



PRELIMINARY

# SOLID STATE DEVICES, INC

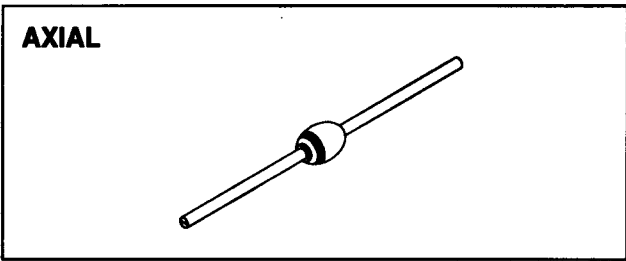
14849 Firestone Boulevard · La Mirada, CA 90638  
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424

## SHM15UF thru SHM140UF

### Designer's Data Sheet

**50-250 mA**  
**1500-14000 VOLTS**  
**60-100 nsec**  
**HIGH VOLTAGE**  
**RECTIFIER**

- FEATURES:**
- Ultra Fast Recovery: 60-100 nsec Maximum
  - PIV to 14000 Volts
  - Hermetically Sealed
  - Void-Free Construction
  - Metallurgically bonded
  - 175°C Maximum Operating Temperature
  
  - TX, TXV and Space Level Screening Available



### ELECTRICAL CHARACTERISTICS

| Part Number | Peak Inverse Voltage | Average Rectified Current |          | Maximum Reverse Current @ PIV |          | Maximum Forward Voltage @ 55°C IO | Maximum Surge Current 1 Cycle | Maximum Reverse Recovery Time | Maximum Junction Capacitance | Typical Thermal Impedance |
|-------------|----------------------|---------------------------|----------|-------------------------------|----------|-----------------------------------|-------------------------------|-------------------------------|------------------------------|---------------------------|
| SYMBOL      | PIV                  | IO                        |          | IR                            |          | VF                                | IFSM                          | trr                           | CJ, fT=1MHz                  | θJL                       |
| UNITS       | Volts                | 25°C mA                   | 100°C mA | 25°C μA                       | 100°C μA | 25°C Volts                        | 25°C Amps                     | 25°C nsec                     | @ 100 Volts pf               | L=3/8" °C/W               |
| SHM15UF     | 1500                 | 250                       | 145      | 1.0                           | 25       | 10                                | 15                            | 60                            | 8                            | 65                        |
| SHM20UF     | 2000                 | 250                       | 145      | 1.0                           | 25       | 10                                | 15                            | 60                            | 8                            | 65                        |
| SHM25UF     | 2500                 | 250                       | 145      | 1.0                           | 25       | 10                                | 15                            | 60                            | 8                            | 65                        |
| SHM30UF     | 3000                 | 150                       | 90       | 1.0                           | 25       | 14                                | 10                            | 60                            | 4                            | 65                        |
| SHM40UF     | 4000                 | 150                       | 90       | 1.0                           | 25       | 14                                | 10                            | 60                            | 4                            | 65                        |
| SHM50UF     | 5000                 | 150                       | 90       | 1.0                           | 25       | 14                                | 10                            | 60                            | 4                            | 65                        |
| SHM60UF     | 6000                 | 100                       | 60       | 1.0                           | 25       | 20                                | 5                             | 60                            | 2                            | 65                        |
| SHM80UF     | 8000                 | 100                       | 60       | 1.0                           | 25       | 20                                | 5                             | 60                            | 2                            | 65                        |
| SHM100UF    | 10000                | 100                       | 60       | 1.0                           | 25       | 20                                | 5                             | 60                            | 2                            | 65                        |
| SHM120UF    | 12000                | 100                       | 60       | 1.0                           | 25       | 22                                | 5                             | 60                            | 2                            | 65                        |
| SHM140UF    | 14000                | 50                        | 30       | 1.0                           | 25       | 26                                | 1                             | 100                           | 2                            | 95                        |

- NOTES:**
1. Operating and testing over 10,000 V/inch may require encapsulation or immersion in a suitable dielectric material.
  2. Max. forward voltage measured with instantaneous forward pulse of 300usec minimum.
  3. Max. lead temp. for soldering is 250°C, 3/8" from the case for 5 sec maximum.
  4. Operating and storage temperature: -65°C to +175°C
  5. Reverse Recovery Test Conditions: IF=50mA, IR=100mA, IRR=25mA, TA=25°C

NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.

