 56.0 | 63.0 | 70.0 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 20.0 | 30.0 | 40.0 | 50.0 | 60.0 | 80.0 | 90.0 | 100.0 | V |
| Maximum Average Forward Rectified Current at $T_L$ (See figure 1) | I(AV) | 5.0 | | | | | | | | A |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$ | 100.0 | | | | | | | | A |
| Maximum Instantaneous Forward Voltage at 5.0A (Note 1) | $V_F$ | 0.50 | | | 0.75 | | 0.85 | | | V |
| Maximum DC Reverse Current (Note 1) Ta= 25°C<br>at Rated DC Blocking Voltage Ta=100°C | $I_R$ | 0.5<br>20.0 | | | | | | | | mA |
| Maximum Thermal Resistance(Note 2) | RθJL<br>RθJA | 17.0<br>55.0 | | | | | | | | °C/W |
| Operating and Storage Temperature Range $T_J$ | $T_J$ | -50 to +125 | | | | | | | | °C |
| Storage Temperature Range | $T_{STG}$ | -55 to +150 | | | | | | | | °C |

NOTES:

A.Pulse Test with PW =300μsec, 2% Duty Cycle.

B.Mounted on P.C. Board with 14mm$^2$ (.013mm thick) copper pad areas.

## RATING AND CHARACTERISTIC CURVES

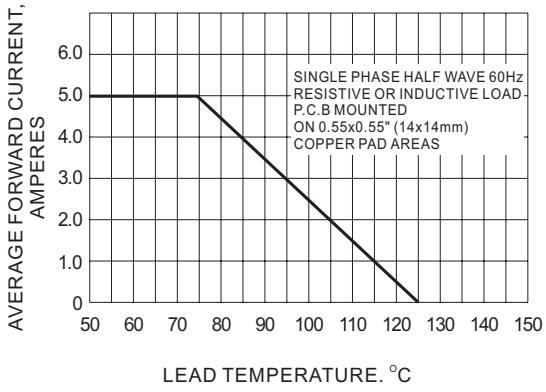



**Fig.1- FORWARD CURRENT DERATING CURVE**

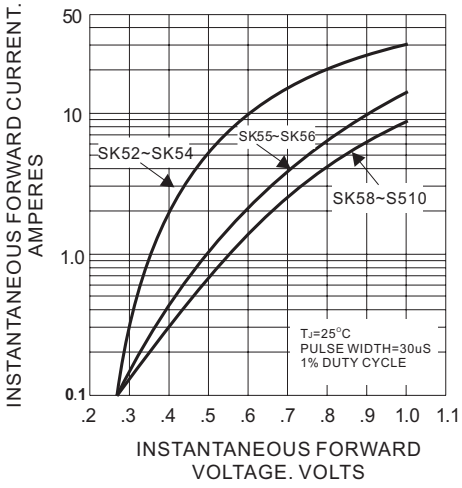



**Fig.2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**

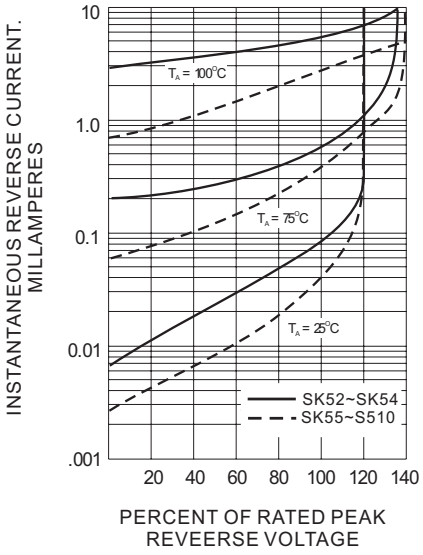



**Fig.3- TYPICAL REVERSE CHARACTERISTICS**

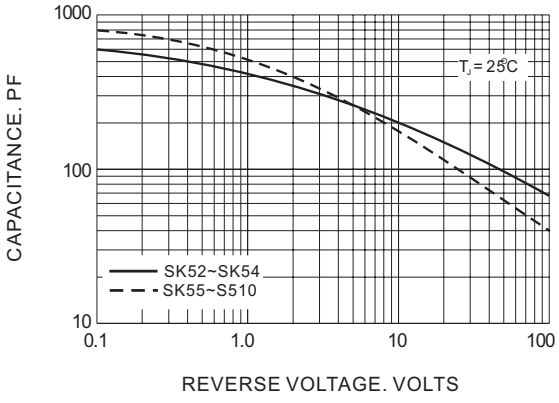



**Fig.4- TYPICAL JUNCTION CAPACITANCE**

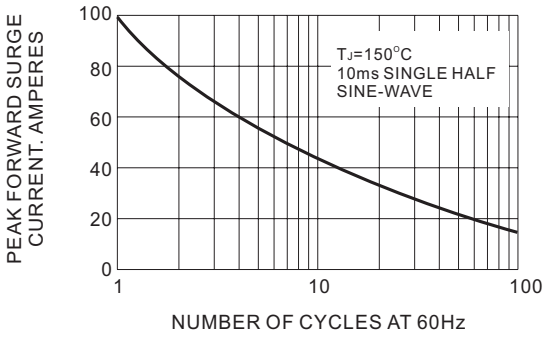



**Fig.5- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**