# Surface Mount High Voltage Diodes

SMU9003JS SMU9003GS

900mA 3.0kV 60nS

## INTRODUCE:

HVGT high voltage silicon rectifier diodes is made of high quality glass passivated chip and high reliability epoxy resin sealing structure, and through professional testing equipment inspection qualified after to customers.

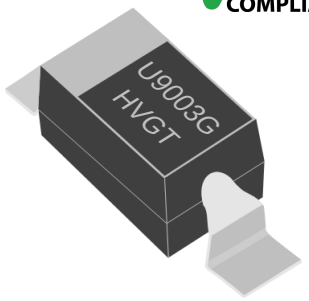
## FEATURES:

- Design of glass passivation chip(GPP).
- Fast recovery time.
- J Lead or Gullwing Package Option.
- Medium current design.
- Surface Mount Package.
- Epoxy resin molded in vacuum.
- Have anticorrosion in the surface.
- ANSI/UL94 V-0 rated material.

## REFERENCE SHAPE:

RoHS COMPLIANT


SMA-JS




SMA-GS

HVGT SEMI Package Naming:

## APPLICATIONS:

- Detecting equipment.
- General purpose high voltage rectifier.
- X-ray voltage doubling circuit.
- Automotive Electronics.

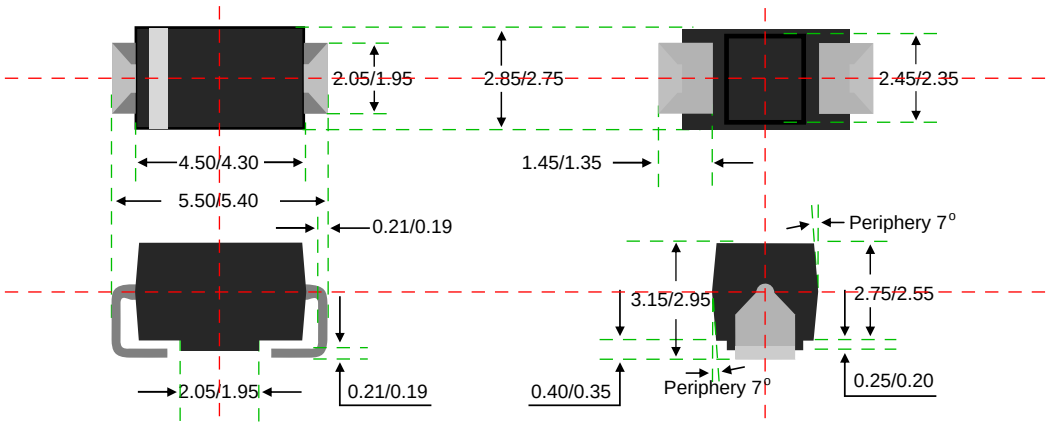
## MECHANICAL DATA:

- Case: Epoxy resin molding.
- Terminal: Surface mount welding.
- Net weight: 0.09 grams (approx).

## PACKAGE SIZE:

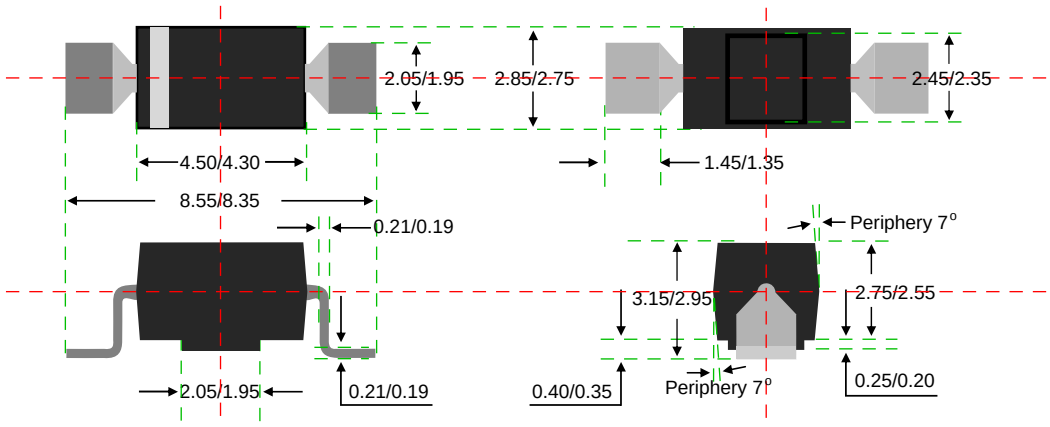
### SMA-JS Series

SMA-J Lead




### SMA-GS Series

SMA-G Lead




Center line Boundary line Unit: mm Value: Max / Min

VERSION: 2026

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## MAXIMUM RATINGS AND CHARACTERISTICS: (Ta=25° C, Ambient temperature unless stated otherwise.)

| HVGT Part Number | $V_{RRM}$ kV | $I_{FAVM1}$ mA | $I_{FAVM2}$ mA | $V_{FM}$ V | $I_{R1}$ uA | $I_{R2}$ uA | $I_{FSM}$ A | $T_{RR}$ nS | $C_J$ pF | $R_{\theta JL}$ ° C/W |
|---|---|---|---|---|---|---|---|---|---|---|
| SMU9003JS | 3.0 | 900 | 350 | 3.7 | 0.5 | 20 | 10 | 60 | 6.0 | 30 |
| SMU9003GS | 3.0 | 900 | 350 | 3.7 | 0.5 | 20 | 10 | 60 | 6.0 | 30 |

## SPECIFICATION DEFINITIONS:

| Items | Symbols | Condition |
|---|---|---|
| Maximum Repetitive Reverse Voltage | $V_{RRM}$ | -- |
| Maximum Average Forward Current | $I_{FAVM1}$ | 60Hz half-sine wave; Resistance load; TL= 55° C |
| Maximum Average Forward Current | $I_{FAVM2}$ | 60Hz half-sine wave; Resistance load; TL= 100° C |
| Maximum Leakage Current | $I_{R1}$ | A t $V_{RRM}$ ; Ta=25° C |
| Maximum Leakage Current | $I_{R2}$ | A t $V_{RRM}$ ; Ta=100° C |
| Maximum Forward Voltage Drop | $V_{FM}$ | A t 100mA |
| Maximum Surge Current | $I_{FSM}$ | A t 60Hz; 8.3mS; Single Half Sine |
| Maximum Reverse Recovery Time | $T_{RRM}$ | A t $I_F$= 0.5 $I_{FAVM}$; $I_R$ = -$I_{FAVM}$; $I_{RR}$ = -0.25 $I_{FAVM}$ |
| Maximum Junction Capacitance | $C_{JM}$ | A t $V_R$ = 0VDC, f = 1MHz |
| Typical Thermal Resistance Junction to Lead | $R_{\theta JL}$ | Device Mounted on 0.2" x 0.2" (5mm x 5mm) Copper Solder Pads |

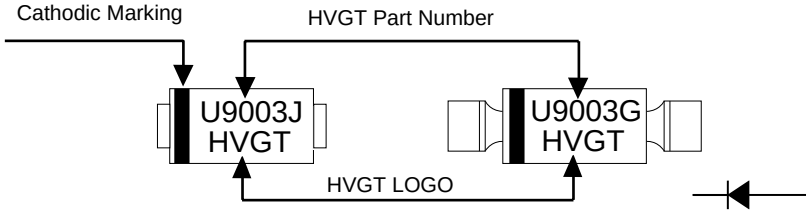
## TEMPERATURE:

Maximum Junction Temperature: 125 ° C

Operating Temperature: -55 to 125 ° C

Storage Temperature: -55 to 150 ° C

## MARKING:




| Part Number | SMU9003JS | SMU9003GS | | |
|---|---|---|---|---|
| Marking | U9003J<br>HVGT | U9003G<br>HVGT | | |

**Note:** Specifications subject to change without notice. Photo is representation only.
Standard package quantity:3,000PCS.



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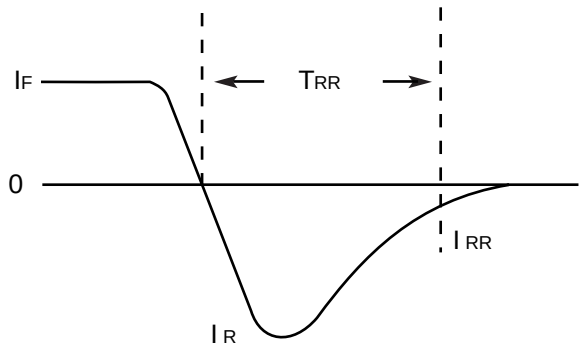
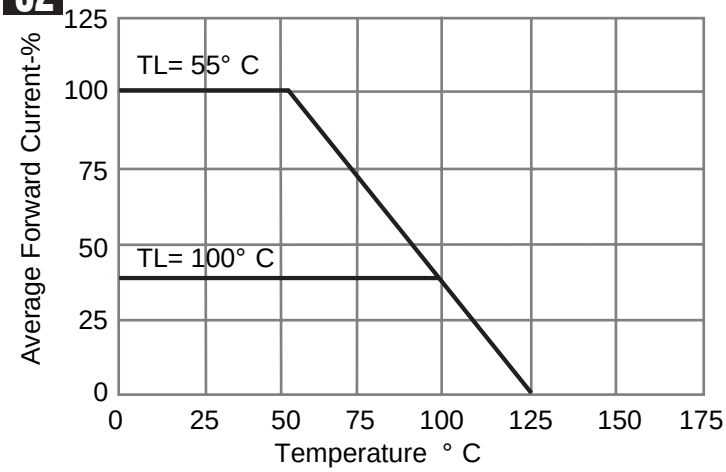
## RATING & CHARACTERISTIC CURVES OF HIGH-VOLTAGE DIODES

### FIGURE 01 Reverse Recovery Measurement Waveform

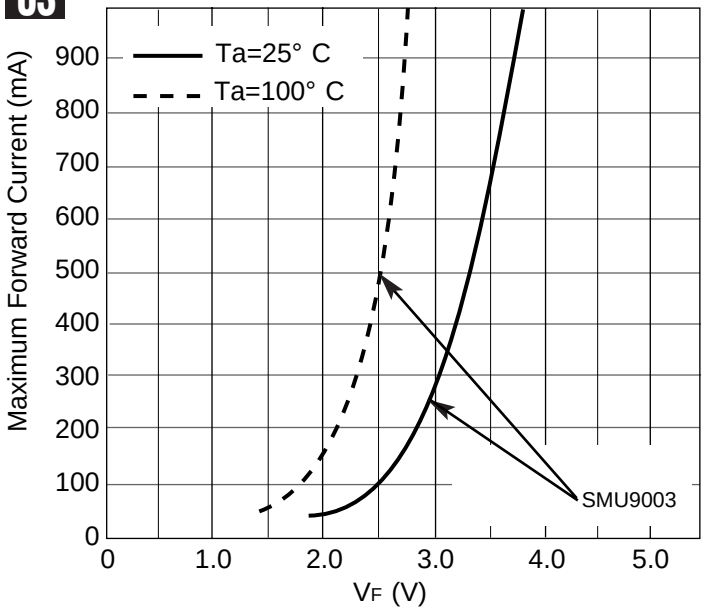



Typical data capture points: $I_F$ =0.5$I_R$ , $I_R$ , $I_{RR}$ =0.25$I_R$
$I_R$ is typically the rated average forward current maximum ($I_{FAVM}$) of the D.U.T

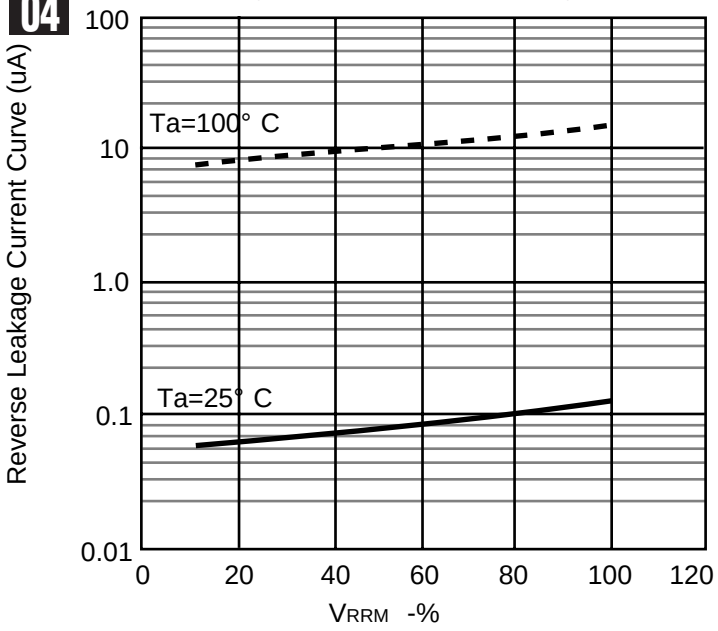
### FIGURE 02 Forward Current Derating Curve



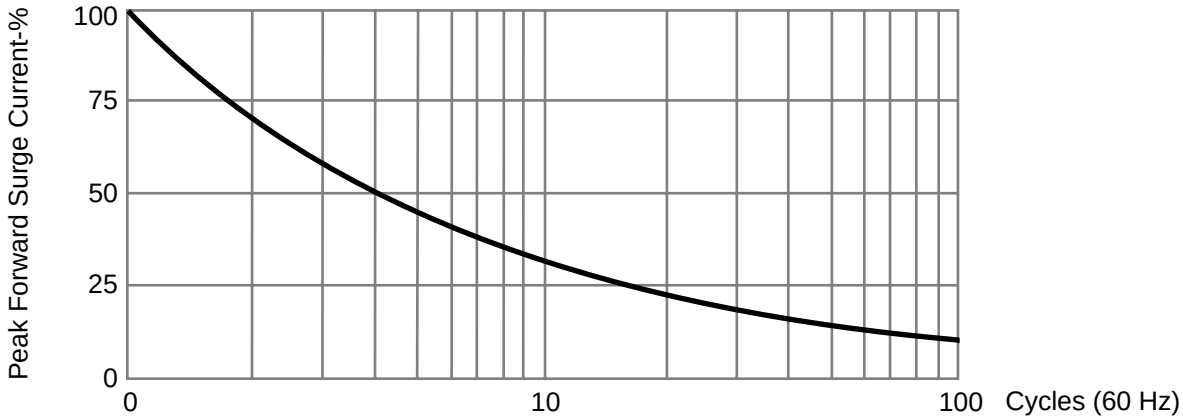

### FIGURE 03 Positive Characteristic Curve




### FIGURE 04 Reverse Leakage Current Curve With Voltage Variation




### FIGURE 05 Repetitive Surge Current Derating Curve




This curve represents the percentage of published maximum surge rating as a function of surge repetition.



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