

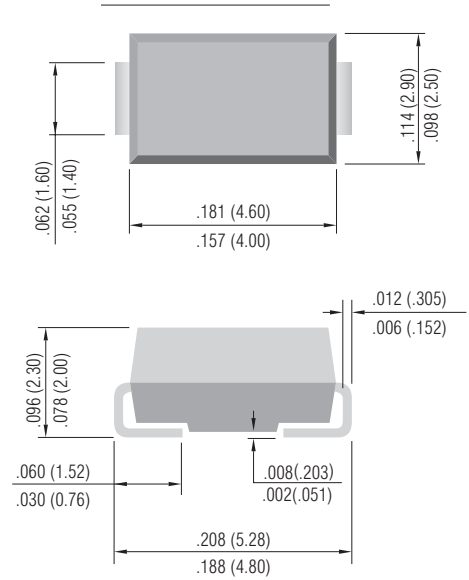
US1A~US1M

Features

- Glass Passivated Die Construction
- Diffused Junction
- Ultra-Fast Recovery Time for High Efficiency
- Low Forward Voltage Drop, High Current Capability, and Low Power Loss
- Surge Overload Rating to 30A Peak
- Ideally Suited for Automated Assembly
- Plastic Material: UL Flammability Classification Rating 94V-0

Mechanical Data

- Case: Molded Plastic
- Terminals: Solder Plated Terminal - Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.064 grams (approx.)
- Mounting Position: Any



Unit: inch (mm)

SMA / DO-214AC

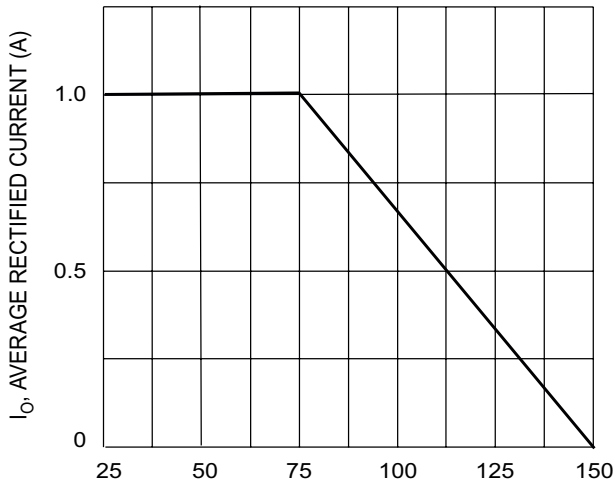
MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings 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%.

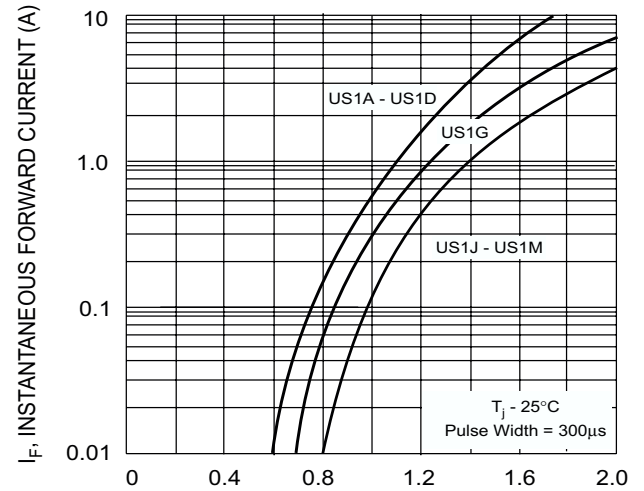
| Characteristic | Symbol | US1A | US1B | US1D | US1G | US1J | US1K | US1M | Unit |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------|------|------|------|------|------|------|---------------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Rectified Output Current @ $T_T = 75^{\circ}C$ | I_O | 1.0 | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method) | I_{FSM} | 30 | | | | | | | A |
| Forward Voltage Drop @ $I_F = 1.0A$ | V_{FM} | 1.0 | | | 1.3 | 1.7 | | | V |
| Peak Reverse Current @ $T_A = 25^{\circ}C$ at Rated DC Blocking Voltage @ $T_A = 100^{\circ}C$ | I_{RM} | 5.0 100 | | | | | | | μA |
| Reverse Recovery Time (Note 2) | t_{rr} | 50 | | | | 75 | | | ns |
| Typical Junction Capacitance (Note 1) | C_j | 20 | | | | 10 | | | pF |
| Typical Thermal Resistance, Junction to Terminal | $R_{\theta JT}$ | 30 | | | | | | | $^{\circ}C/W$ |
| Operating and Storage Temperature Range | T_j, T_{STG} | -65 to +150 | | | | | | | $^{\circ}C$ |

Notes: 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 2. Measured with $I_F = 0.5A$, $I_R = 1.0A$, $I_{rr} = 0.25A$.

