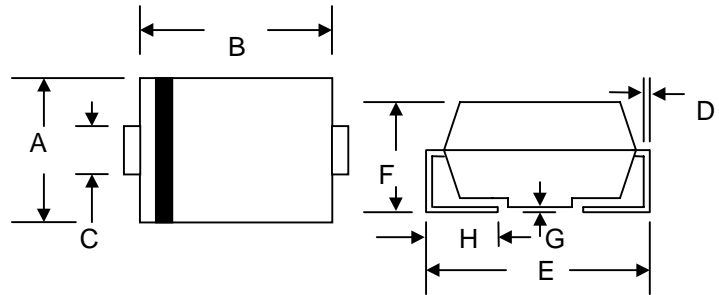


## 3.0A SURFACE MOUNT FAST RECOVERY RECTIFIER

### Features

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop, High Efficiency
- Surge Overload Rating to 100A Peak
- Low Power Loss
- Fast Recovery Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O



### Mechanical Data

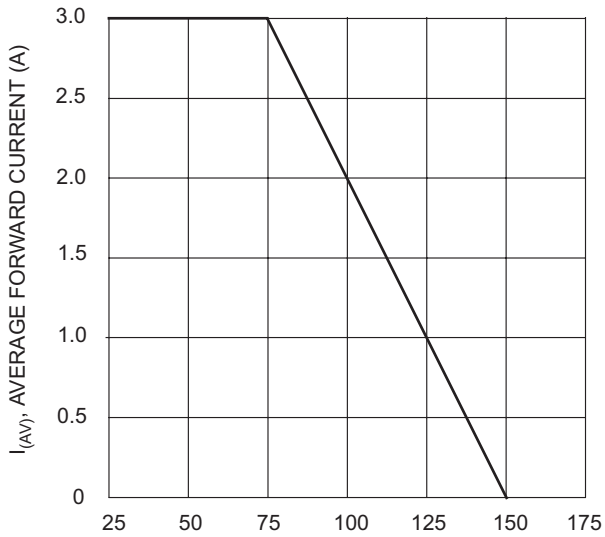
- Case: Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.21 grams (approx.)

SMC/DO-214AB		
Dim	Min	Max
A	5.59	6.22
B	6.60	7.11
C	2.75	3.25
D	0.152	0.305
E	7.75	8.13
F	2.00	2.62
G	0.051	0.203
H	0.76	1.27
All Dimensions in mm		

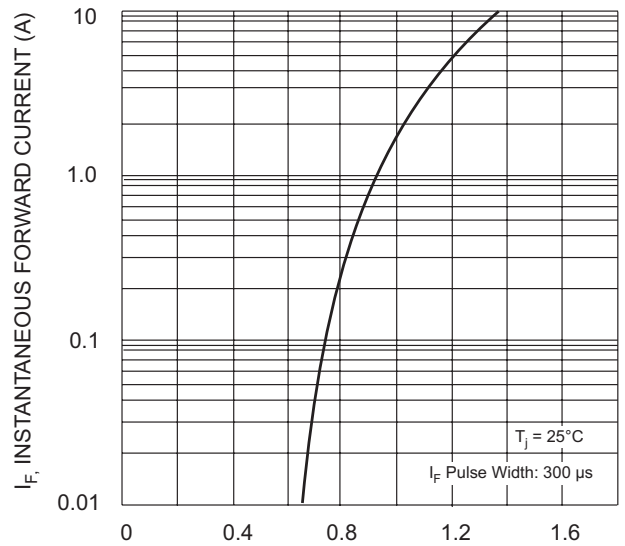
### Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	FR3A	FR3B	FR3D	FR3G	FR3J	FR3K	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$							V
Working Peak Reverse Voltage	$V_{RWM}$	50	100	200	400	600	800	
DC Blocking Voltage	$V_R$							
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	V
Average Rectified Output Current @ $T_L = 75^\circ\text{C}$	$I_O$	3.0						A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	100						A
Forward Voltage @ $I_F = 3.0\text{A}$	$V_{FM}$	1.30						V
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$	$I_{RM}$	10 350						$\mu\text{A}$
Reverse Recovery Time (Note 1)	$t_{rr}$	150				250	500	nS
Typical Junction Capacitance (Note 2)	$C_j$	60						pF
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$	15						K/W
Operating and Storage Temperature Range	$T_j, T_{STG}$	-50 to +150						$^\circ\text{C}$

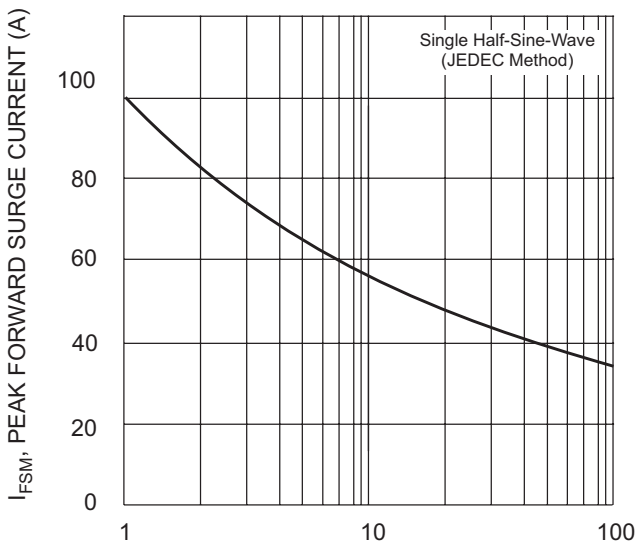
Note: 1. Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{rr} = 0.25\text{A}$ ,  
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.  
 3. Mounted on P.C. Board with 8.0mm<sup>2</sup> land area.



