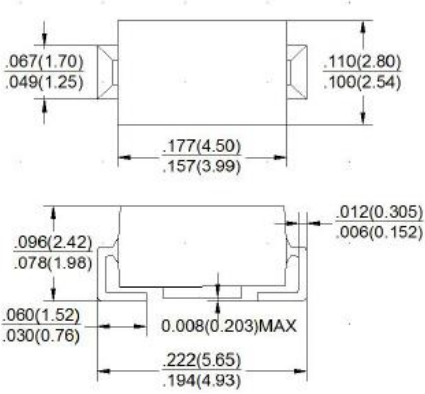


| SURFACE MOUNT SUPER FAST RECTIFIER | REVERSE VOLTAGE 50 to 600 Volts FORWARD CURRENT 1 Amperes | | | | | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------|-------|-------|-------|-------|-------|---------------|
| <p>FEATURES</p> <ul style="list-style-type: none"> • Fast switching for high efficiency • Low reverse leakage current • Low forward voltage drop • High forward surge capability • The plastic material carries UL recognition 94V-0 <p>MECHANICAL DATA</p> <ul style="list-style-type: none"> • Case: DO-214AC(SMAE) • Polarity: Cathode Band | <p>DO-214AC(SMAE)</p>  <p>Dimensions in inches and (millimeters)</p> | | | | | | | | |
| <p>MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS</p> <p>Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%</p> | | | | | | | | | |
| Characteristics | Symbol | ES1AW | ES1BW | ES1CW | ES1DW | ES1EW | ES1GW | ES1JW | Unit |
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 420 | V |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Maximum Instantaneous Forward Voltage @1A | V_F | 0.95 | | | | 1.25 | | 1.7 | V |
| Maximum DC Reverse Current @ $T_A=25^{\circ}C$ at Rated DC Blocking Voltage @ $T_A=100^{\circ}C$ | I_R | 5 | | | | 30 | | | μA |
| Maximum Average Forward Rectified Current @ $T_A=55^{\circ}C$ | I_F | 1 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method) | I_{FSM} | 30 | | | | | | | A |
| Maximum Reverse Recovery Time (NOTE 1) | T_{rr} | 35 | | | | | | | ns |
| Typical Junction Capacitance (NOTE 2) | C_J | 15 | | | | | | | pF |
| Typical Thermal Resistance (NOTE 3) | $R_{\theta JA}$ | 55 | | | | | | | $^{\circ}C/W$ |
| Operating Temperature Range | T_J | -55 to +150 | | | | | | | $^{\circ}C$ |
| Storage Temperature Range | T_{STG} | -55 to +150 | | | | | | | $^{\circ}C$ |
| <p>NOTES:</p> <ol style="list-style-type: none"> 1. Measured with $I_F=0.5A, I_R=1A, I_{RR}=0.25A$ 2. Measured at 1.0MHZ and applied reverse voltage of 4.0V DC 3. Thermal Resistance from Junction to Ambient at 5.0x5.0mm² copper pad areas. | | | | | | | | | |

Rating and Characteristic Curves

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

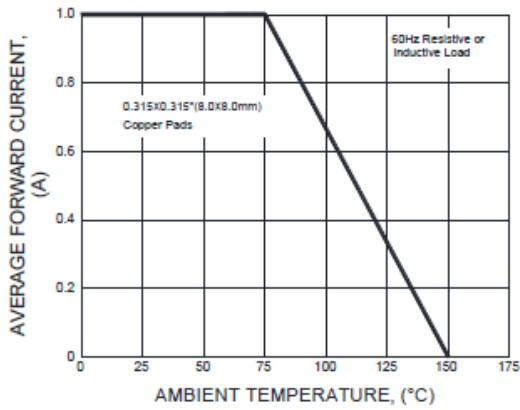


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

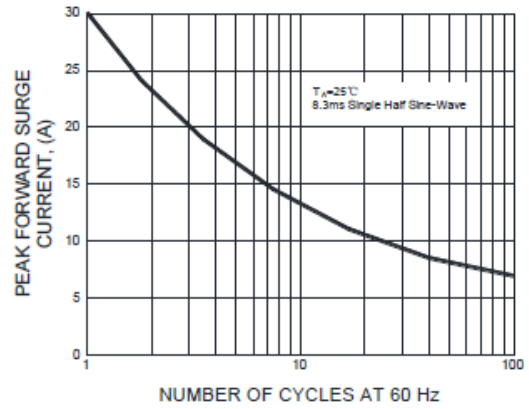


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

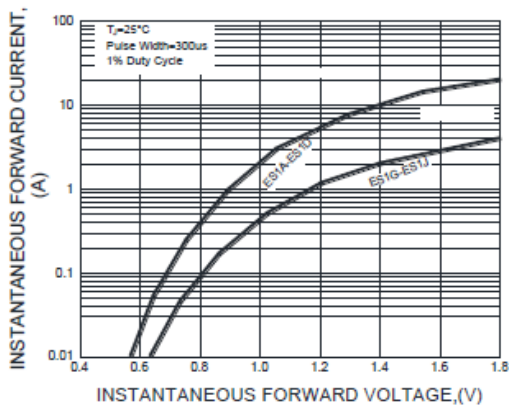
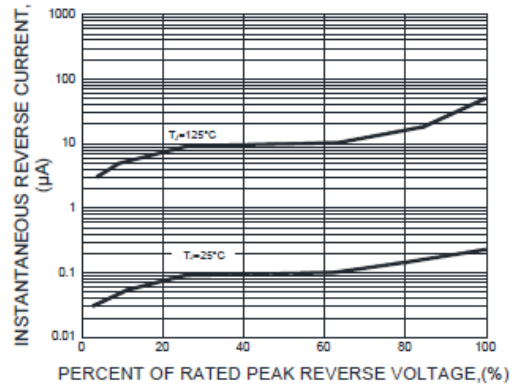


FIG.4-TYPICAL REVERSE CHARACTERISTICS



TEST CIRCUIT DIAGRAM AND FORWARD SURGE CURRENT

