

# UF1A THRU UF1K

## SURFACE MOUNT ULTRAFAST RECTIFIER

VOLTAGE - 50 to 800 Volts CURRENT - 1.0 Ampere

### FEATURES

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated junction
- High temperature soldering:  
260 °C/10 seconds at terminals

### MECHANICAL DATA

Case: JEDEC DO-214AA molded plastic

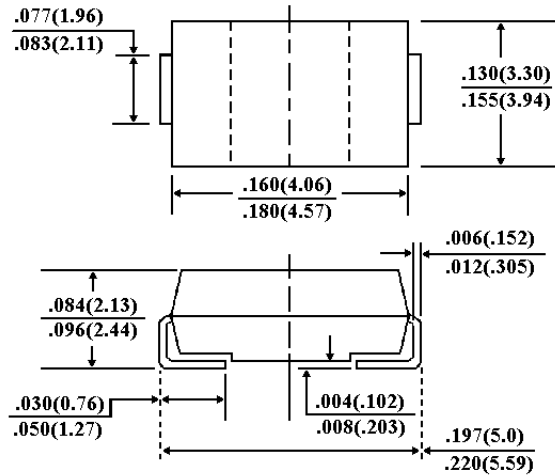
Terminals: Solder plated, solderable per MIL-STD-750,  
Method 2026

Polarity: Indicated by cathode band

Standard packaging: 12mm tape (EIA-481)

Weight: 0.003 ounce, 0.093 gram

### SMB/DO-214AA



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.

Resistive or inductive load.

For capacitive load, derate current by 20%.

|                                                                                                                       | SYMBOLS                           | UF1A        | UF1B | UF1D | UF1G | UF1J  | UF1K | UNITS |
|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------|------|------|------|-------|------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                                                | V <sub>RRM</sub>                  | 50          | 100  | 200  | 400  | 600   | 800  | Volts |
| Maximum RMS Voltage                                                                                                   | V <sub>RMS</sub>                  | 35          | 70   | 140  | 280  | 420   | 560  | Volts |
| Maximum DC Blocking Voltage                                                                                           | V <sub>DC</sub>                   | 50          | 100  | 200  | 400  | 600   | 800  | Volts |
| Maximum Average Forward Rectified Current, at T <sub>L</sub> =100 ºC                                                  | I <sub>(AV)</sub>                 | 1.0         |      |      |      |       |      | Amps  |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load(JEDEC method) T <sub>A</sub> =55 ºC | I <sub>FSM</sub>                  | 30.0        |      |      |      |       |      | Amps  |
| Maximum Instantaneous Forward Voltage at 1.0A                                                                         | V <sub>F</sub>                    | 1.0         |      |      | 1.4  | 1.7   |      | Volts |
| Maximum DC Reverse Current T <sub>A</sub> =25 ºC<br>At Rated DC Blocking Voltage T <sub>A</sub> =100 ºC               | I <sub>R</sub>                    | 10.0<br>100 |      |      |      |       |      | µg A  |
| Maximum Reverse Recovery Time (Note 1) T <sub>J</sub> =25 ºC                                                          | T <sub>RR</sub>                   | 50.0        |      |      |      | 100.0 |      | nS    |
| Typical Junction capacitance (Note 2)                                                                                 | C <sub>J</sub>                    | 17.0        |      |      |      |       |      | pF    |
| Maximum Thermal Resistance (Note 3)                                                                                   | R £KJL                            | 30          |      |      |      |       |      | ºC/W  |
| Operating and Storage Temperature Range                                                                               | T <sub>J</sub> , T <sub>STG</sub> | -50 to +150 |      |      |      |       |      | ºC    |

### NOTES:

1. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$
2. Measured at 1 MHz and Applied reverse voltage of 4.0 volts
3.  $8.0\text{mm}^2$  (.013mm thick) land areas

