

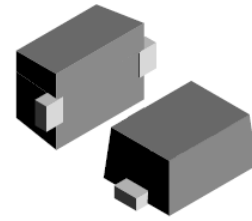
## Features

- 200W peak pulse power ( $t_p = 8/20\mu s$ )
- SOD-523 package
- Fast response time, typically  $< 1\text{ ns}$
- Excellent clamping voltage
- Low leakage current
- IEC 61000-4-2  $\pm 15\text{kV}$  (Air) ESD protection
- IEC 61000-4-2  $\pm 8\text{kV}$  (Contact) ESD protection
- IEC 61000-4-4 40A (5/50ns) EFT protection
- RoHS compliant

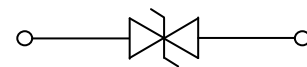
## Applications

- Cellular phones
- Portable devices
- Digital cameras
- Power supplies

## SES5VD523-2B



SOD-523



Schematic Diagram

## Absolute Maximum Ratings

( $T_A = 25^\circ\text{C}$ , Unless otherwise specified.)

| Parameter                                | Symbol    | Value      | Unit             |
|--|-----------|------------|------------------|
| Peak Pulse Power ( $T_P = 8/20\mu s$ )   | $P_{PP}$  | 200        | W                |
| Peak Pulse Current ( $T_P = 8/20\mu s$ ) | $I_{PP}$  | 9.4        | A                |
| Operating temperature                    | $T_J$     | -55 to 150 | $^\circ\text{C}$ |
| Storage temperature                      | $T_{STG}$ | -55 to 150 | $^\circ\text{C}$ |

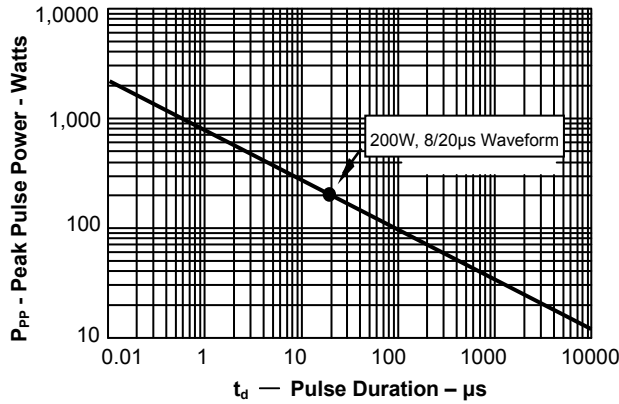
## Electrical Characteristics

( $T_A = 25^\circ\text{C}$ , Unless otherwise specified.)

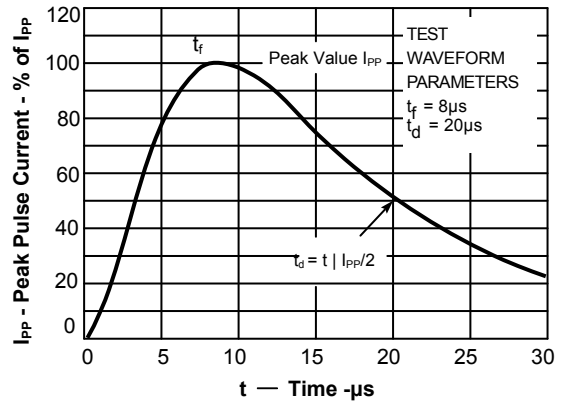
| Parameter                 | Symbol    | Condition                                  | Min | Typ | Max  | Unit          |
|---------------------------|-----------|--|-----|-----|------|---------------|
| Reverse stand-off Voltage | $V_{RWM}$ |  |     |     | 5    | V             |
| Reverse Breakdown Voltage | $V_{BR}$  | $I_T = 1\text{mA}$                         | 5.6 |     | 7.8  | V             |
| Reverse Leakage Current   | $I_R$     | $V_R = 5\text{V}$                          |     |     | 1    | $\mu\text{A}$ |
| Clamping Voltage          | $V_C$     | $I_{PP} = 5\text{A}$ , $T_P = 8/20\mu s$   |     |     | 11.6 | V             |
| Clamping Voltage          | $V_C$     | $I_{PP} = 9.4\text{A}$ , $T_P = 8/20\mu s$ |     |     | 18.6 | V             |
| Junction Capacitance      | $C_J$     | $V_R = 0\text{V}$ , $f = 1\text{MHz}$      |     | 25  |      | pF            |

