

## INTRODUCE:

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

## FEATURES:

1. High quality silicon chip construction.
2. Fast recovery time.
3. High voltage and low current design
4. Epoxy resin molded in vacuum.
5. Have anticorrosion in the surface.
6. UL94 V-0 Rated Material.

## APPLICATIONS:

1. Air purification, negative ions.
2. Electrostatic voltage doubling circuit.
3. Copier and X-ray.
4. Other high voltage rectifier circuits.

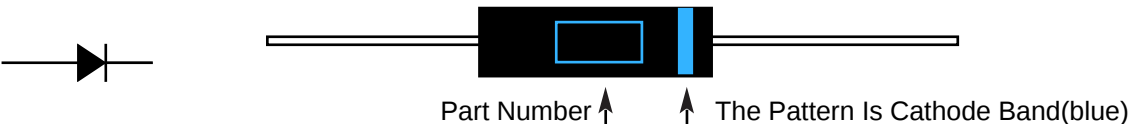
## REFERENCE SHAPE:



## MECHANICAL DATA:

1. Case: Epoxy resin molding.
2. Terminal: Axis soft lead.
3. Net weight: See the P02

## SIMPLIFIED DATA SHEET

| Part No.<br>Items | HV-T69<br>HV-T69A                                                                                                                                  | HV-T70<br>HV-T70A | HV-T71<br>HV-T71A | HV-T72<br>HV-T72A | HV-T73<br>HV-T73A | HV-T74<br>HV-T74A | HV-T75<br>HV-T75A | HV-T76 | HV-T77 |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------|--------|
| IFAVM (mA)        | 5.0                                                                                                                                                |                   |                   |                   |                   |                   |                   |        |        |
| VRRM (kV)         | 4.0                                                                                                                                                | 6.0               | 8.0               | 10                | 12                | 14                | 16                | 18     | 20     |
| IFSM (A)          | 0.5                                                                                                                                                |                   |                   |                   |                   |                   |                   |        |        |
| IRM (uA)          | 2.0                                                                                                                                                |                   |                   |                   |                   |                   |                   |        |        |
| VFM (V)           | 18                                                                                                                                                 | 24                | 30                | 36                | 45                | 51                | 60                | 66     | 75     |
| TJ max.           | 125° C                                                                                                                                             |                   |                   |                   |                   |                   |                   |        |        |
| TRR (nS)          | 80(MAX)                                                                                                                                            |                   |                   |                   |                   |                   |                   |        |        |
| Code              | GT69<br>GT69A                                                                                                                                      | GT70<br>GT70A     | GT71<br>GT71A     | GT72<br>GT72A     | GT73<br>GT73A     | GT74<br>GT74A     | GT75<br>GT75A     | GT76   | GT77   |
| Cathode Mark      |                                                                                                                                                    | ≡                 | ≡                 | ≡                 | ≡                 | ≡                 | ≡                 | ≡      | ≡      |
| Sketch Map        |  <p>Part Number ↑      ↑ The Pattern Is Cathode Band(blue)</p> |                   |                   |                   |                   |                   |                   |        |        |

## Maximum Ratings And Characteristics: (25°C ambient temperature unless stated otherwise.)

| HVGT Part Number | V <sub>RRM</sub><br>kV | V <sub>RSM</sub><br>kV | I <sub>FAVM</sub><br>mA | V <sub>FM</sub><br>V | I <sub>R1</sub><br>uA | I <sub>R2</sub><br>uA | I <sub>FSM</sub><br>A | T <sub>RR</sub><br>nS | C <sub>J</sub><br>pF | Package Name * | Net Weight<br>Approx |
|------------------|------------------------|------------------------|-------------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|----------------|----------------------|
| HV-T69A          | 4.0                    | 6.0                    | 5.0                     | 18                   | 2.0                   | 5.0                   | 0.5                   | 80                    | 1.0                  | DO-206         | 0.18/g               |
| HV-T69           | 4.0                    | 6.0                    | 5.0                     | 18                   | 2.0                   | 5.0                   | 0.5                   | 80                    | 1.0                  | DO-208         | 0.22/g               |
| HV-T70A          | 6.0                    | 8.0                    | 5.0                     | 24                   | 2.0                   | 5.0                   | 0.5                   | 80                    | 1.0                  | DO-206         | 0.18/g               |
| HV-T70           | 6.0                    | 8.0                    | 5.0                     | 24                   | 2.0                   | 5.0                   | 0.5                   | 80                    | 1.0                  | DO-208         | 0.22/g               |
| HV-T71A          | 8.0                    | 10.0                   | 5.0                     | 30                   | 2.0                   | 5.0                   | 0.5                   | 80                    | 1.0                  | DO-206         | 0.18/g               |
| HV-T71           | 8.0                    | 10.0                   | 5.0                     | 30                   | 2.0                   | 5.0                   | 0.5                   | 80                    | 1.0                  | DO-208         | 0.22/g               |
| HV-T72A          | 10.0                   | 12.0                   | 5.0                     | 36                   | 2.0                   | 5.0                   | 0.5                   | 80                    | 1.0                  | DO-210S        | 0.25/g               |
| HV-T72           | 10.0                   | 12.0                   | 5.0                     | 36                   | 2.0                   | 5.0                   | 0.5                   | 80                    | 1.0                  | DO-210B        | 0.26/g               |
| HV-T73A          | 12.0                   | 15.0                   | 5.0                     | 45                   | 2.0                   | 5.0                   | 0.5                   | 80                    | 1.0                  | DO-210S        | 0.25/g               |
| HV-T73           | 12.0                   | 15.0                   | 5.0                     | 45                   | 2.0                   | 5.0                   | 0.5                   | 80                    | 1.0                  | DO-210B        | 0.26/g               |
| HV-T74A          | 14.0                   | 17.0                   | 5.0                     | 51                   | 2.0                   | 5.0                   | 0.5                   | 80                    | 1.0                  | DO-210S        | 0.25/g               |
| HV-T74           | 14.0                   | 17.0                   | 5.0                     | 51                   | 2.0                   | 5.0                   | 0.5                   | 80                    | 1.0                  | DO-210B        | 0.26/g               |
| HV-T75A          | 16.0                   | 20.0                   | 5.0                     | 60                   | 2.0                   | 5.0                   | 0.5                   | 80                    | 1.0                  | DO-210S        | 0.25/g               |
| HV-T75           | 16.0                   | 20.0                   | 5.0                     | 60                   | 2.0                   | 5.0                   | 0.5                   | 80                    | 1.0                  | DO-212         | 0.30/g               |
| HV-T76           | 18.0                   | 22.0                   | 5.0                     | 66                   | 2.0                   | 5.0                   | 0.5                   | 80                    | 1.0                  | DO-212         | 0.30/g               |
| HV-T77           | 20.0                   | 25.0                   | 5.0                     | 75                   | 2.0                   | 5.0                   | 0.5                   | 80                    | 1.0                  | DO-212         | 0.30/g               |

\* See the P06

## Specification Definitions:

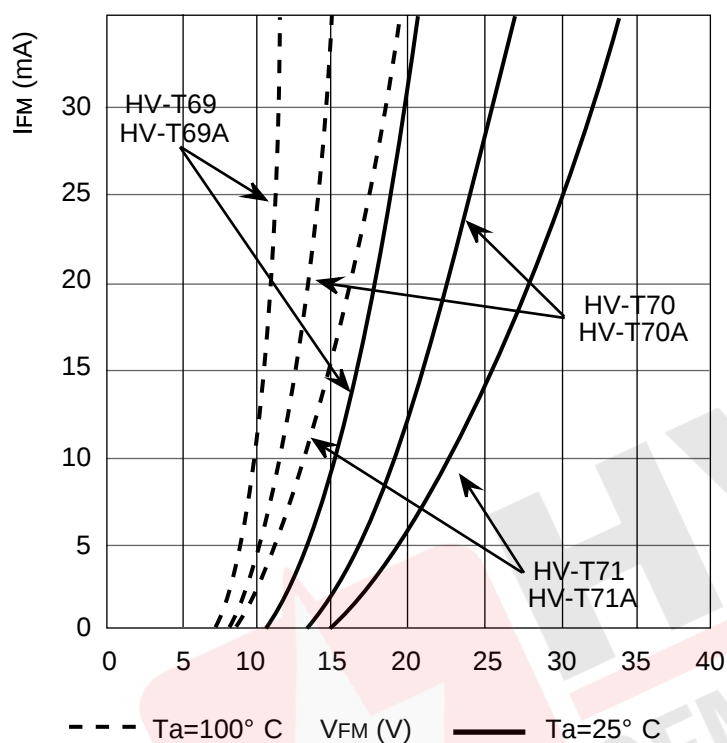
| Symbols           | Items                               | Condition                                                               |
|-------------------|-------------------------------------|-------------------------------------------------------------------------|
| V <sub>RRM</sub>  | Maximum Repetitive Reverse Voltage  | --                                                                      |
| V <sub>RSM</sub>  | Non-Repetitive peak reverse voltage | --                                                                      |
| I <sub>FAVM</sub> | Maximum Average Forward Current     | At T <sub>A</sub> = 25° C                                               |
| V <sub>FM</sub>   | Maximum Forward Voltage Drop        | At I <sub>FAVM</sub>                                                    |
| I <sub>R1</sub>   | Maximum Leakage Current             | At V <sub>RRM</sub> , T <sub>A</sub> = 25° C                            |
| I <sub>R2</sub>   | Maximum Leakage Current             | At V <sub>RRM</sub> , T <sub>A</sub> = 100° C                           |
| I <sub>FSM</sub>  | Maximum Surge Current               | At 8.3 mS, Single Half Sine, 60Hz                                       |
| T <sub>RR</sub>   | Maximum Reverse Recovery Time       | I <sub>F</sub> = 2.0mA; I <sub>R</sub> = 4.0mA; I <sub>RR</sub> = 1.0mA |
| C <sub>J</sub>    | Typical Junction Capacitance        | At V <sub>R</sub> = 0VDC, f = 1MHz                                      |
| T <sub>J</sub>    | Maximum Junction Temperature:       | 125 ° C                                                                 |
| T <sub>C</sub>    | Operating Temperature:              | -40 to 125° C                                                           |
| T <sub>STG</sub>  | Storage Temperature:                | -40 to 150 ° C                                                          |

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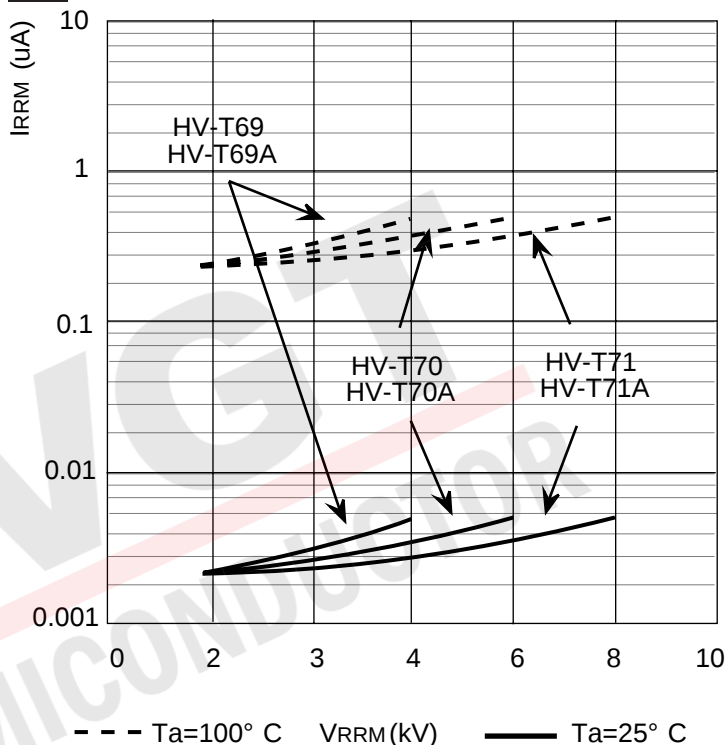
## Electrical Curve Diagram:

HV-T69, HV-T69A, HV-T70, HV-T70A, HV-T71, HV-T71A

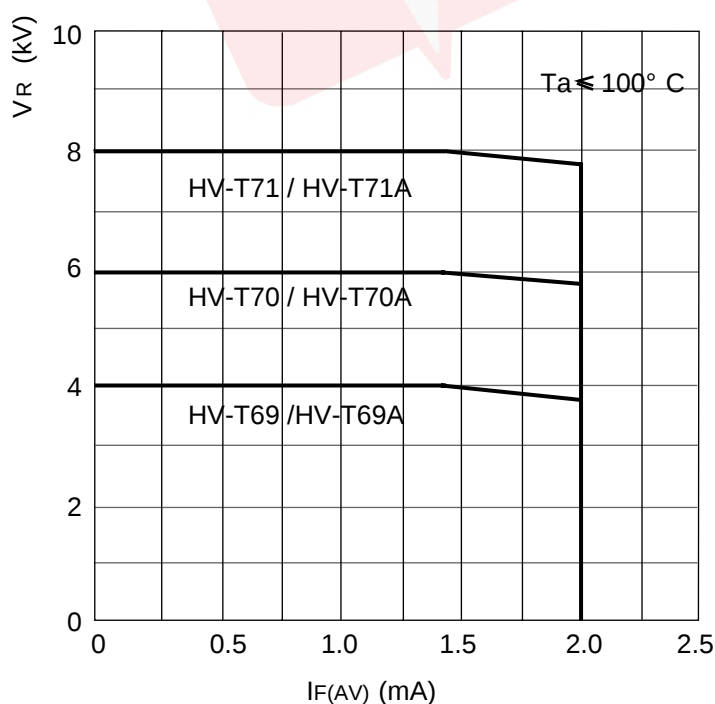
**FIGURE 01** Forward Characteristics



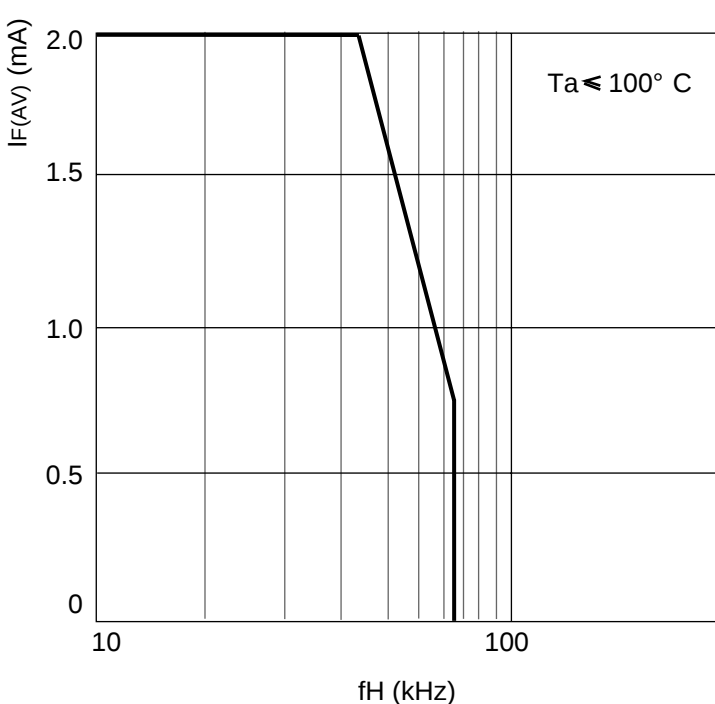
**FIGURE 02** Reverse Characteristics



**FIGURE 03** Curve  $V_R - I_F(AV)$



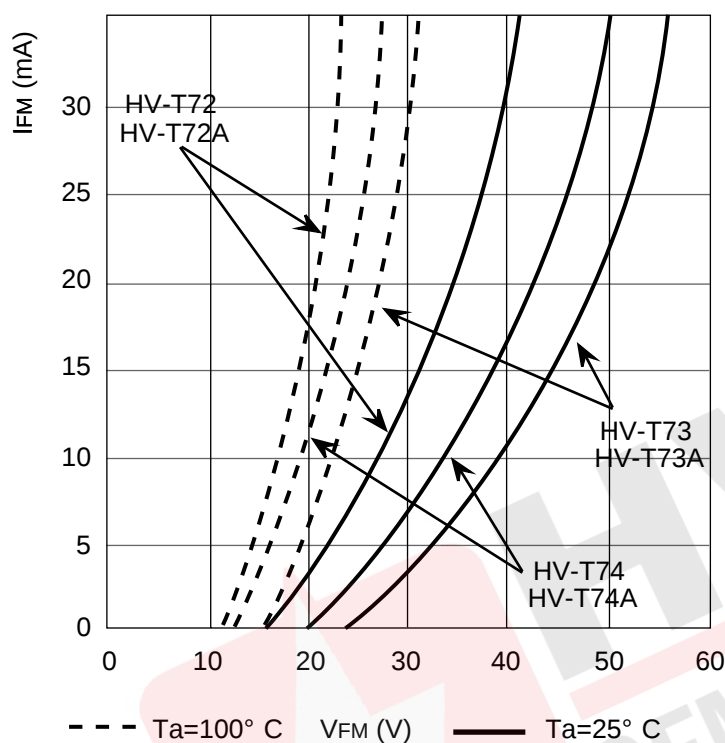
**FIGURE 04** Curve  $I_F(AV) - f_H$



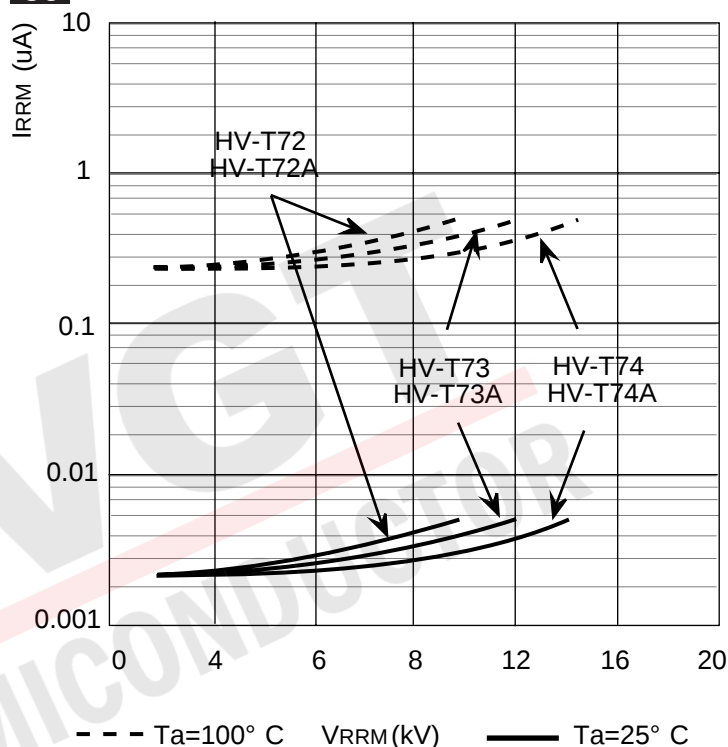
## Electrical Curve Diagram:

HV-T72, HV-T72A, HV-T73, HV-T73A, HV-T74, HV-T74A

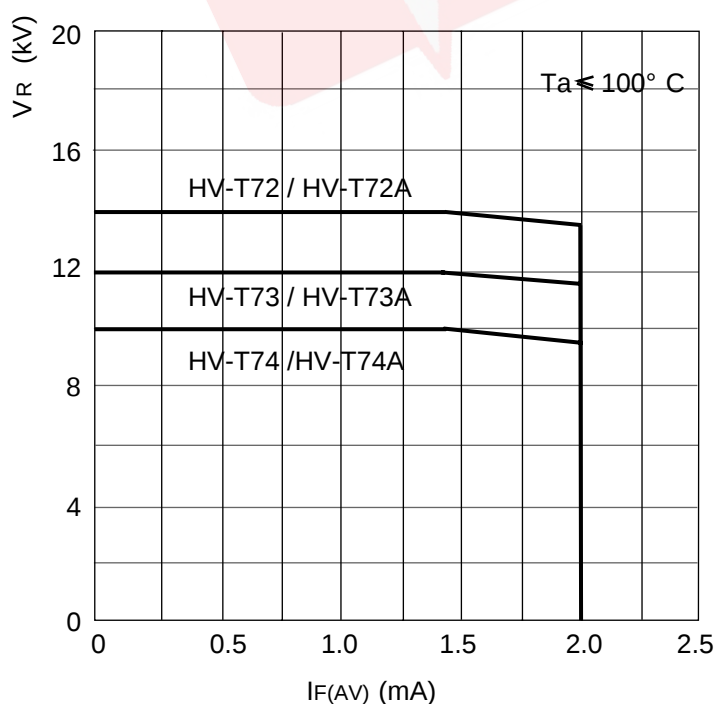
**FIGURE 05** Forward Characteristics



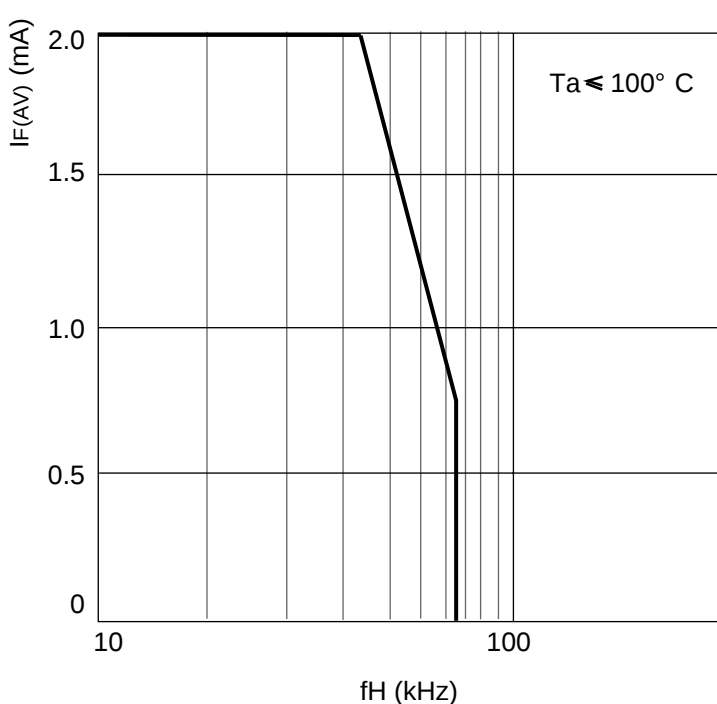
**FIGURE 06** Reverse Characteristics



**FIGURE 07** Curve  $V_R - I_F(AV)$



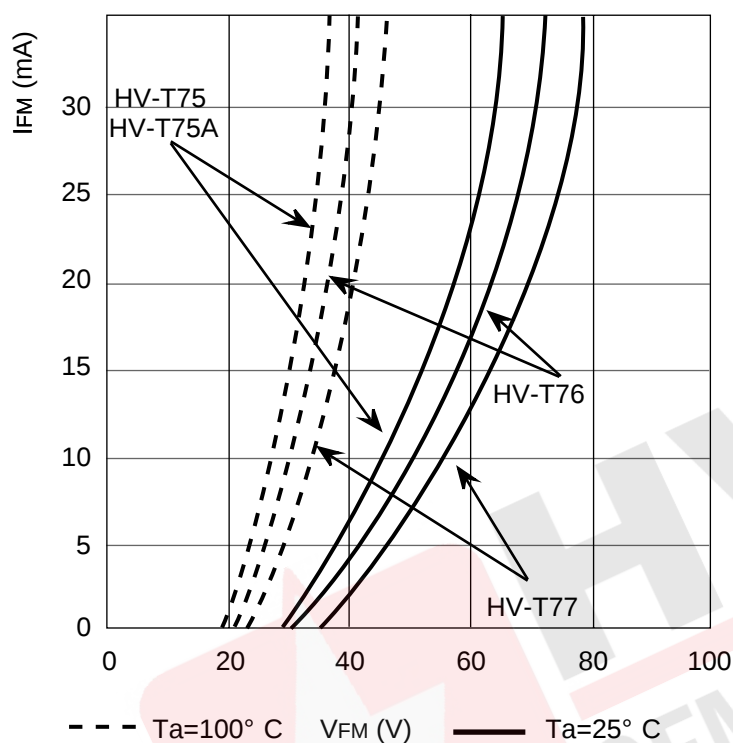
**FIGURE 08** Curve  $I_{F(AV)} - f_H$



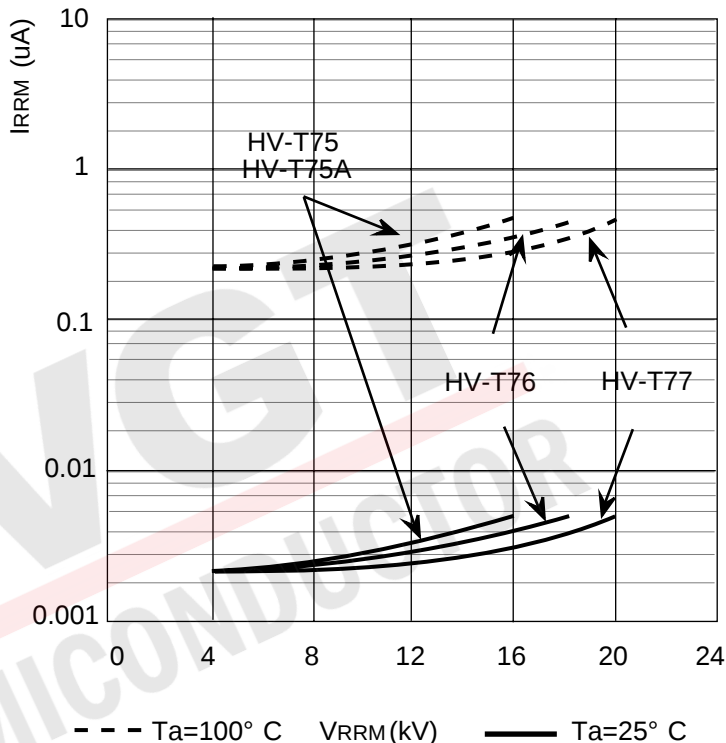
## Electrical Curve Diagram:

### HV-T75, HV-T75A, HV-T76, HV-T77

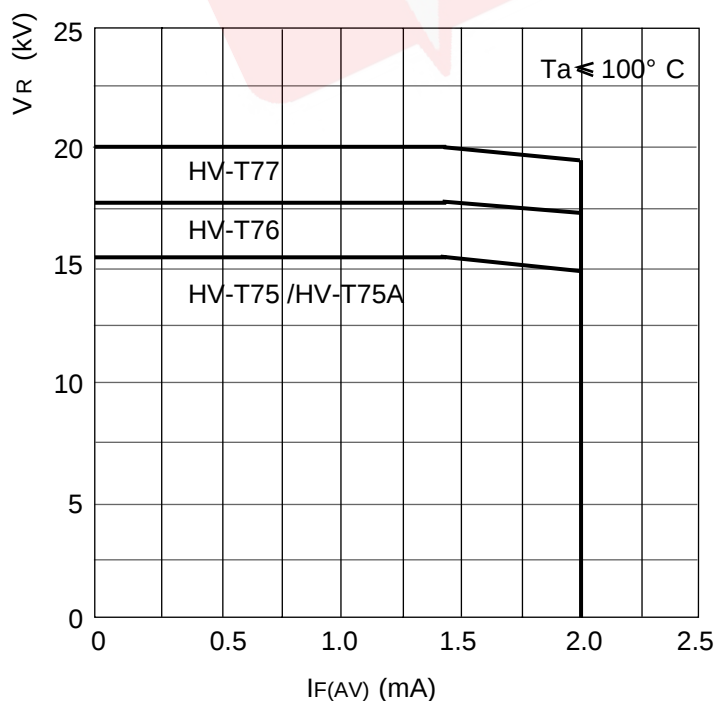
**FIGURE 09** Forward Characteristics



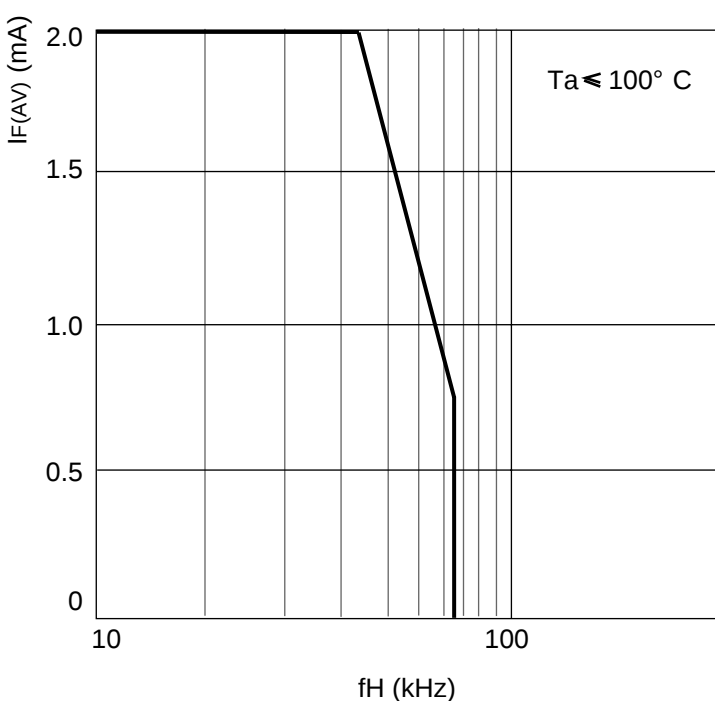
**FIGURE 10** Reverse Characteristics



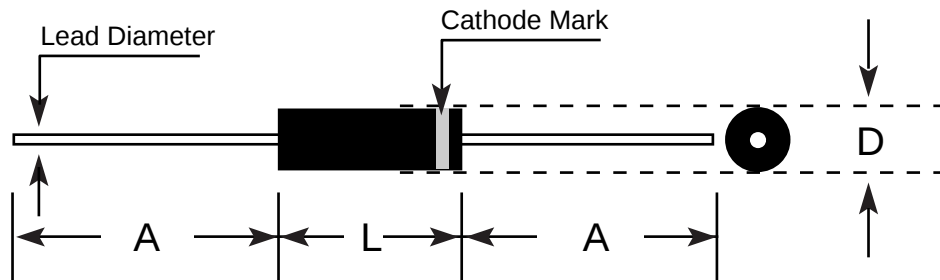
**FIGURE 11** Curve  $V_R - I_F(AV)$



**FIGURE 12** Curve  $I_{F(AV)} - f_H$



## PACKAGING SIZE TABLE:



### DO-206 Series

Lead Diameter  $0.5 \pm 0.03$

| Dim. | Millimeters |      |      | Inches |       |       |
|------|-------------|------|------|--------|-------|-------|
|      | Value       | Min. | Max. | Value  | Min.  | Max.  |
| D    | 2.5         | 2.3  | 2.7  | 0.098  | 0.091 | 0.106 |
| L    | 6.5         | 6.3  | 6.7  | 0.256  | 0.248 | 0.264 |
| A    | 25.4        | 25.4 | --   | 1.0    | 1.0   | --    |

### DO-208 Series

Lead Diameter  $0.6 \pm 0.03$

| Dim. | Millimeters |      |      | Inches |       |       |
|------|-------------|------|------|--------|-------|-------|
|      | Value       | Min. | Max. | Value  | Min.  | Max.  |
| D    | 2.5         | 2.3  | 2.7  | 0.098  | 0.091 | 0.106 |
| L    | 8.0         | 7.8  | 8.2  | 0.315  | 0.307 | 0.323 |
| A    | 25.4        | 25.4 | --   | 1.0    | 1.0   | --    |

### DO-210S Series

Lead Diameter  $0.5 \pm 0.03$

