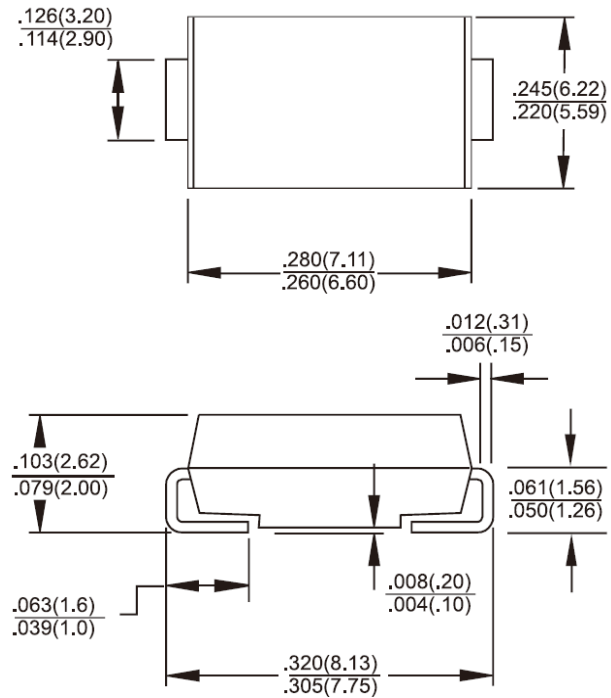


**SMC/DO-214AB**



**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-0
- ✧ Epitaxial construction
- ✧ High temperature soldering: 260°C/10 seconds at terminals
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode
- ✧ Qualified as per AEC-Q101



**Mechanical Data**

- ✧ Case: Molded plastic
- ✧ Terminals: Pure tin plated, lead free
- ✧ Polarity: Indicated by cathode band
- ✧ Packaging: 16mm tape per EIA Std RS-481
- ✧ Weight: 0.21 gram

**Dimensions in inches and (millimeters)**

**Marking Diagram**



- SK5XC = Specific Device Code
- G = Green Compound
- Y = Year
- M = Work Month

**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 52C        | SK 53C | SK 54C | SK 55C | SK 56C | SK 59C | SK 510C | SK 515C | SK 520C | Unit               |
|--|-----------------|---------------|--------|--------|--------|--------|--------|---------|---------|---------|--------------------|
| Maximum Repetitive Peak Reverse Voltage  | $V_{RRM}$       | 20            | 30     | 40     | 50     | 60     | 90     | 100     | 150     | 200     | V                  |
| Maximum RMS Voltage  | $V_{RMS}$       | 14            | 21     | 28     | 35     | 42     | 63     | 70      | 105     | 140     | V                  |
| Maximum DC Blocking Voltage  | $V_{DC}$        | 20            | 30     | 40     | 50     | 60     | 90     | 100     | 150     | 200     | V                  |
| Maximum Average Forward Rectified Current  | $I_{F(AV)}$     | 5             |        |        |        |        |        |         |         |         | A                  |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)   | $I_{FSM}$       | 120           |        |        |        |        |        |         |         |         | A                  |
| Maximum Instantaneous Forward Voltage (Note 1) @ 5 A   | $V_F$           | 0.55          |        |        | 0.75   |        | 0.85   |         | 0.95    |         | V                  |
| Maximum Reverse Current @ Rated VR<br>$T_A=25\text{ }^\circ\text{C}$<br>$T_A=100\text{ }^\circ\text{C}$<br>$T_A=125\text{ }^\circ\text{C}$ | $I_R$           | 0.5           |        |        |        |        |        | 0.3     |         |         | mA                 |
|  |                 | 20            |        |        | 10     |        | -      |         |         |         |                    |
|  |                 | -             |        |        |        |        |        | 5       |         |         |                    |
| Typical Thermal Resistance   | $R_{\theta JL}$ | 17            |        |        |        |        |        |         |         |         | $^\circ\text{C/W}$ |
|  | $R_{\theta JA}$ | 50            |        |        |        |        |        |         |         |         |                    |
| Operating Temperature Range  | $T_J$           | - 55 to + 150 |        |        |        |        |        |         |         |         | $^\circ\text{C}$   |
| Storage Temperature Range  | $T_{STG}$       | - 55 to + 150 |        |        |        |        |        |         |         |         | $^\circ\text{C}$   |

