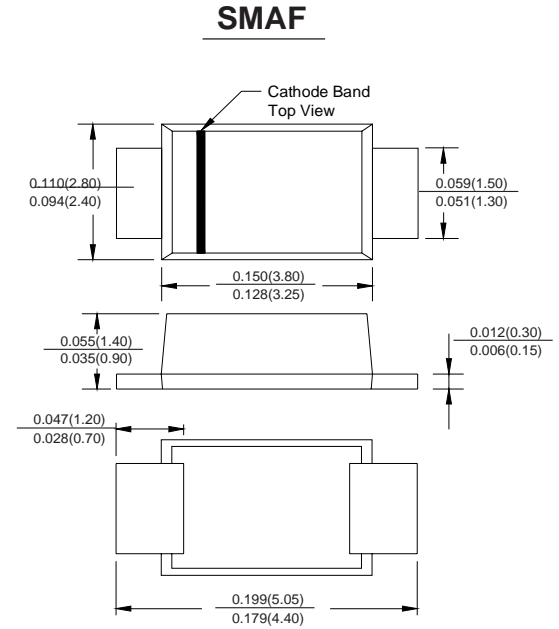


### Features

- 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: SMAF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 27mg 0.00086oz



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbol	US1AF	US1BF	US1DF	US1GF	US1JF	US1KF	US1MF	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	$V_{RWM}$								
DC Blocking Voltage	$V_R$								
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectified Output Current @ $T_T = 75^\circ\text{C}$	$I_O$	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 @ $I_F = 1.0\text{A}$	$V_{FM}$	1.0		1.3		1.7		V	
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	$I_{RM}$	5.0 100							$\mu\text{A}$
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							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{STG}$	-65 to +150							$^\circ\text{C}$

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

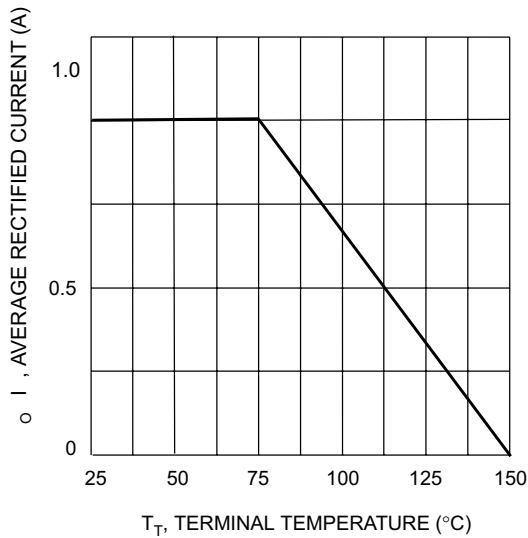


Fig. 1 Forward Current Derating Curve

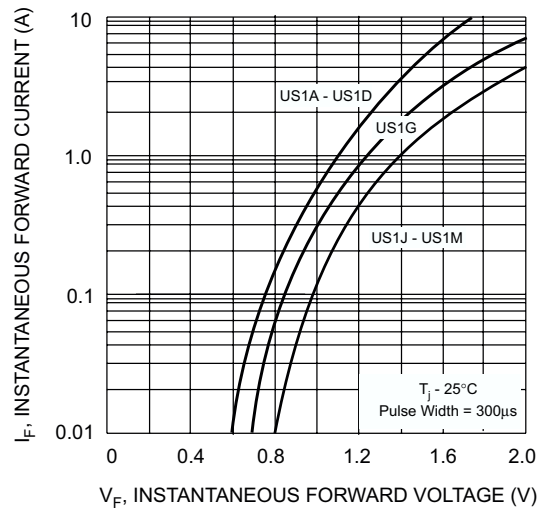


Fig. 2 Typical Forward Characteristics

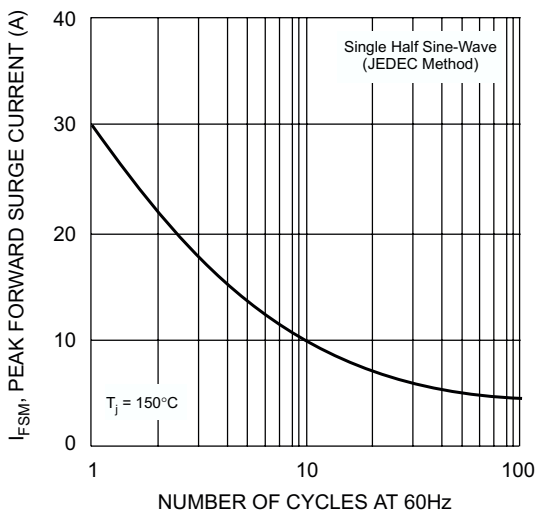


Fig. 3 Forward Surge Current Derating Curve

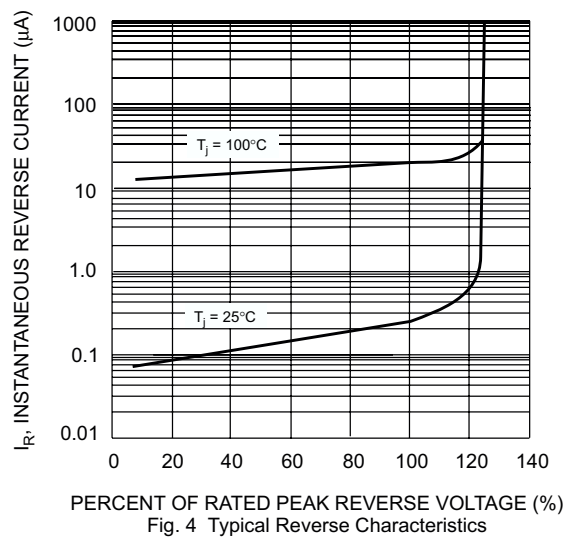
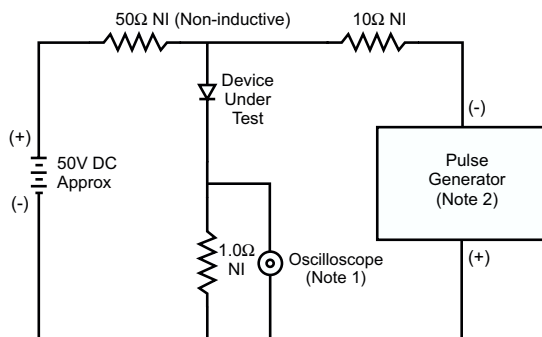
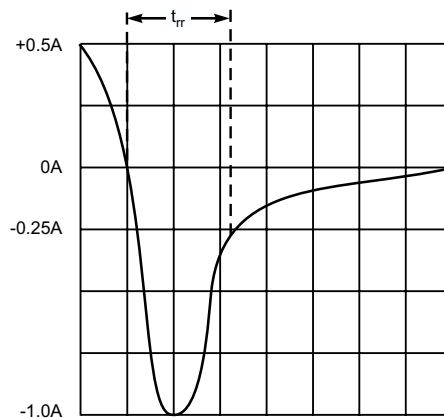


Fig. 4 Typical Reverse Characteristics



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



Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit