

# GES12VD3

## ESD Protection Diode

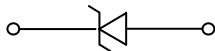
**VOLTAGE** 12 Volt

### FEATURES

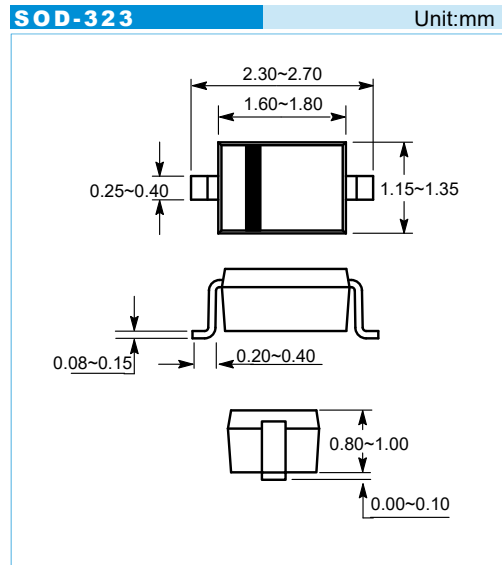
- Uni-directional ESD protection of one line
- Low reverse clamping voltage
- Low leakage current
- Lead free in compliance with EU RoHS

### MECHANICAL DATA

- Case Material: Molded Plastic.
- UL Flammability Classification Rating 94V-0



Schematic Diagram



### ABSOLUTE MAXIMUM RATINGS( $T_A = 25^\circ\text{C}$ unless otherwise noted)

| Parameter                 | Symbol                 | Limit      | Unit             |
|---------------------------|------------------------|------------|------------------|
| JESD22-A114-B ESD Voltage | $V_{\text{ESD}}^{(1)}$ | $\pm 16$   | kV               |
| ESD Voltage               |                        | $\pm 0.4$  |                  |
| Peak Pulse Power          | $P_{\text{PP}}^{(2)}$  | 220        | W                |
| Peak Pulse Current        | $I_{\text{PP}}^{(2)}$  | 9          | A                |
| Junction Temperature      | $T_j$                  | 150        | $^\circ\text{C}$ |
| Storage Temperature Range | $T_{\text{stg}}$       | -55 ~ +150 | $^\circ\text{C}$ |

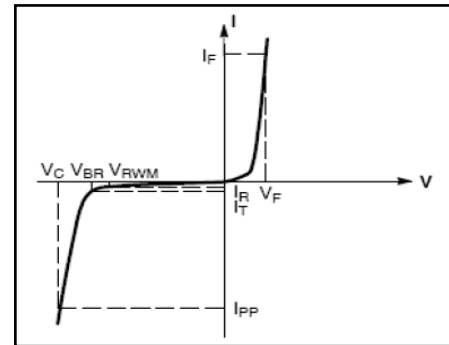
(1).Device stressed with ten non-repetitive ESD pulses.

(2).Non-repetitive current pulse 8/20 $\mu\text{s}$  exponential decay waveform according to IEC61000-4-5.

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## ELECTRICAL PARAMETER

| Symbol    | Parameter                           |
|-----------|-------------------------------------|
| $V_C$     | Clamping Voltage @ $I_{PP}$         |
| $I_{PP}$  | Peak Pulse Current                  |
| $V_{BR}$  | Breakdown Voltage @ $I_T$           |
| $I_T$     | Test Current                        |
| $I_R$     | Reverse Leakage Current @ $V_{RWM}$ |
| $V_{RWM}$ | Reverse Standoff Voltage            |
| $V_F$     | Forward Voltage @ $I_F$             |
| $I_F$     | Forward Current                     |



V-I characteristics for a uni-directional TVS

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## ELECTRICAL CHARACTERISTICS( $T_A = 25^\circ\text{C}$ unless otherwise noted)

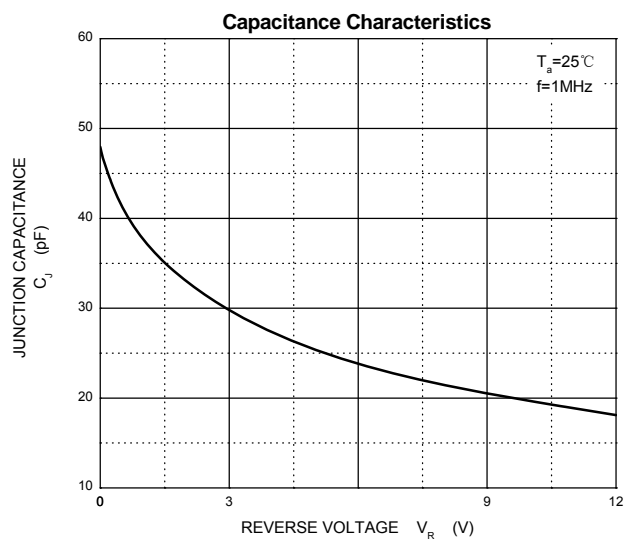
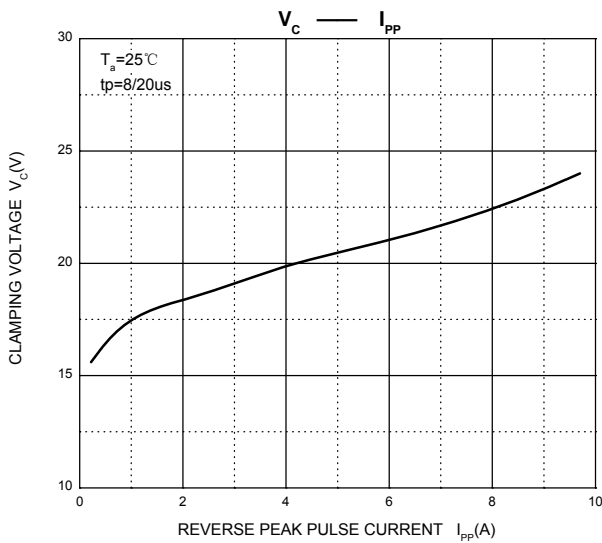
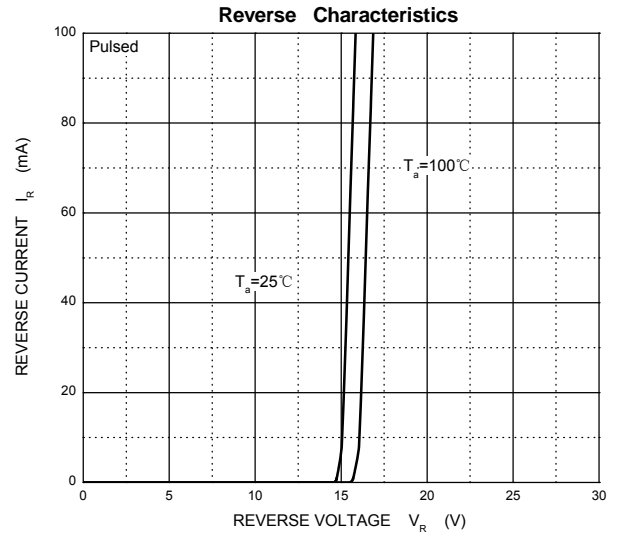
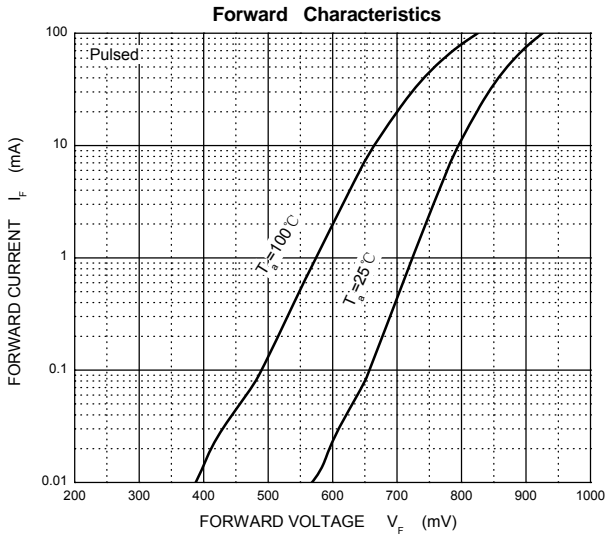
| Parameter                 | mbol            | Test conditions                | Min  | Typ | Max  | Unit          |
|---------------------------|-----------------|--------------------------------|------|-----|------|---------------|
| Reverse stand off voltage | $V_{RWM}^{(3)}$ |                                |      |     | 12   | V             |
| Reverse leakage current   | $I_R$           | $V_{RWM}=12\text{V}$           |      |     | 1    | $\mu\text{A}$ |
| Breakdown voltage         | $V_{(BR)}$      | $I_T=1\text{mA}$               | 13.3 |     | 16.5 | V             |
| Clamping voltage          | $V_C^{(4)}$     | $I_{PP}=9\text{A}$             |      |     | 24   | V             |
| Forward voltage           | $V_F$           | $I_F=10\text{mA}$              |      |     | 0.9  | V             |
| Junction capacitance      | $C_J$           | $V_R=0\text{V}, f=1\text{MHz}$ |      | 45  |      | pF            |

(3).Other voltages available upon request.

(4).Non-repetitive current pulse 8/20 $\mu\text{s}$  exponential decay waveform according to IEC61000-4-5

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## Typical Characteristics

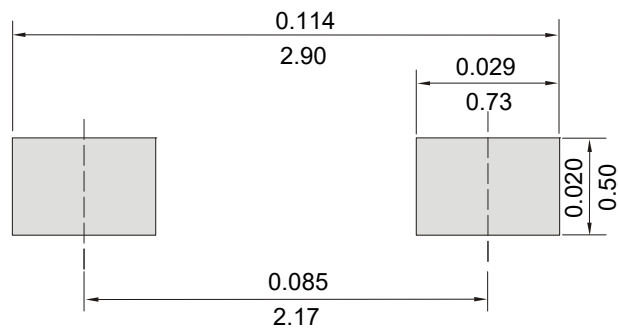


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## MOUNTING PAD LAYOUT

**SOD-323**

Unit: Inch(mm)



## ORDER INFORMATION

- Packing information

| Part Number | Case    | Reel Size | QUANTITY |
|-------------|---------|-----------|----------|
| GES12VD3    | SOD-323 | 7 Inch    | 3000     |