| Dim. | Millimeters |      |      | Inches |       |       |
|------|-------------|------|------|--------|-------|-------|
|      | Value       | Min. | Max. | Value  | Min.  | Max.  |
| D    | 2.5         | 2.3  | 2.7  | 0.098  | 0.091 | 0.106 |
| L    | 10.0        | 9.8  | 10.2 | 0.394  | 0.386 | 0.402 |
| A    | 25.4        | 25.4 | --   | 1.0    | 1.0   | --    |

### DO-210B Series

Lead Diameter  $0.6 \pm 0.03$

| Dim. | Millimeters |      |      | Inches |       |       |
|------|-------------|------|------|--------|-------|-------|
|      | Value       | Min. | Max. | Value  | Min.  | Max.  |
| D    | 2.5         | 2.3  | 2.7  | 0.098  | 0.091 | 0.106 |
| L    | 10.0        | 9.8  | 10.2 | 0.394  | 0.386 | 0.402 |
| A    | 25.4        | 25.4 | --   | 1.0    | 1.0   | --    |

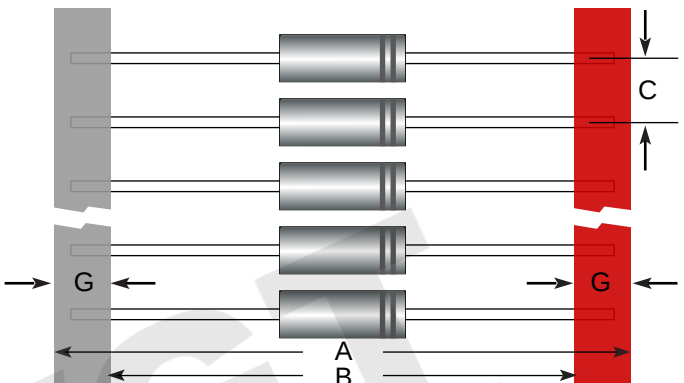
### DO-212 Series

Lead Diameter  $0.6 \pm 0.03$

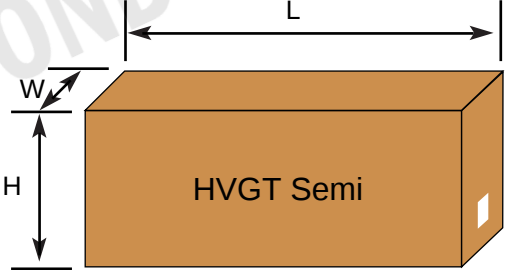
| Dim. | Millimeters |      |      | Inches |       |       |
|------|-------------|------|------|--------|-------|-------|
|      | Value       | Min. | Max. | Value  | Min.  | Max.  |
| D    | 2.5         | 2.3  | 2.7  | 0.098  | 0.091 | 0.106 |
| L    | 12.0        | 11.8 | 12.2 | 0.472  | 0.464 | 0.480 |
| A    | 25.4        | 25.4 | --   | 1.0    | 1.0   | --    |