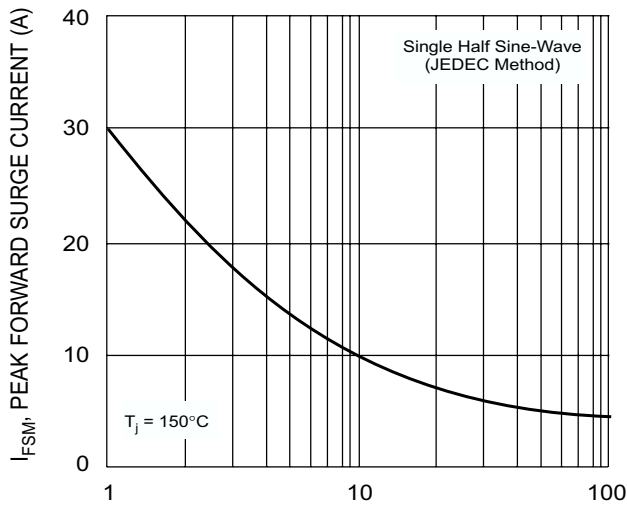
US1A~US1M



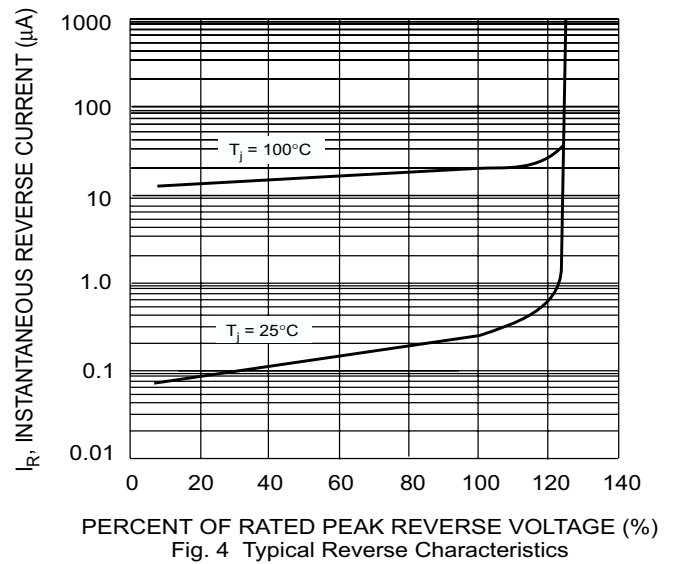
T_T , TERMINAL TEMPERATURE ($^{\circ}\text{C}$)
Fig. 1 Forward Current Derating Curve



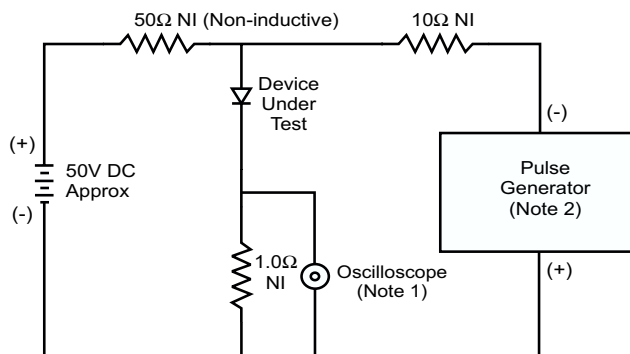
V_F , INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 2 Typical Forward Characteristics



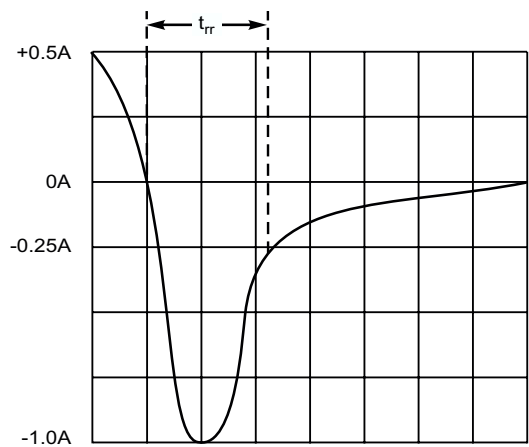
NUMBER OF CYCLES AT 60Hz
Fig. 3 Forward Surge Current Derating Curve



PERCENT OF RATED PEAK REVERSE VOLTAGE (%)
Fig. 4 Typical Reverse Characteristics



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0M Ω , 22pF.
2. Rise Time = 10ns max. Input Impedance = 50 Ω .



Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit