



# ER1AF SERIES

## SURFACE MOUNT SUPERFAST RECTIFIER

**VOLTAGE** 50-600 Volts **CURRENT** 1 Ampere

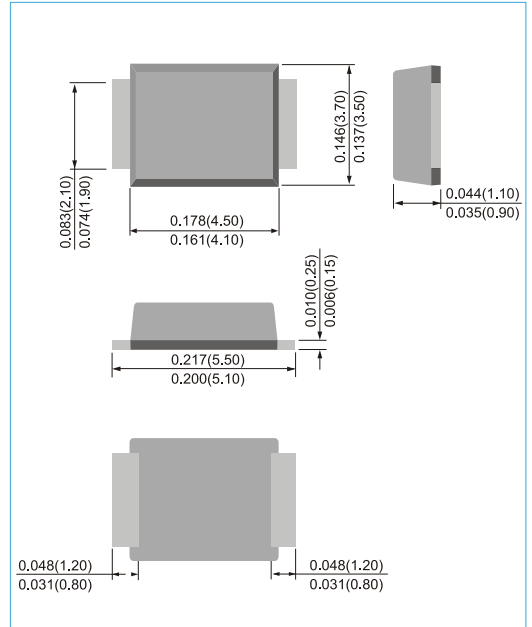
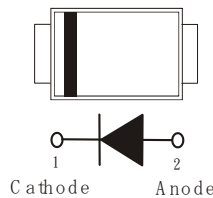
**SMBF** Unit : inch(mm)

### FEATURES

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Superfast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated junction
- Lead free in comply with EU RoHS 2002/95/EC directives.
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

- Case: SMBF molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0018 ounces, 0.05 grams
- Polarity : Color band denotes cathode end



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

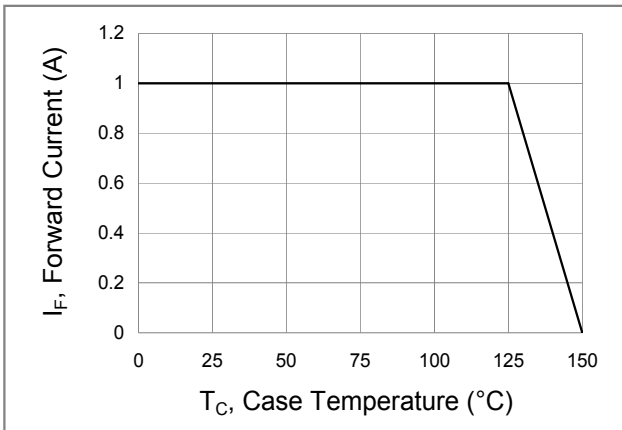
PARAMETER	SYMBOL	ER1AF	ER1BF	ER1CF	ER1DF	ER1EF	ER1GF	ER1JF	UNITS
Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	600	V
RMS Voltage	V <sub>RMS</sub>	35	70	105	140	210	280	420	V
DC Blocking Voltage	V <sub>R</sub>	50	100	150	200	300	400	600	V
Average Forward Current	I <sub>F(AV)</sub>	1							A
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load(JEDEC method)	I <sub>FSM</sub>	30							A
Forward Voltage at 1.0A	V <sub>F</sub>	0.95			1.25		1.7		V
DC Reverse Current at Rated DC Blocking Voltage T <sub>J</sub> =25°C	I <sub>R</sub>	1							μA
Typical Junction capacitance V <sub>R</sub> =4V,f=1MHz	C <sub>J</sub>	20			15		11		pF
Typical Thermal Resistance ,Junction to Lead (Note 1) Junction to Ambient (Note 2)	R <sub>θJL</sub> R <sub>θJA</sub>	20 135					°C / W		
Reverse Recovery Time (I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A,I <sub>tr</sub> =0.25A)	T <sub>rr</sub>	35							ns
Operating Junction Temperature and Storage Temperature Range	T <sub>J</sub> ,T <sub>STG</sub>	-55 to +150							°C

NOTES : 1. Mounted on an FR4 PCB, single-sided copper, with 100cm<sup>2</sup> copper pad area  
2. Mounted on an FR4 PCB, single-sided copper, mini pad.