## PACKAGING INFORMATION OF PARTS:

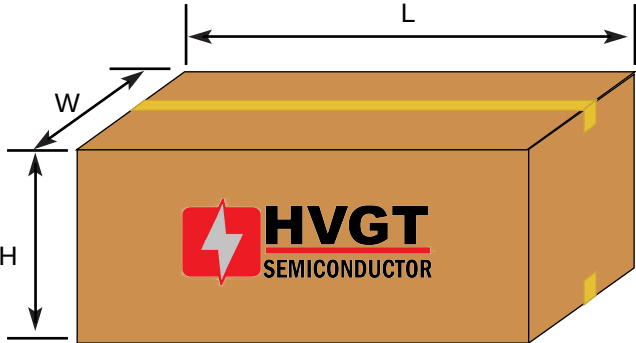
### 1. 胶带包装 / TAPE PACKAGING:

| 各类封装卷带数据 (单位: mm)<br>Various Types Of Packaged Tape Data (Unit: mm) |        |        |                    |        | 示意图<br>Schematic Diagram                                                           |
|---------------------------------------------------------------------|--------|--------|--------------------|--------|------------------------------------------------------------------------------------|
| 代码<br>Code                                                          | DO-206 | DO-208 | DO-210S<br>DO-210B | DO-212 |  |
| <b>A</b>                                                            | 65.0   | 65.0   | 70.0               | 70.0   |                                                                                    |
| <b>B</b>                                                            | 52.0   | 52.0   | 58.0               | 58.0   |                                                                                    |
| <b>C</b>                                                            | 5.0    | 5.0    | 5.0                | 5.0    |                                                                                    |
| <b>G</b>                                                            | 6.0    | 6.0    | 6.0                | 6.0    |                                                                                    |

### 2. 内盒包装 / INNER BOX PACKAGING:

| 包装内盒数据（单位：mm）<br>Packaging Inner Box Data (Unit: mm) |                                                 |        |                                        |        | 示意图<br>Schematic Diagram                                                             |
|------------------------------------------------------|-------------------------------------------------|--------|----------------------------------------|--------|--------------------------------------------------------------------------------------|
| 代码<br>Code                                           | DO-206                                          | DO-208 | DO-210S<br>DO-210B                     | DO-212 |  |
| <b>L</b>                                             | 260                                             | 260    | 260                                    | 260    |                                                                                      |
| <b>W</b>                                             | 135                                             | 150    | 150                                    | 190    |                                                                                      |
| <b>H</b>                                             | 80                                              | 90     | 90                                     | 90     |                                                                                      |
| <b>K</b> Unit: KG                                    | 1.05                                            | 1.10   | 1.20                                   | 1.75   |                                                                                      |
| <b>E</b> Unit: EA                                    | 5,000                                           |        |                                        |        |                                                                                      |
| <b>Notes:</b>                                        | <b>K</b> 包装毛重（约）<br>Gross Weight(Approximately) |        | <b>E</b> 盒子包装数量<br>Quantity of Packing |        |                                                                                      |

### 3. 外箱包装 / OUTER PAPER BOX PACKAGING:

| 包装外箱数据（单位：mm）<br>Packaging Outer Box Data (Unit: mm) |                                          |        |                                 |        | 示意图<br>Schematic Diagram                                                             |
|------------------------------------------------------|------------------------------------------|--------|---------------------------------|--------|--------------------------------------------------------------------------------------|
| 代码<br>Code                                           | DO-206                                   | DO-208 | DO-210S<br>DO-210B              | DO-212 |  |
| L                                                    | 420                                      | 470    | 470                             | 470    |                                                                                      |
| W                                                    | 300                                      | 300    | 300                             | 300    |                                                                                      |
| H                                                    | 290                                      | 320    | 320                             | 400    |                                                                                      |
| K Unit: KG                                           | 11.0                                     | 12.0   | 13.0                            | 19.0   |                                                                                      |
| E Unit: EA                                           | 50,000                                   |        |                                 |        |                                                                                      |
| Notes:                                               | K 包装毛重（约）<br>Gross Weight(Approximately) |        | E 外箱包装数量<br>Quantity of Packing |        |                                                                                      |

NOTE: 纸盒包装如有更改, 恕不另行通知。 / The paper box packaging is subject to change without prior notice.