## RATING AND CHARACTERISTIC CURVES

### UF1A THRU UF1K

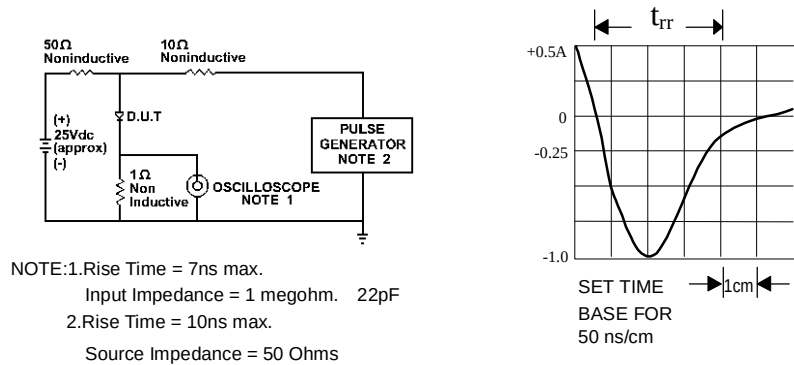


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

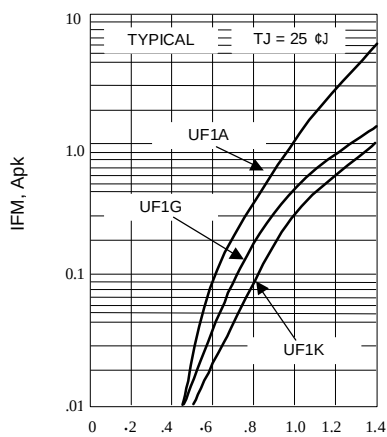


Fig. 2-FORWARD CHARACTERISTICS

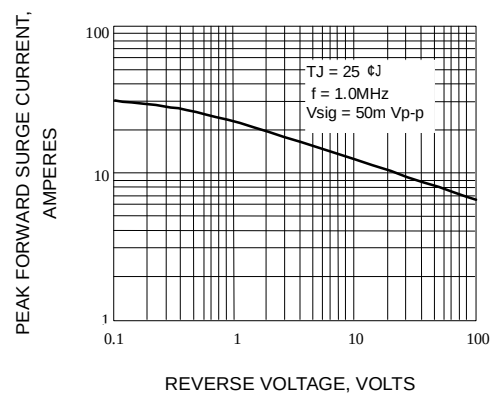


Fig. 3- TYPICAL JUNCTION CAPACITANCE

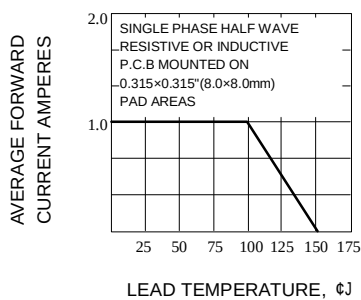


Fig. 4- FORWARD CURRENT DERATING CURVE

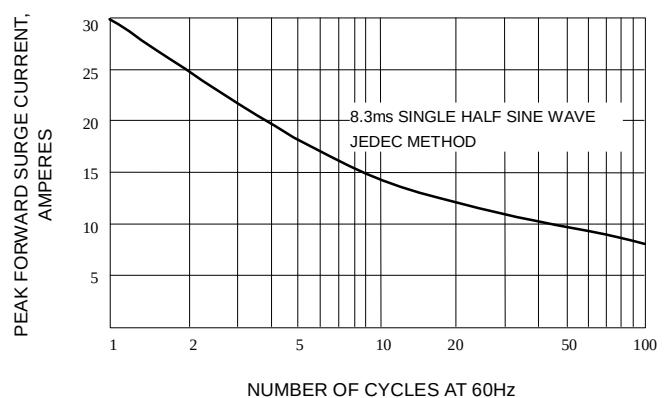


Fig. 5-PEAK FORWARD SURGE CURRENT