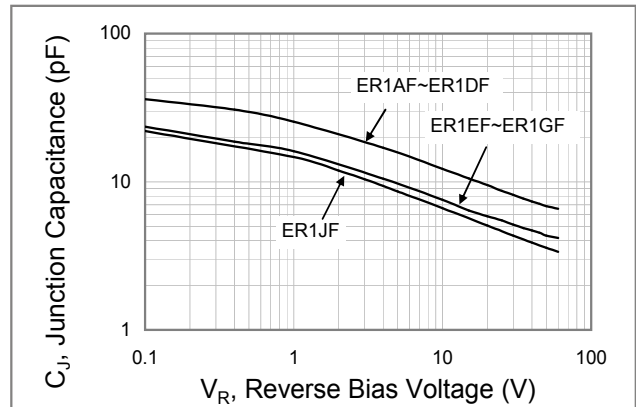


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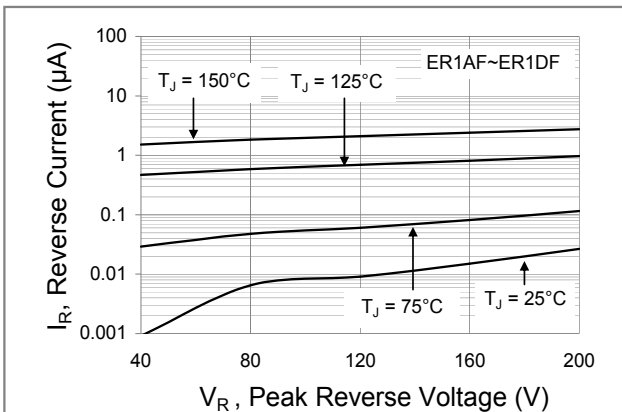
## RATING AND CHARACTERISTIC CURVES



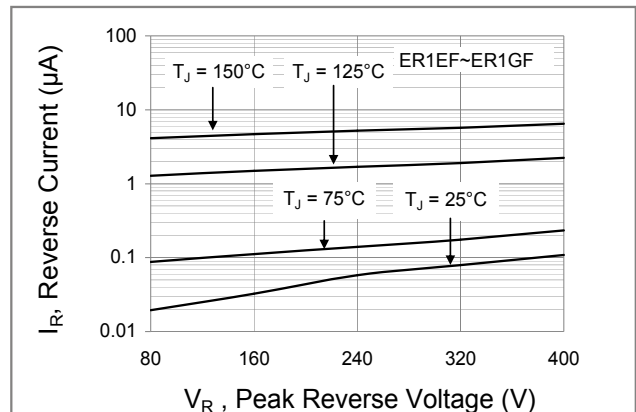
**Fig.1 Forward Current Derating Curve**



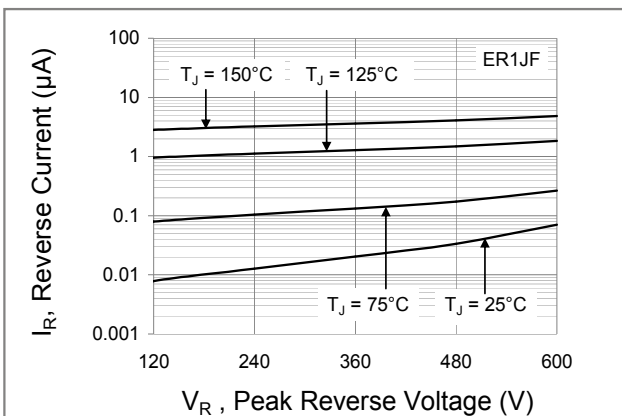
**Fig.2 Typical Junction Capacitance**



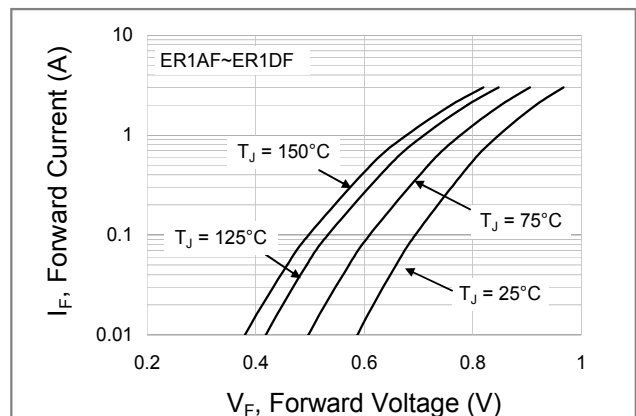
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Reverse Characteristics**



