



# FR3A~FR3M

## FAST SWITCHING SURFACE MOUNT RECTIFIER

**Voltage**

**50~1000 V**

**Current**

**3 A**

**SMC / DO-214AB**

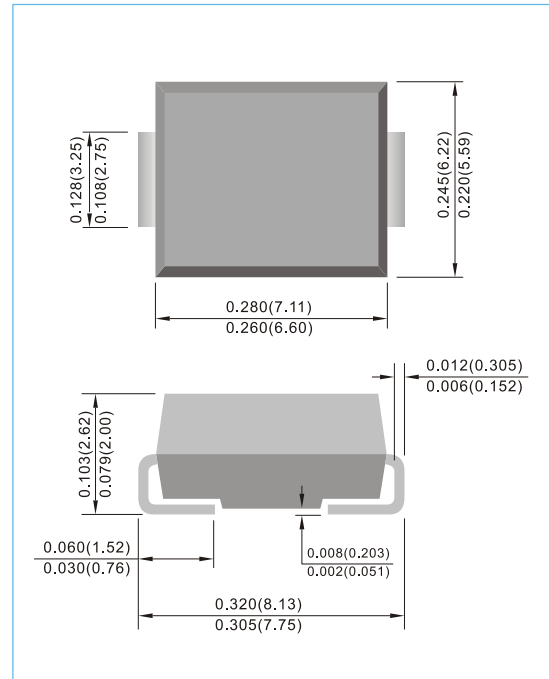
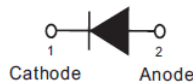
Unit : inch(mm)

### 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 2011/65/EU directive.
- Green molding compound as per IEC61249 Std..(Halogen Free)