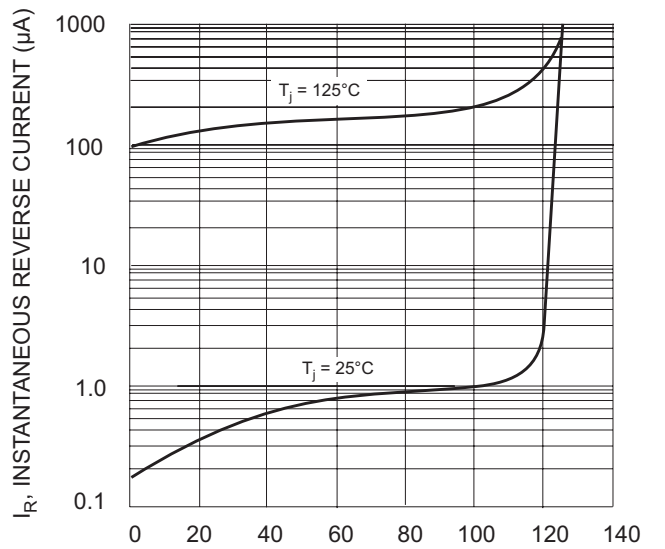
$T_L$ , LEAD TEMPERATURE (°C)  
Fig. 1 Forward Current Derating Curve



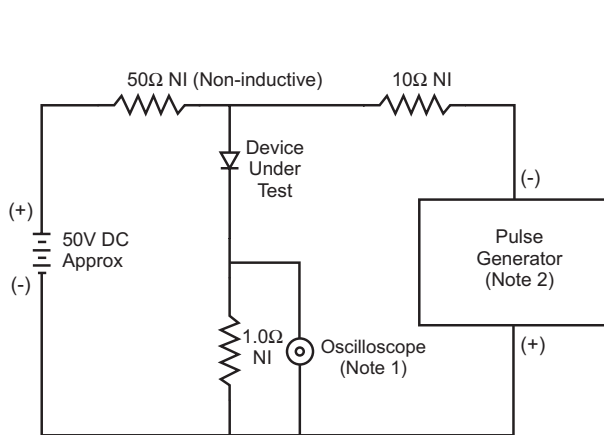
$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
Fig. 2 Typical Forward Characteristics



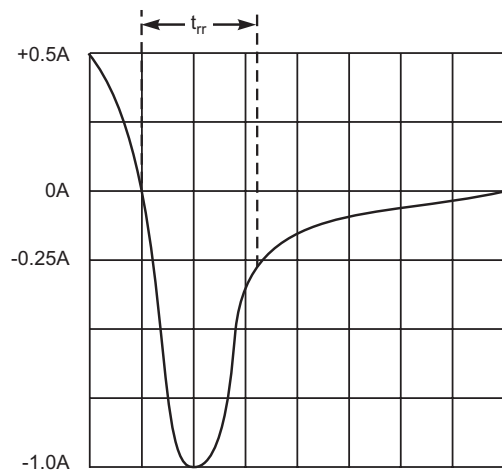
NUMBER OF CYCLES AT 60 Hz  
Fig. 3 Forward Surge Current Derating Curve



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



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



Set time base for 10ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

## ORDERING INFORMATION

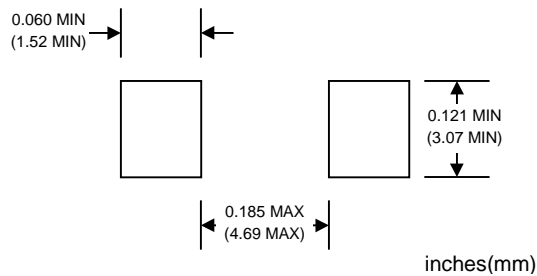
Product No.♦	Package Type	Shipping Quantity
FR3A-T1	SMC	500/Tape & Reel
<b>FR3A-T3</b>	SMC	3000/Tape & Reel
FR3B-T1	SMC	500/Tape & Reel
<b>FR3B-T3</b>	SMC	3000/Tape & Reel
FR3D-T1	SMC	500/Tape & Reel
<b>FR3D-T3</b>	SMC	3000/Tape & Reel
FR3G-T1	SMC	500/Tape & Reel
<b>FR3G-T3</b>	SMC	3000/Tape & Reel
FR3J-T1	SMC	500/Tape & Reel
<b>FR3J-T3</b>	SMC	3000/Tape & Reel
FR3K-T1	SMC	500/Tape & Reel
<b>FR3K-T3</b>	SMC	3000/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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**WARNING: DO NOT USE IN LIFE SUPPORT EQUIPMENT.** WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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