**Fig.5 Typical Reverse Characteristics**



**Fig.6 Typical Forward Characteristics**



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## RATING AND CHARACTERISTIC CURVES

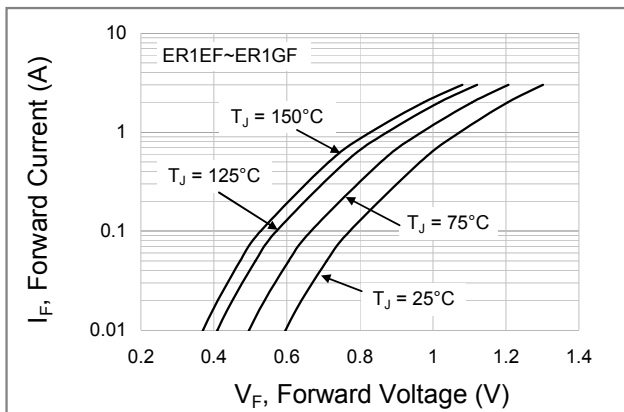


Fig.7 Typical Forward Characteristics

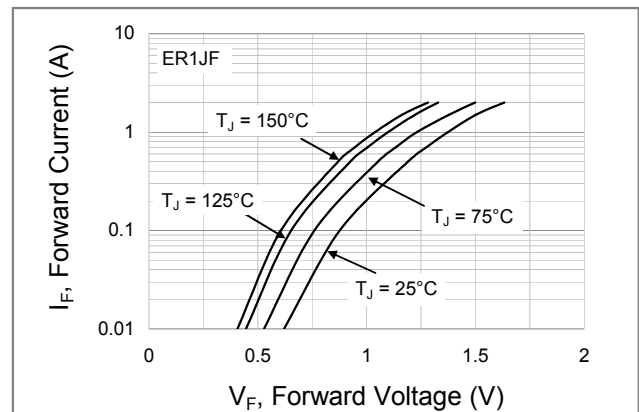
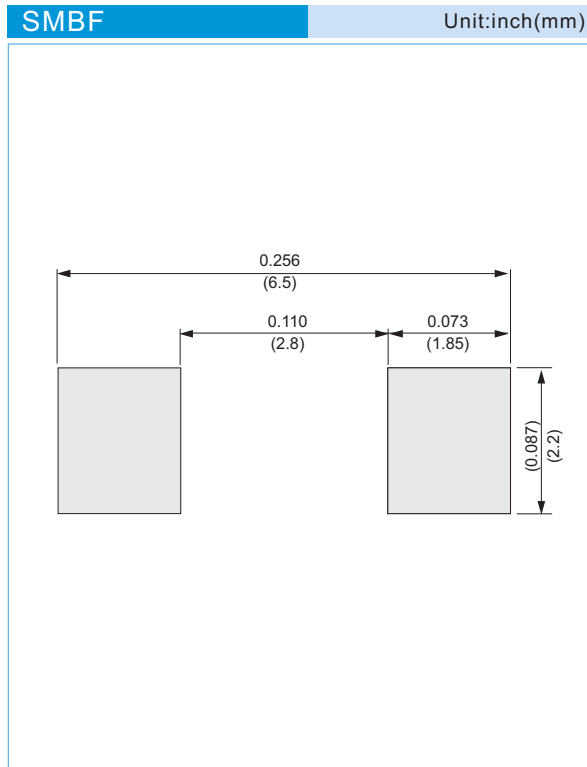


Fig.8 Typical Forward Characteristics

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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information  
T/R - 5K per 13" plastic Reel



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Part No\_packing code\_Version

ER1AF\_R2\_00001

For example :

**RB500V-40** **R2** **00001**

Part No.

Serial number

Version code means HF

Packing size code means 13"

Packing type means T/R

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)	<b>A</b>	N/A	<b>0</b>	<b>HF</b>	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	<b>RoHS</b>	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



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