### 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.



# FR3A~FR3M

## RATING AND CHARACTERISTIC CURVES

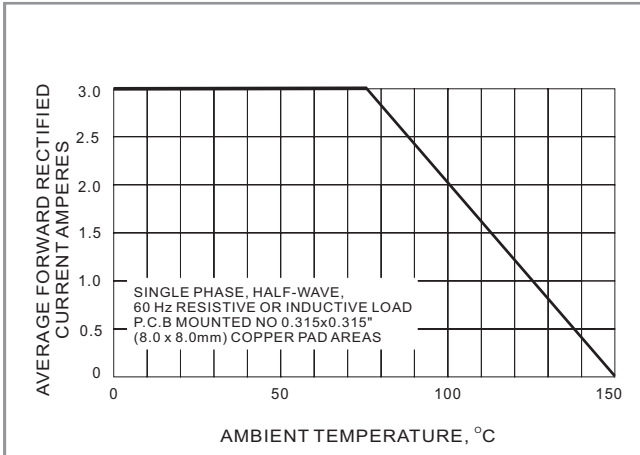


FIG. 1 FORWARD CURRENT DERATING CURVE

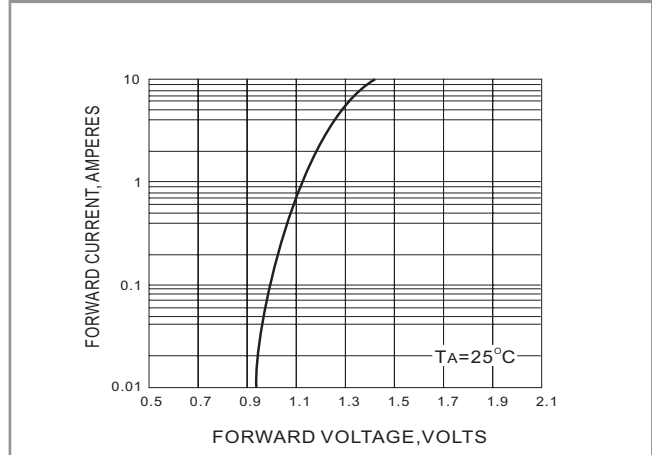


FIG. 2 TYPICAL FORWARD CHARACTERISTIC

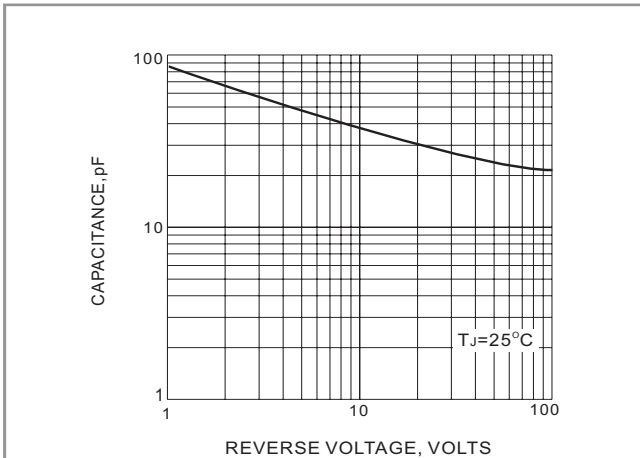


FIG. 3 TYPICAL JUNCTION CAPACITANCE

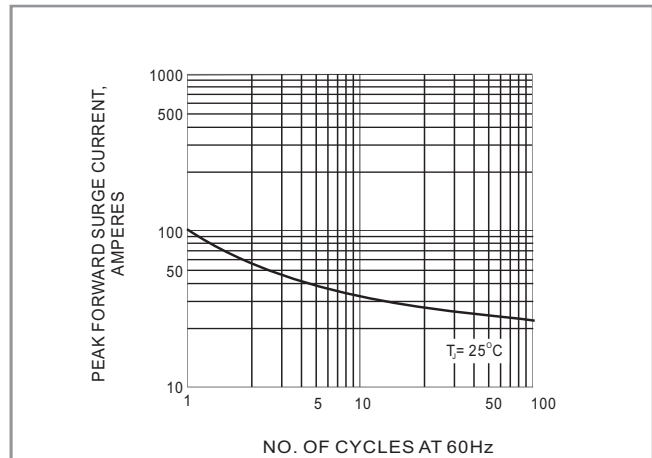


FIG. 4 PEAK FORWARD SURGE CURRENT

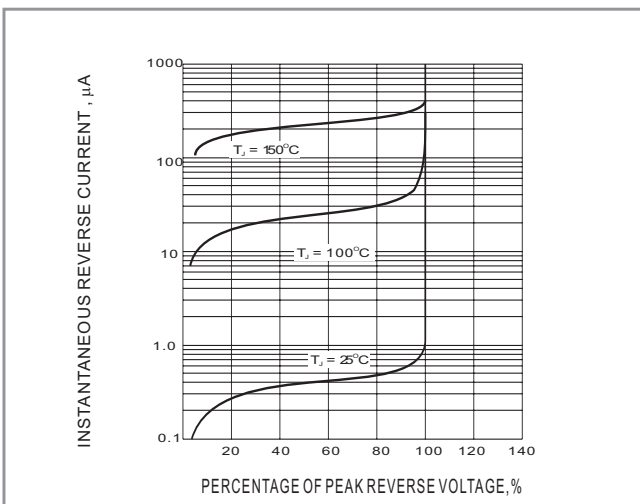
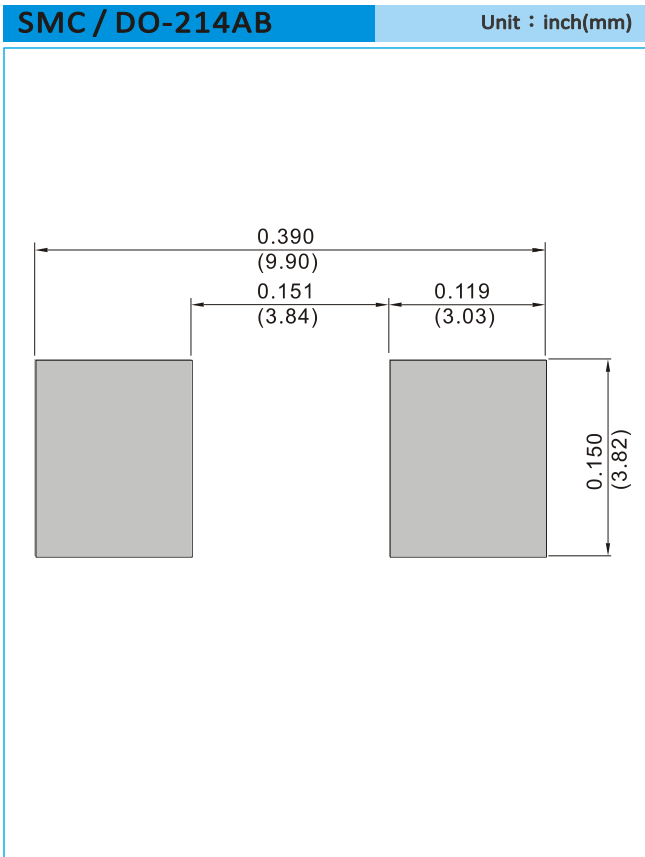


Fig. 5-TYPICAL REVERSE CHARACTERISTIC



# FR3A~FR3M

## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information  
T/R – 3K per 13" plastic Reel  
T/R – 0.5K per 7" plastic Reel



## FR3A~FR3M

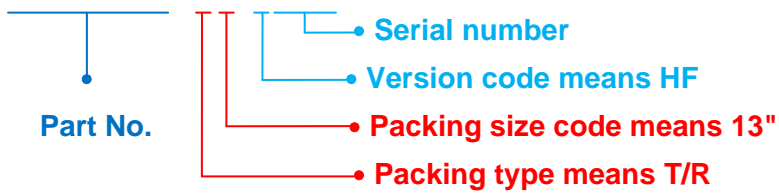
### Part No\_packing code\_Version

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			



## FR3A~FR3M

### Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.