**DATA SHEET #: RV0015 A**

**RMD**

# SHM15UF thru SHM140UF

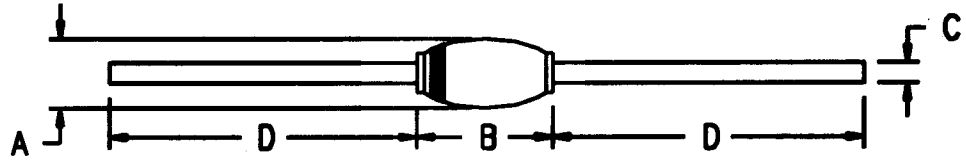
PRELIMINARY



SOLID STATE DEVICES, INC

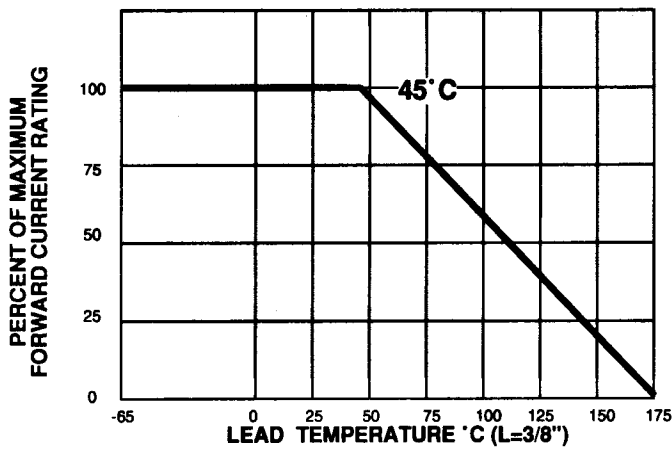
14849 Firestone Boulevard · La Mirada, CA 90638  
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424

PACKAGE OUTLINE:

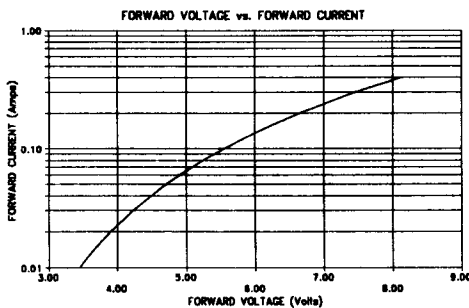
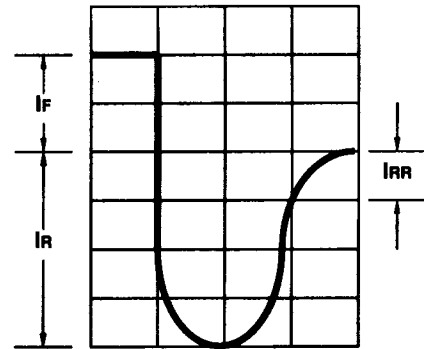


| Part Number | DIM. A |       | DIM. B |       | DIM. C |       | DIM. D |     |
|-------------|--------|-------|--------|-------|--------|-------|--------|-----|
|             | MIN    | MAX   | MIN    | MAX   | MIN    | MAX   | MIN    | MAX |
| SHM15-50UF  | ---    | .140" | ---    | .300" | .025"  | .033" | 1.0"   | --- |
| SHM60-140UF | ---    | .140" | ---    | .400" | .025"  | .033" | 1.0"   | --- |

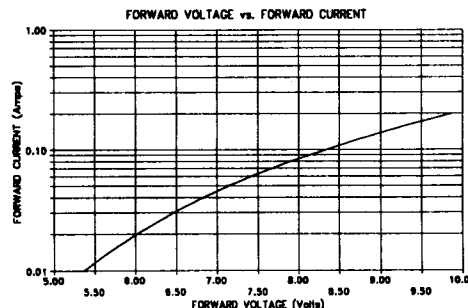
## TYPICAL OPERATING CURVES



### REVERSE RECOVERY WAVE FORM



SHM15UF-SHM25UF



SHM30UF-SHM50UF

For VF curves on SHM60UF - SHM100UF please contact SSDI.