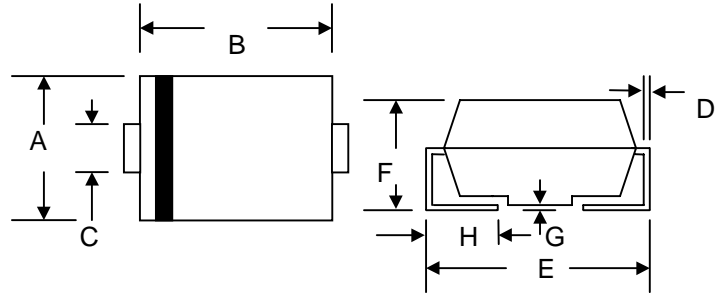


## 1.0A SURFACE MOUNT ULTRA FAST RECTIFIER

### Features

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop, High Efficiency
- Surge Overload Rating to 30A Peak
- Low Power Loss
- Ultra-Fast Recovery Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O



### Mechanical Data

- Case: Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.064 grams (approx.)

SMA/DO-214AC		
Dim	Min	Max
A	2.50	2.90
B	4.00	4.60
C	1.40	1.60
D	0.152	0.305
E	4.80	5.28
F	2.00	2.44
G	0.051	0.203
H	0.76	1.52
All Dimensions in mm		

### Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	US1A	US1B	US1D	US1G	US1J	US1K	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$							
Working Peak Reverse Voltage	$V_{RWM}$	50	100	200	400	600	800	V
DC Blocking Voltage	$V_R$							
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	V
Average Rectified Output Current @ $T_L = 100^\circ\text{C}$	$I_O$	1.0						A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) @ $T_A = 55^\circ\text{C}$	$I_{FSM}$	30						A
Forward Voltage @ $I_F = 1.0\text{A}$	$V_{FM}$	1.0			1.4	1.7		V
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	$I_{RM}$	10 500						$\mu\text{A}$
Reverse Recovery Time (Note 1)	$t_{rr}$	50				100		nS
Typical Junction Capacitance (Note 2)	$C_j$	15						pF
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$	30						K/W
Operating and Storage Temperature Range	$T_j, T_{STG}$	-50 to +150						$^\circ\text{C}$

Note: 1. Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{rr} = 0.25\text{A}$ ,  
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.  
 3. Mounted on P.C. Board with 8.0mm<sup>2</sup> land area.