Note 1: Pluse Test with PW=300 usec, 1% Duty Cycle

## RATINGS AND CHARACTERISTIC CURVES (SK52C THRU SK520C)

FIG. 1 FORWARD CURRENT DERATING CURVE

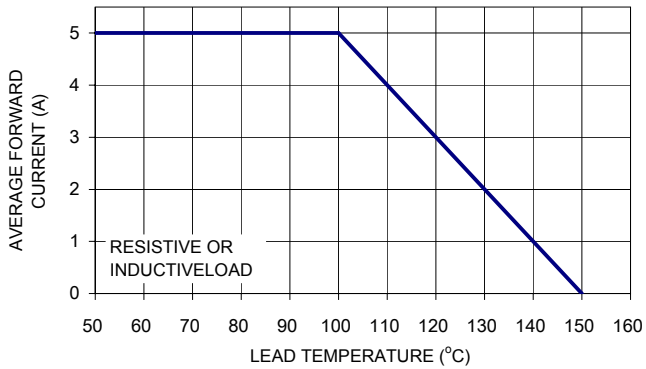


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

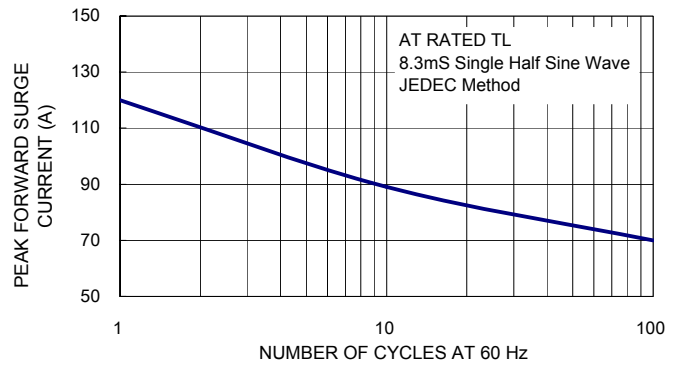


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

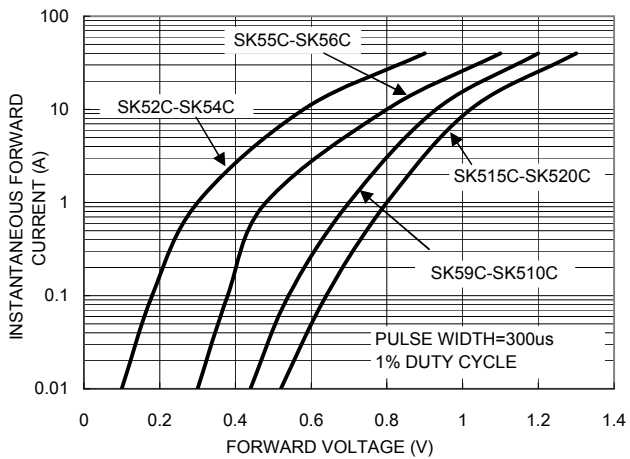


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

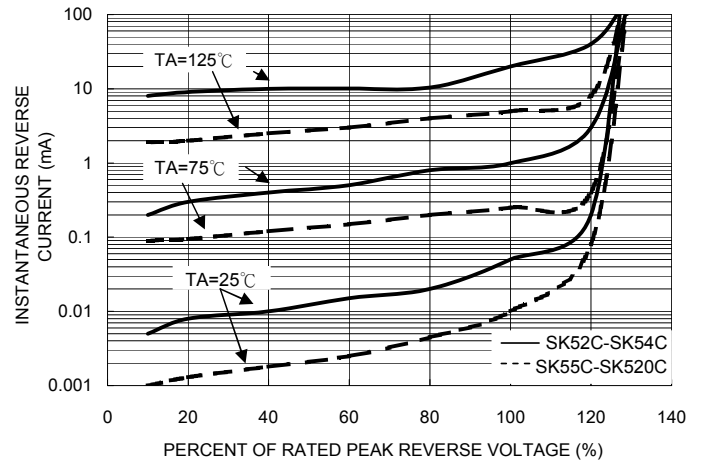


FIG. 5 TYPICAL JUNCTION CAPACITANCE

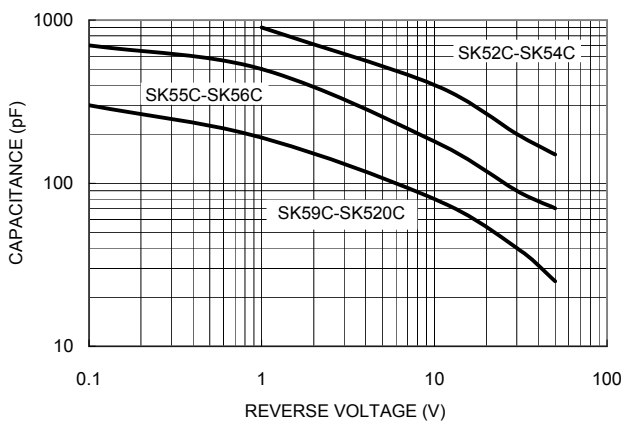


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE

