



FR3A~FR3M

FAST SWITCHING SURFACE MOUNT RECTIFIER

Voltage

50~1000 V

Current

3 A

SMC / DO-214AB

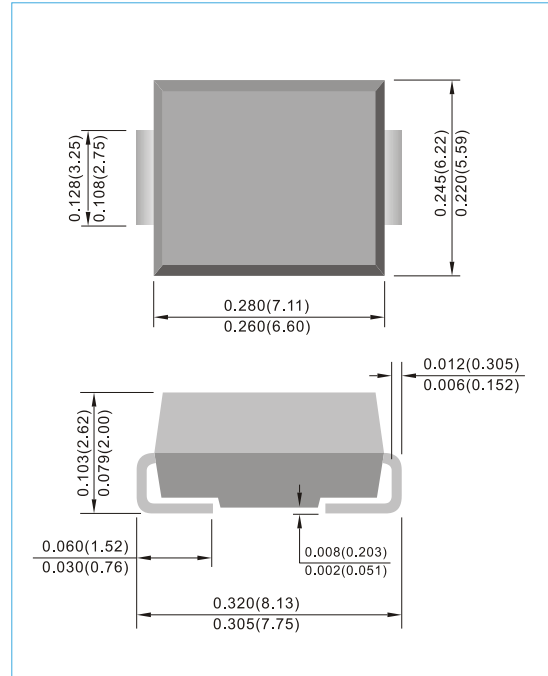
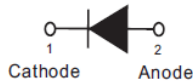
Unit : inch(mm)

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							μA
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. 8mm^2 (0.013mm thick) land areas.



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RATING AND CHARACTERISTIC CURVES

