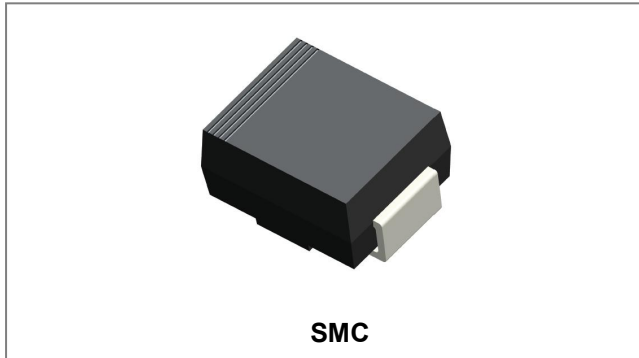


## FR3A-FR3M 3.0A SURFACE MOUNT FAST RECOVERY RECTIFIER



### Features

- Fast switching for high efficiency
- Low leakage current
- High forward surge capability
- Solder dip 260° C, 40s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC
- Glass passivated chip junction
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Mechanical Data

- Case: SMC molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.21grams

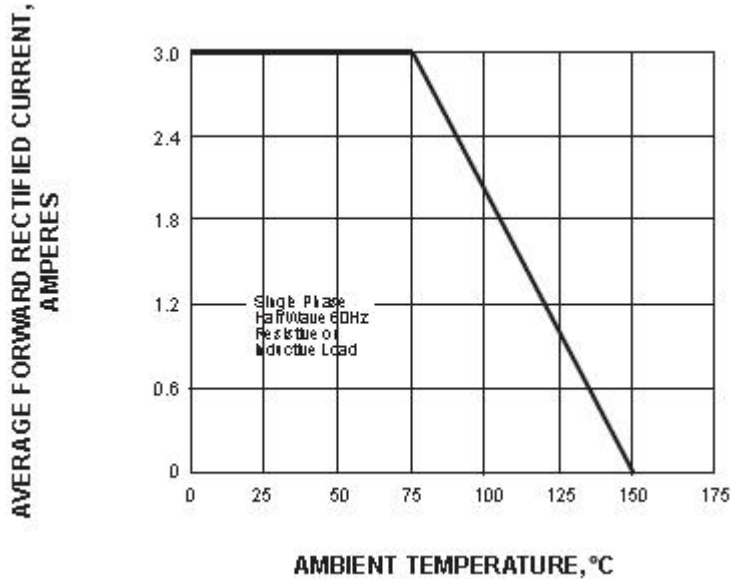
### Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

Characteristic	Symbol	FR3A	FR3B	FR3D	FR3G	FR3J	FR3K	FR3M	Units
Peak Repetitive Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Average forward rectified output current @T <sub>A</sub> = 75°C	I <sub>(AV)</sub>	3.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	100							A
Forward Voltage @I <sub>F</sub> =3.0A	V <sub>FM</sub>	1.30							V
Peak Reverse Current @T <sub>A</sub> = 25°C At Rated DC Blocking Voltage @T <sub>A</sub> = 100°C	I <sub>RM</sub>	5.0 50.0							µA
Reverse recovery time (Note 1)	t <sub>rr</sub>	150				250	500		ns
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	60							pF
Typical Thermal Resistance (Note 3)	R <sub>θJA</sub>	50							°C/W
Operating and Storage Temperature Range	T <sub>STG</sub>	-55 to +150							°C

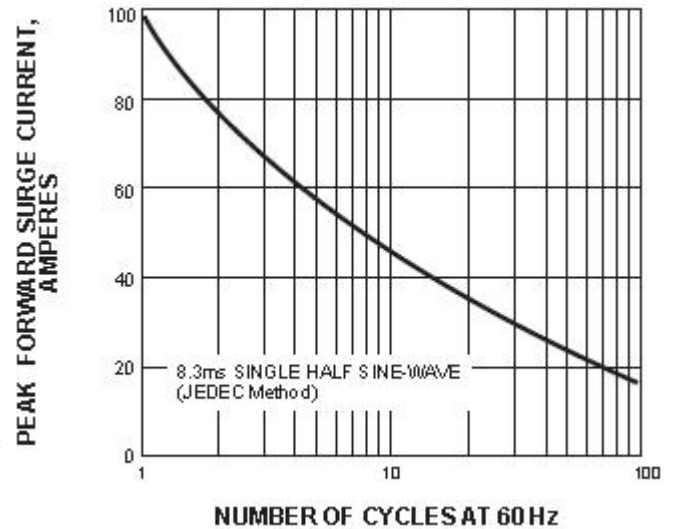
Note: 1. Reverse recovery condition IF=0.5A, IR=1.0A, Irr=0.25A  
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 3. Mounted on P.C.B Board with 8.0mm<sup>2</sup> land area.

