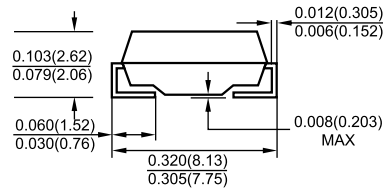
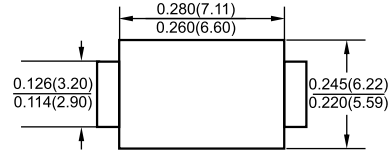




SMC/DO-214AB

Features

- ✦ Glass passivated junction chip
- ✦ For surface mounted applications
- ✦ Low profile package
- ✦ Built-in strain relief
- ✦ Ideal for automated placement
- ✦ Easy pick and place
- ✦ Super fast recovery time for high efficiency
- ✦ Glass passivated chip junction
- ✦ High temperature soldering:
260°C/10 seconds at terminals
- ✦ Plastic material used carries Underwriters
Laboratory Classification 94V-0



Mechanical Data

- ✦ Cases: Molded plastic
- ✦ Terminals: Pure tin plated, lead free.
- ✦ Polarity: Indicated by cathode band
- ✦ Weight: 0.21 gram

Dimensions in inches and (millimeters)

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 | ES 3A | ES 3B | ES 3C | ES 3D | ES 3F | ES 3G | ES 3H | ES 3J | Units |
|--|------------------------------------|-------|-------|-------|-------|-------------|-------|-------|-------|--------------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | V |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 350 | 420 | V |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | V |
| Maximum Average Forward Rectified Current See Fig. 1 | $I_{(AV)}$ | 3.0 | | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) @ $T_L = 100^\circ\text{C}$ | I_{FSM} | 100 | | | | | | | | A |
| Maximum Instantaneous Forward Voltage @ 3.0A | V_F | 0.95 | | | 1.3 | | 1.7 | | | V |
| Maximum DC Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$ | I_R | | | | | 10 | | 500 | | uA uA |
| Maximum Reverse Recovery Time (Note 1) | T_{rr} | | | | | 35 | | | | nS |
| Typical Junction Capacitance (Note 2) | C_j | 45 | | | | 30 | | | | pF |
| Typical Thermal Resistance (Note 3) | $R_{\theta JA}$ $R_{\theta JL}$ | | | | | 47 | | | | $^\circ\text{C/W}$ |
| Operating Temperature Range | T_J | | | | | -55 to +150 | | | | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | | | | | -55 to +150 | | | | $^\circ\text{C}$ |

- Notes:
1. Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
 2. Measured at 1 MHz and Applied $V_R=4.0$ Volts
 3. Units Mounted on P.C.B. with 0.6" x 0.6"(16mm x 16mm) Copper Pad Areas

RATINGS AND CHARACTERISTIC CURVES (ES3A THRU ES3J)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

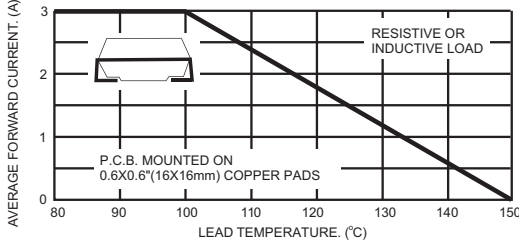


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

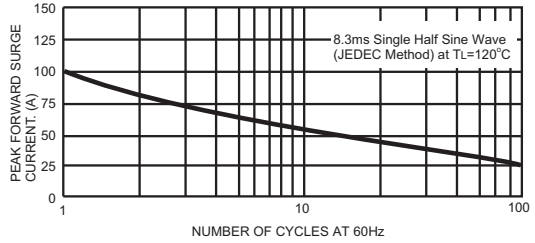


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

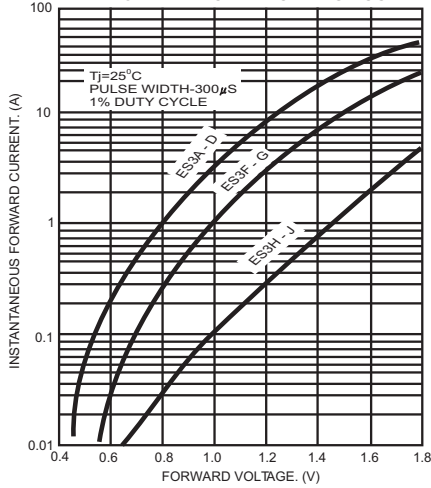


FIG.4- TYPICAL REVERSE CHARACTERISTICS

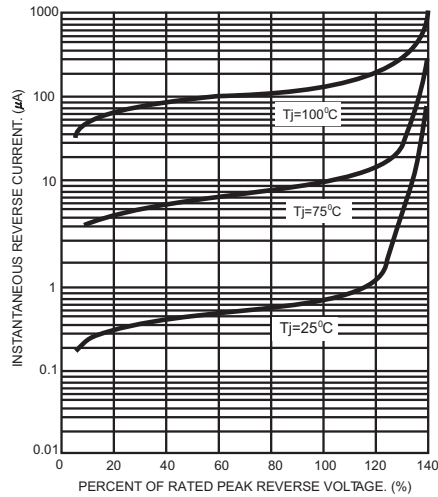


FIG.5- TYPICAL JUNCTION CAPACITANCE

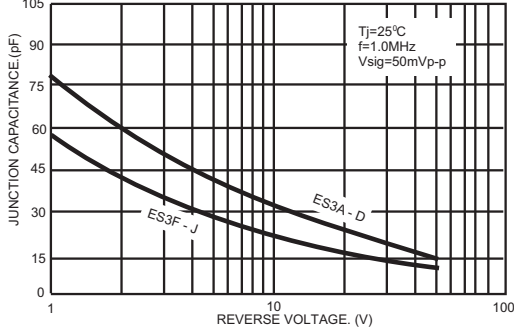


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE

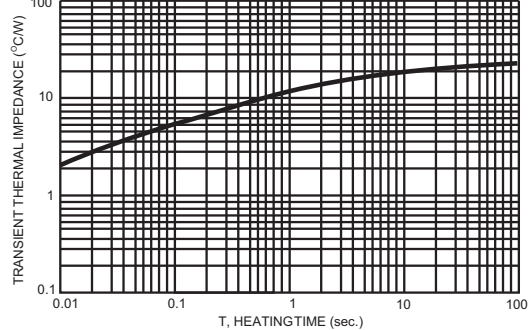


FIG.7- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

