



# FR3A~FR3M

## FAST SWITCHING SURFACE MOUNT RECTIFIER

**Voltage**

**50~1000 V**

**Current**

**3 A**

**SMC / DO-214AB**

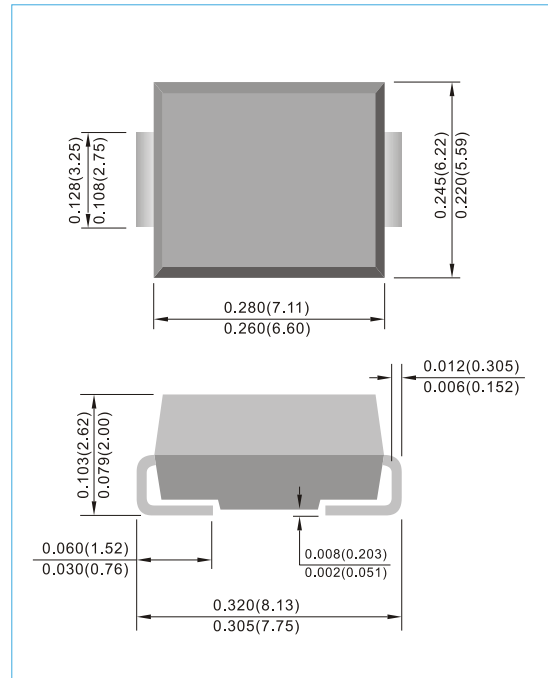
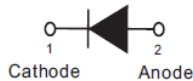
Unit : inch(mm)

### Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- For surface mounted applications in order to optimize board space
- Easy pick and place
- Fast Recovery times for high efficiency
- Glass passivated junction
- High temperature soldering : 260 °C /10 seconds at terminals
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### Mechanical Data

- Case: JEDEC DO-214AB Molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Standard packaging:16mm tape(EIA-481)
- Approx. Weight: 0.0082 ounces, 0.2325 grams
- Marking: Part number



### Maximum Ratings ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	FR3A	FR3B	FR3D	FR3G	FR3J	FR3K	FR3M	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum rms voltage	$V_{RMS}$	30	7	140	280	420	560	700	V
Maximum dc blocking voltage	$V_R$	50	100	400	400	600	800	1000	V
Maximum average forward rectified current	$I_{F(AV)}$	3							A
Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	100							A
Maximum forward voltage at 3A	$V_F$	1.3							V
Maximum dc reverse current	$I_R$	1							$\mu\text{A}$
at rated dc blocking voltage									
Maximum reverse recovery time (Note 1)	$T_{RR}$	150				250	500	nS	
Maximum junction capacitance (Note 2)	$C_J$	60							pF
Typical thermal resistance (Note 3)	$R_{\theta JL}$	15							$^{\circ}\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-50 to +150							$^{\circ}\text{C}$

NOTES : 1. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$

2. Measured at 1 MHz and applied  $V_R = 4$  volts.

3.  $8\text{mm}^2$  (0.013mm thick) land areas.



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## RATING AND CHARACTERISTIC CURVES