**Ratings and Characteristics Curves**

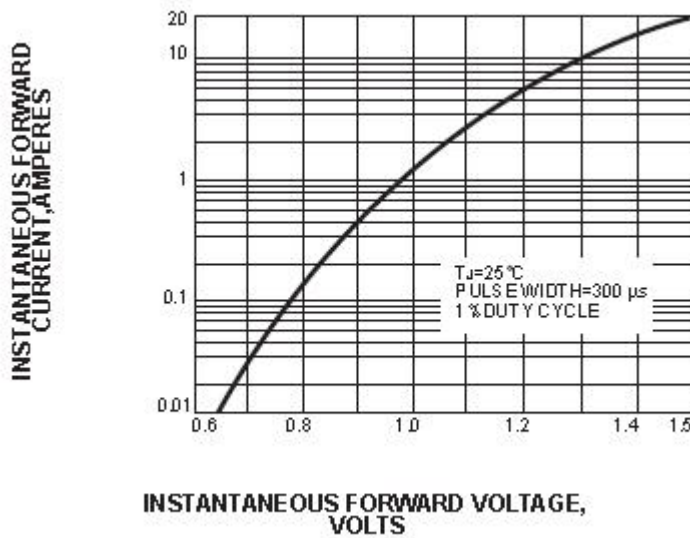
**FIG.1-FORWARD CURRENT DERATING CURVE**



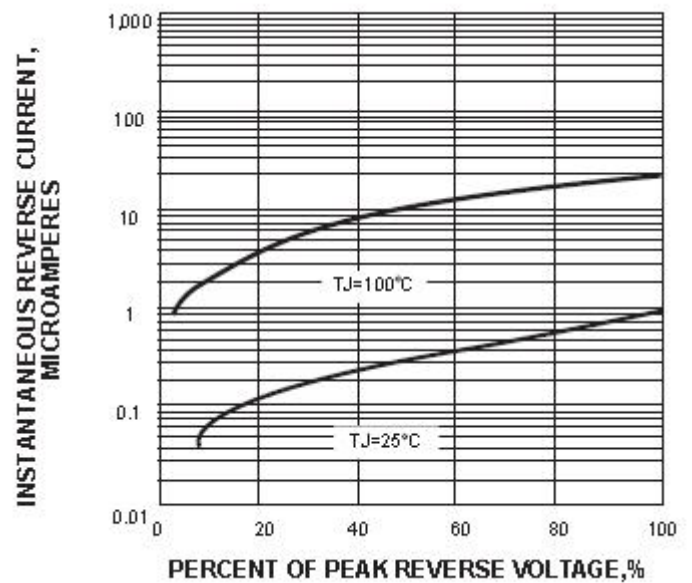
**FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



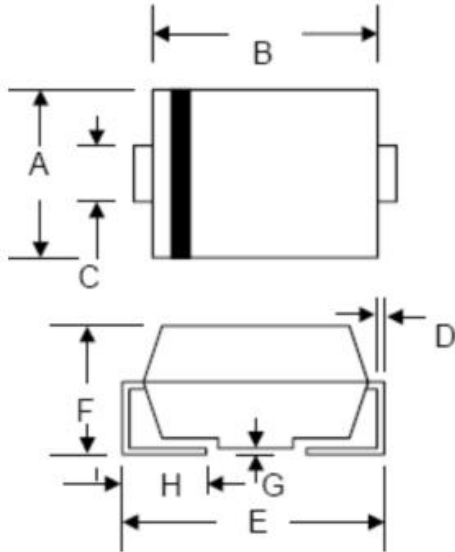
**FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG.4-TYPICAL REVERSE CHARACTERISTICS**



## Mechanical Dimensions SMC



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	5.59	6.22	0.220	0.245
B	6.60	7.11	0.260	0.280
C	2.75	3.25	0.108	0.128
D	0.152	0.305	0.006	0.012
E	7.75	8.25	0.305	0.325
F	2.00	2.95	0.079	0.116
G	0.051	0.203	0.002	0.008
H	0.76	1.60	0.030	0.063

## Ordering Information

Device	Package	Shipping
FR3A-FR3M	SMC	3000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

## Marking Diagram

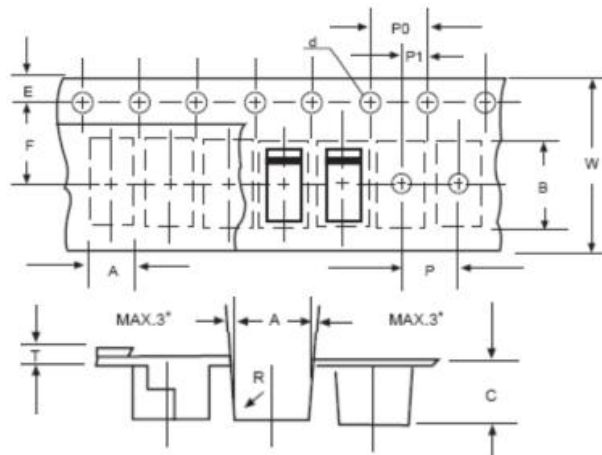


Where XXXXX is YYWWL

FR3A = Part Name  
YY = Year  
WW = Week  
L = Lot Number

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

## Carrier Tape & Reel Specification SMC



SYMBOL	Millimeters	
	Min.	Max.
A	5.90	6.10
B	8.20	8.40
C	2.40	2.60
d	1.40	1.60
E	1.40	1.60
F	7.60	7.70
P	7.90	8.10
P0	3.90	4.10
P1	3.90	4.10
T	-	0.600
W	15.80	16.20

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