

ES1AF SERIES

SURFACE MOUNT SUPERFAST RECTIFIER

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

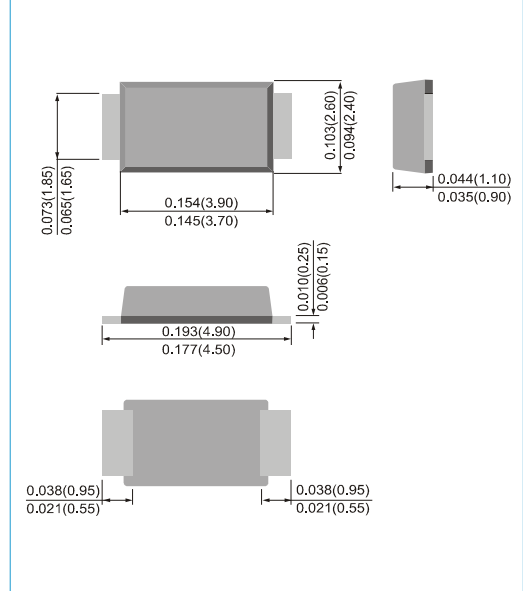
SMAF Unit : inch(mm)

FEATURES

- For surface mounted applications
- Low profile package
- Easy pick and place
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Superfast recovery times for high efficiency
- Glass Passivated Chip Junction
- Ultra Thin Profile Package for Space Constrained Utilization
- Package suitable for Automated Handling
- Lead free in comply with EU RoHS 2002/95/EC directives.
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

- Case: SMAF molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Approx. Weight : 0.00116 ounces, 0.0328 grams



Searchdatasheet.com



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

| PARAMETER | SYMBOL | ES1AF | ES1BF | ES1CF | ES1DF | ES1EF | ES1GF | ES1JF | UNITS |
|----------------------------------------------------------------------------------------------------|--------------------------------------|-------------|-------|-------|-------|-------|-------|-------|--------|
| Recurrent Peak Reverse Voltage | V _{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| RMS Voltage | V _{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 420 | V |
| DC Blocking Voltage | V _R | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Average Forward Current | I _{F(AV)} | 1 | | | | | | | A |
| Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | I _{FSM} | 30 | | | | | | | A |
| Forward Voltage at 1A | V _F | 0.95 | | | | 1.25 | | 1.7 | V |
| DC Reverse Current at Rated DC Blocking Voltage T _J =25°C | I _R | 1 | | | | | | | μA |
| Typical Junction Capacitance V _R =4V,1MHz | C _J | 15 | | | | | | | pF |
| Typical Thermal Resistance, Junction to Lead (Note 1) Junction to Ambient (Note 2) | R _{θJL} R _{θJA} | 24 150 | | | | | | | °C / W |
| Reverse Recovery Time at I _F =0.5A,I _R =1A,I _{RR} =0.25A | trr | 35 | | | | | | | nS |
| Operating Junction Temperature and Storage Temperature Range | T _J ,T _{STG} | -55 to +150 | | | | | | | °C |

NOTES : 1. Mounted on an FR4 PCB, single-sided copper, with 48cm² copper pad area
2. Mounted on an FR4 PCB, single-sided copper, mini pad.

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RATING AND CHARACTERISTIC CURVES