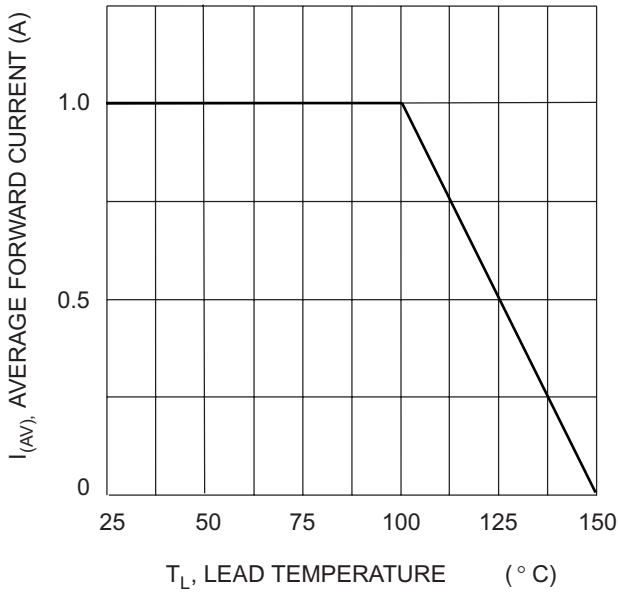


Fig. 1 Forward Current Derating Curve

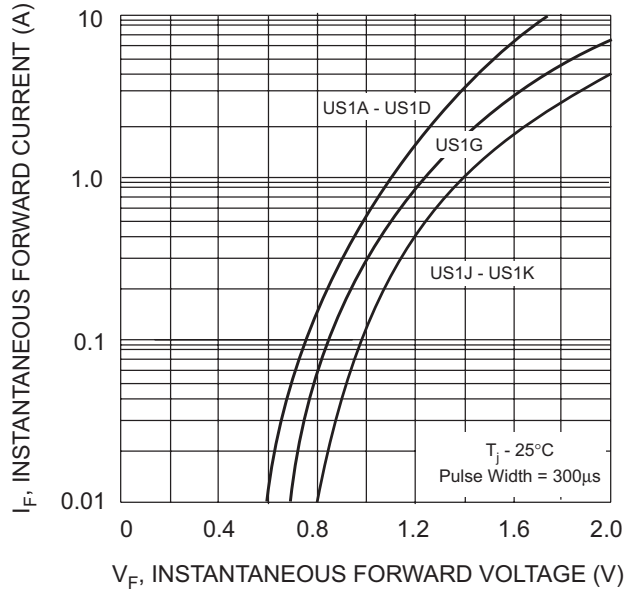


Fig. 2 Typical Forward Characteristics

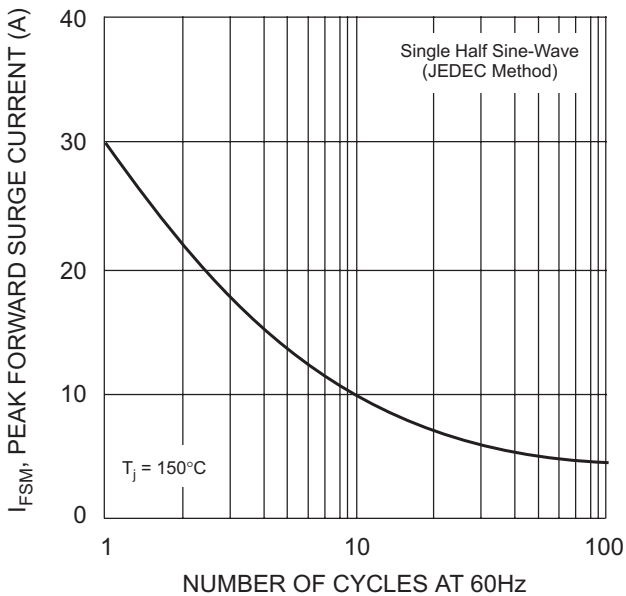


Fig. 3 Forward Surge Current Derating Curve

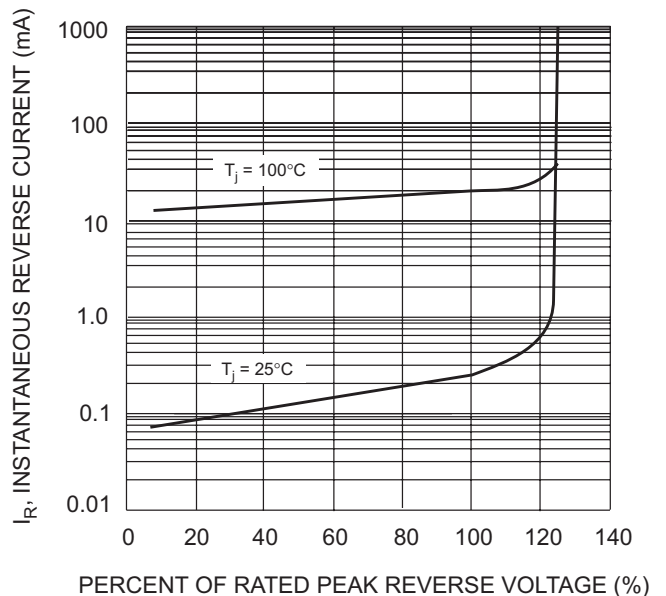
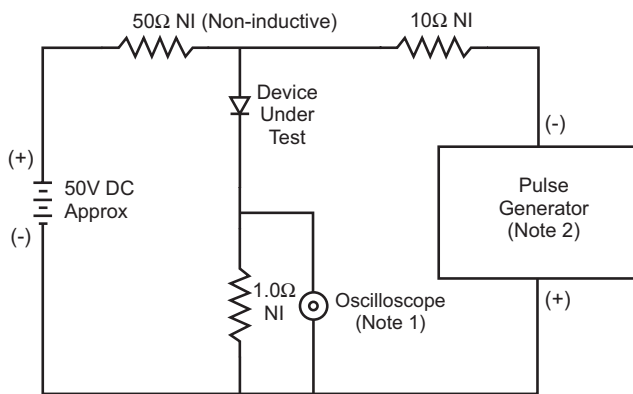


Fig. 4 Typical Reverse Characteristics



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

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

## ORDERING INFORMATION

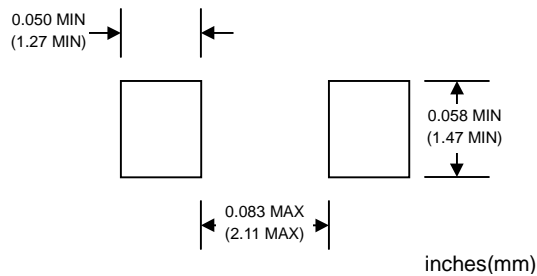
Product No.♦	Package Type	Shipping Quantity
US1A-T1	SMA	1800/Tape & Reel
<b>US1A-T3</b>	SMA	7500/Tape & Reel
US1B-T1	SMA	1800/Tape & Reel
<b>US1B-T3</b>	SMA	7500/Tape & Reel
US1D-T1	SMA	1800/Tape & Reel
<b>US1D-T3</b>	SMA	7500/Tape & Reel
US1G-T1	SMA	1800/Tape & Reel
<b>US1G-T3</b>	SMA	7500/Tape & Reel
US1J-T1	SMA	1800/Tape & Reel
<b>US1J-T3</b>	SMA	7500/Tape & Reel
US1K-T1	SMA	1800/Tape & Reel
<b>US1K-T3</b>	SMA	7500/Tape & Reel

Products listed in **bold** are WTE **Preferred** devices.

♦T1 suffix refers to a 7" reel. T3 suffix refers to a 13" reel.

Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.

## RECOMMENDED FOOTPRINT



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