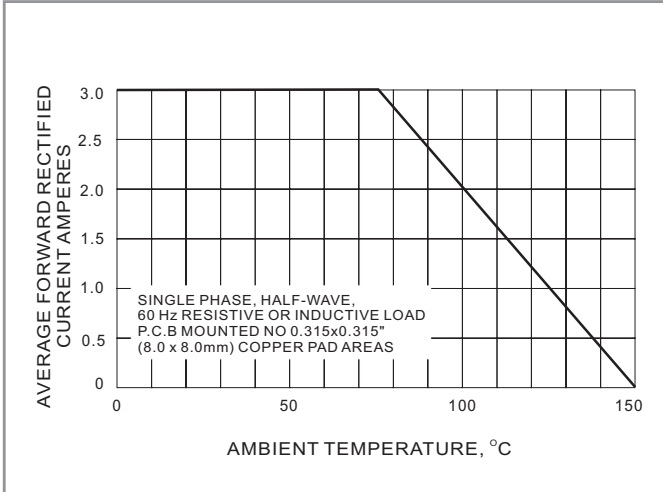


FIG. 1 FORWARD CURRENT DERATING CURVE

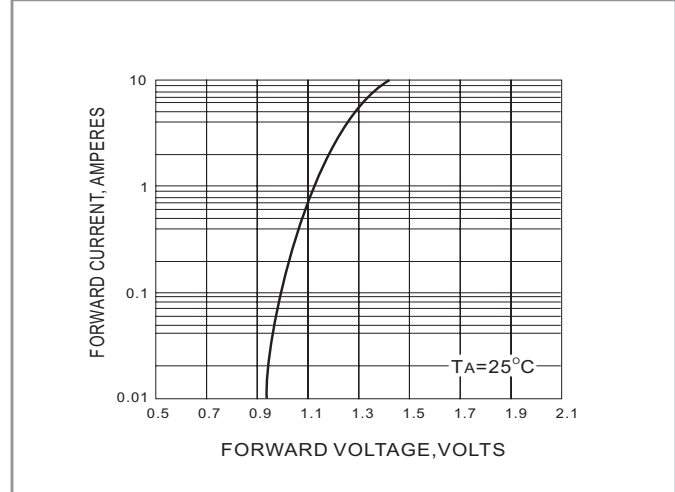


FIG. 2 TYPICAL FORWARD CHARACTERISTIC

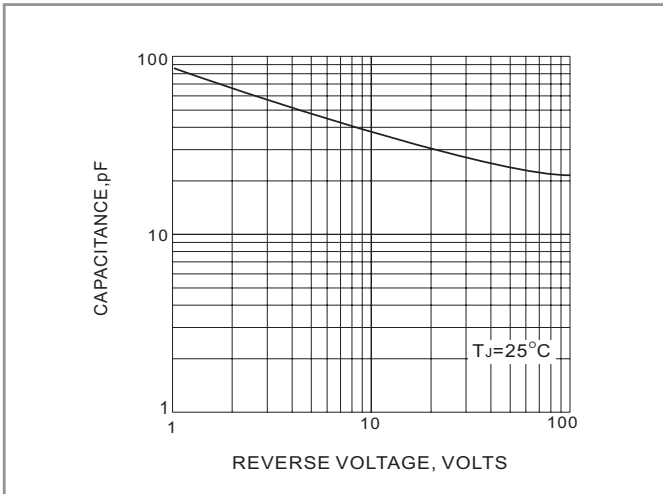


FIG. 3 TYPICAL JUNCTION CAPACITANCE

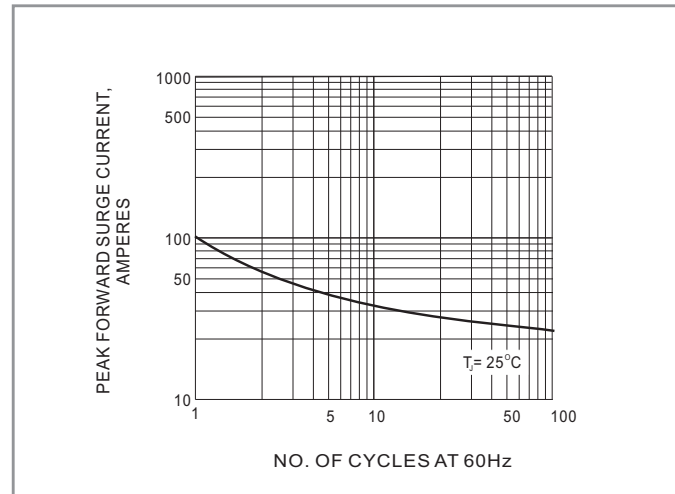


FIG. 4 PEAK FORWARD SURGE CURRENT

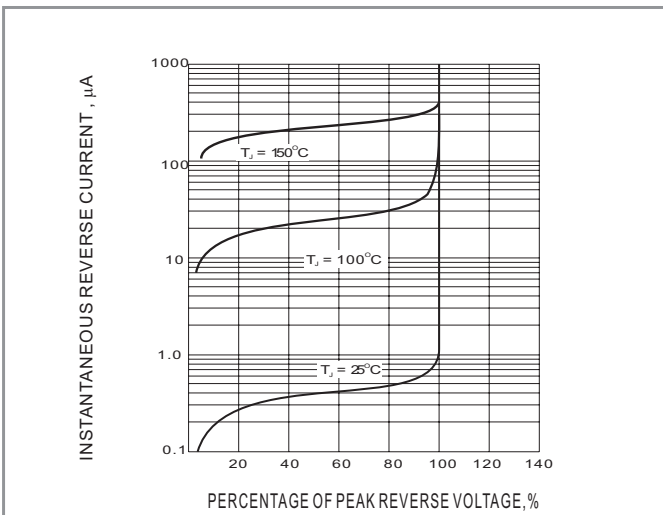
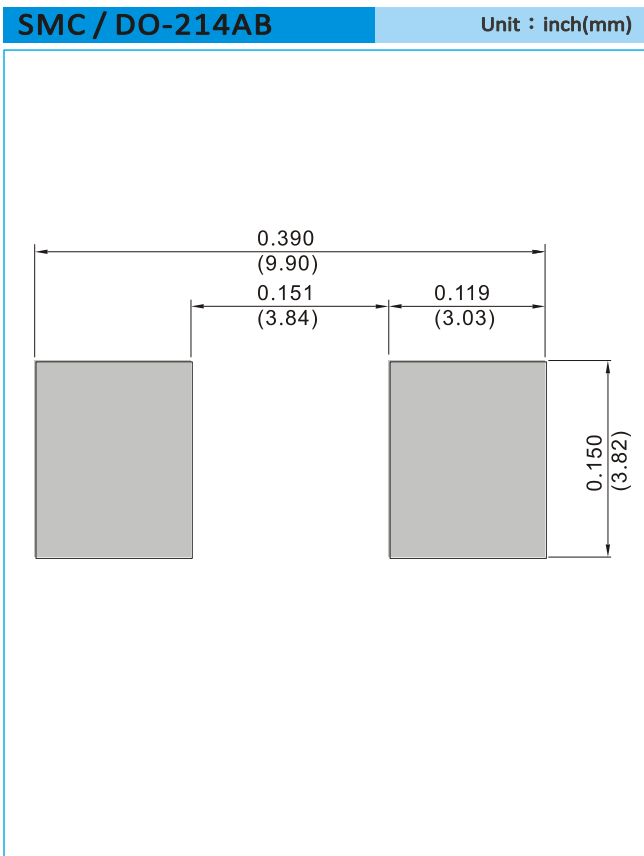


Fig. 5-TYPICAL REVERSE CHARACTERISTIC



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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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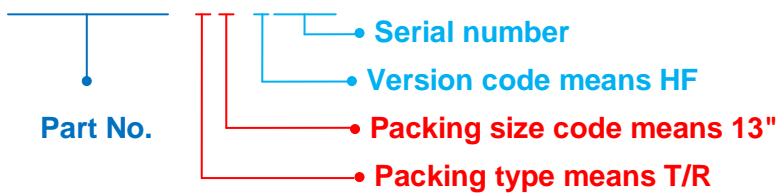
Part No_packing code_Version

FR3A_R1_00001

FR3A_R2_00001

For example :

RB500V-40_R2_00001



Packing Code XX				Version Code XXXXX		
Packing type	1 st Code	Packing size code	2 nd Code	HF or RoHS	1 st Code	2 nd ~5 th 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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