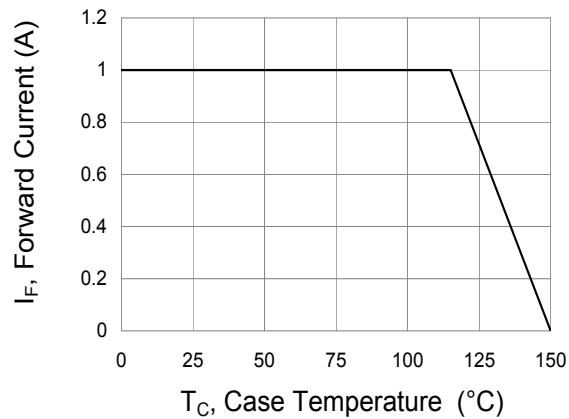


Fig.1 Forward Current Derating Curve

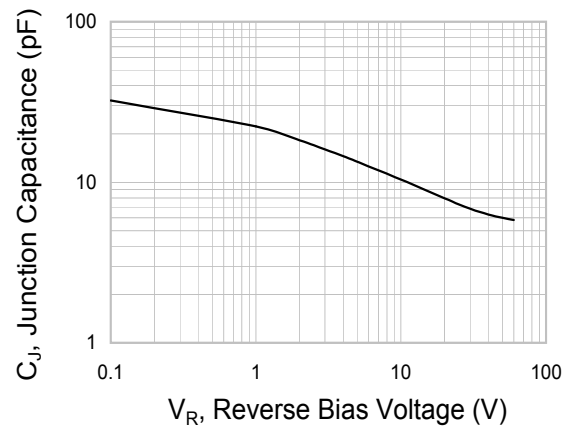


Fig.2 Typical Junction Capacitance

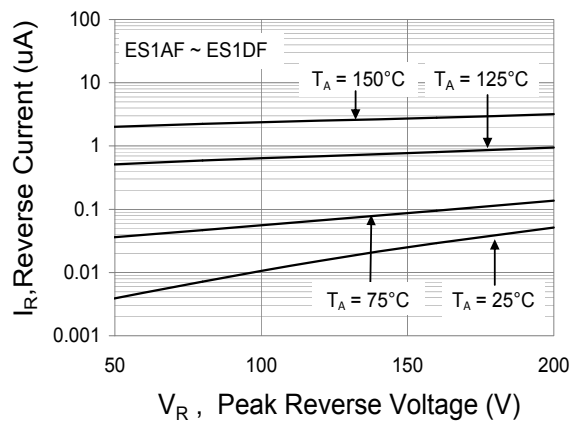


Fig.3 Typical Reverse Characteristics

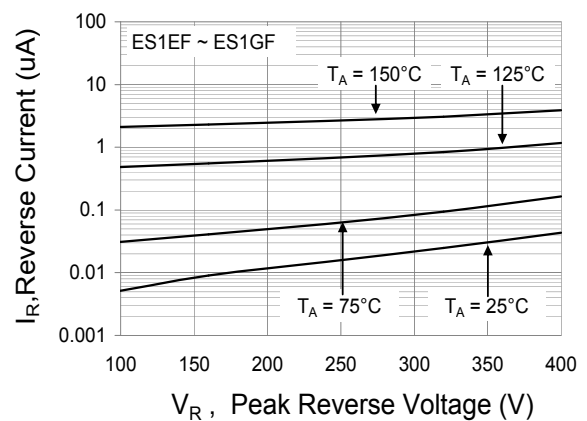


Fig.4 Typical Reverse Characteristics

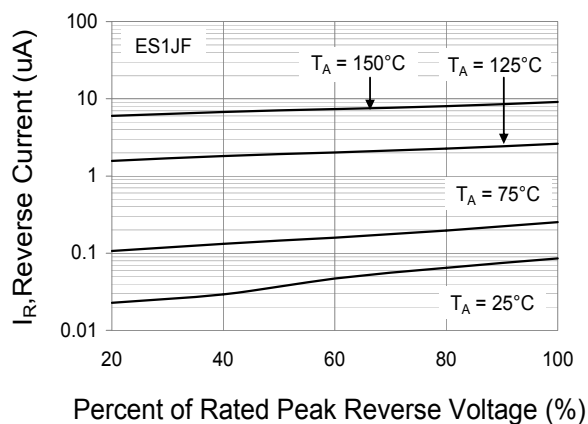


Fig.5 Typical Reverse Characteristics

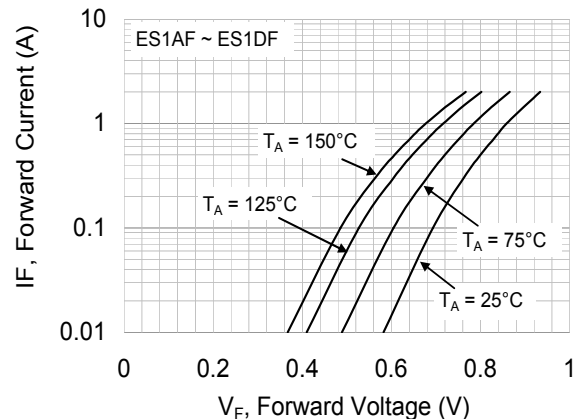


Fig.6 Typical Forward Characteristics

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RATING AND CHARACTERISTIC CURVES