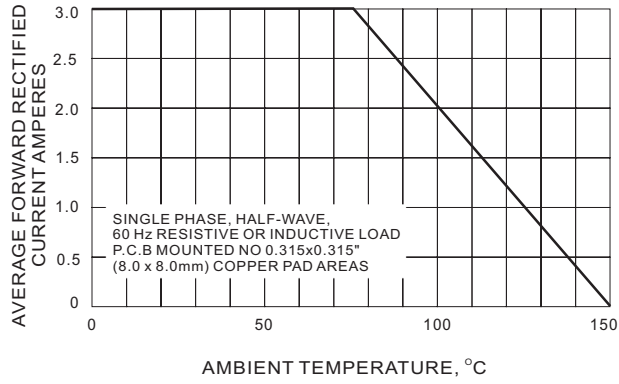


FIG. 1 FORWARD CURRENT DERATING CURVE

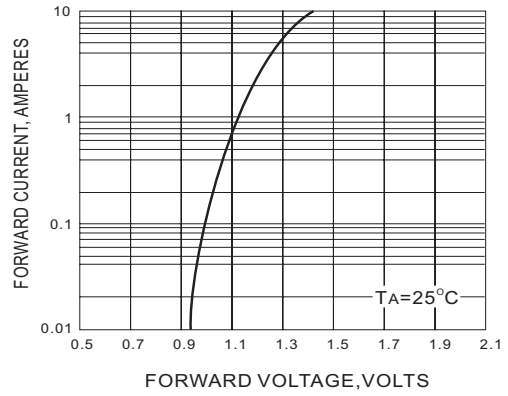


FIG. 2 TYPICAL FORWARD CHARACTERISTIC

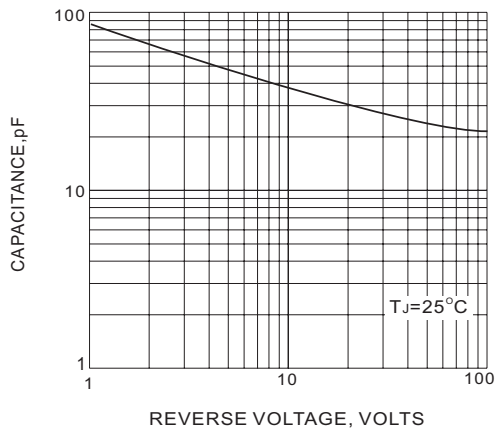


FIG. 3 TYPICAL JUNCTION CAPACITANCE

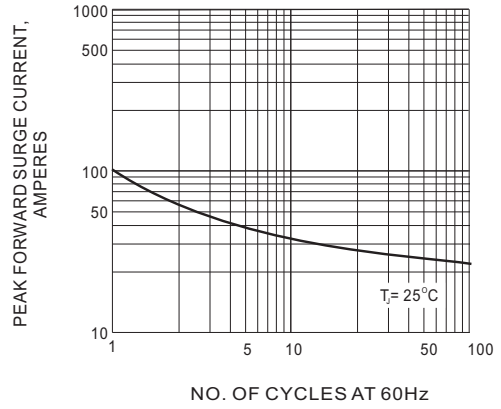


FIG. 4 PEAK FORWARD SURGE CURRENT

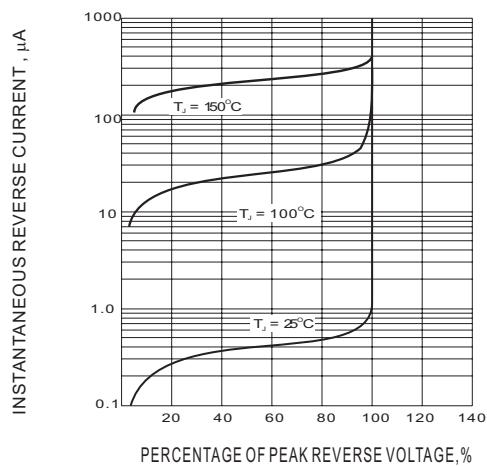
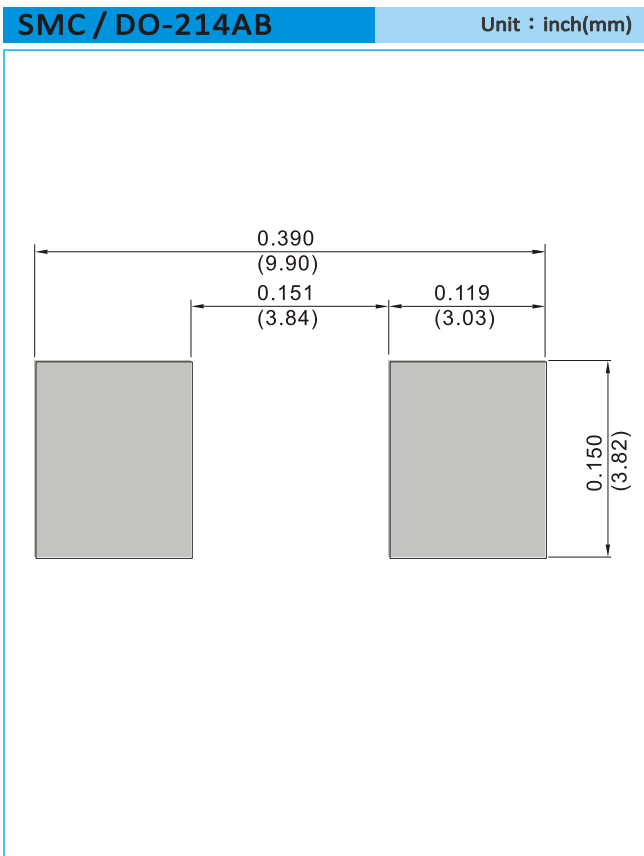


Fig. 5-TYPICAL REVERSE CHARACTERISTIC



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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information
  - T/R – 3K per 13" plastic Reel
  - T/R – 0.8K per 7" plastic Reel



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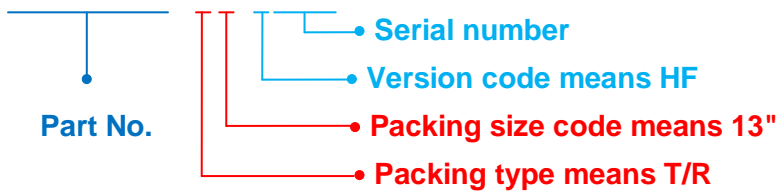
### Part No\_packing code\_Version

FR3A\_R1\_00001

FR3A\_R2\_00001

### For example :

RB500V-40\_R2\_00001



Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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