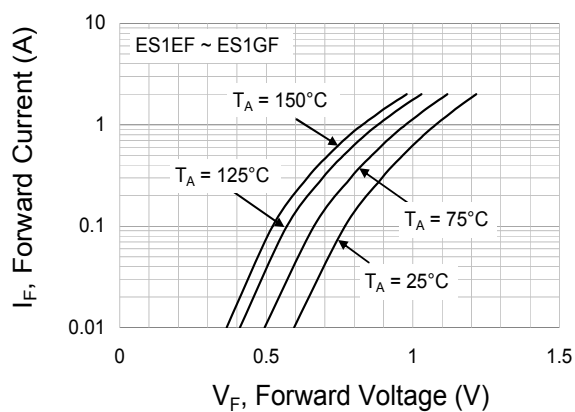


Fig.7 Typical Forward Characteristics

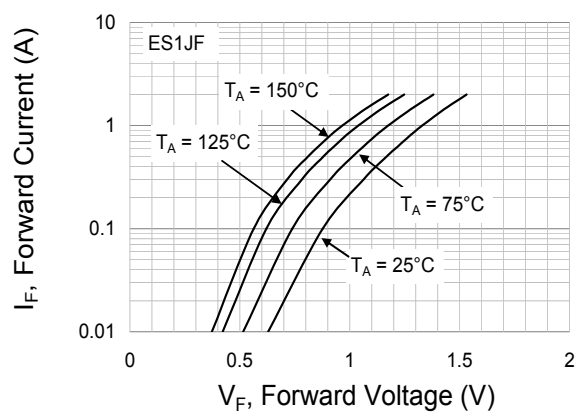
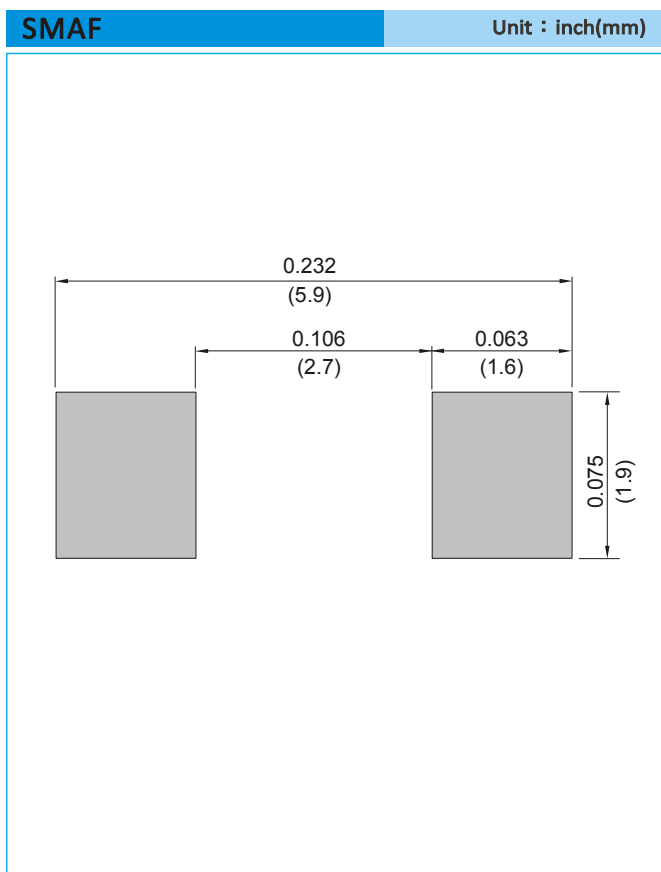


Fig.8 Typical Forward Characteristics

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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
 - T/R - 10K per 13" plastic Reel
 - T/R - 3K per 7" plastic Reel

ES1AF SERIES

Part No_packing code_Version

ES1AF_R1_00001

ES1AF_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 XX | | | | Version Code XXXXXX | | |
|--------------------------------------|----------------------|----------------------------------|----------------------|----------------------------|----------------------|---------------------------------------|
| 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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