## Typical Characteristic Curves

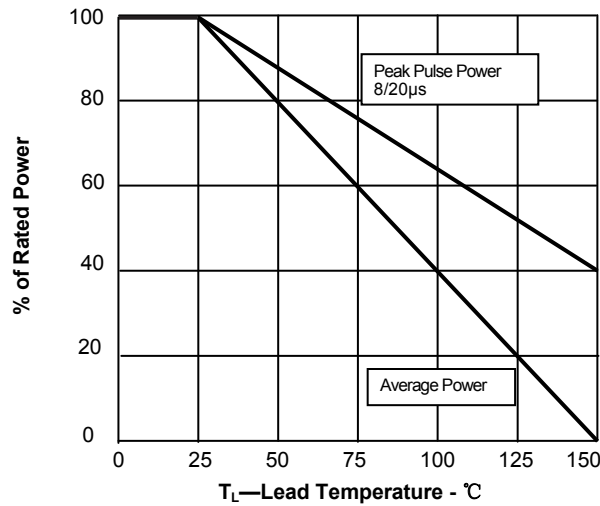
**Fig.1 Peak Pulse Power vs Pulse Time**



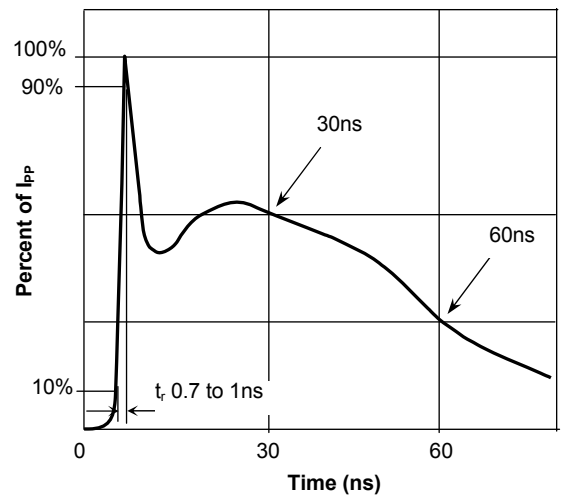
**Fig.2 Pulse WaveForm-8/20μs**



**Fig.3 Power Derating Curve**

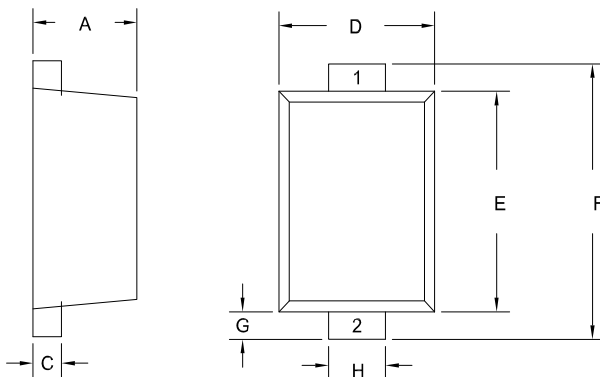


**Fig.4 Pulse Waveform-ESD(IEC61000-4-2)**



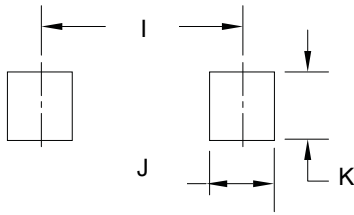
**ESD Protection Diode**

## Product Dimensions



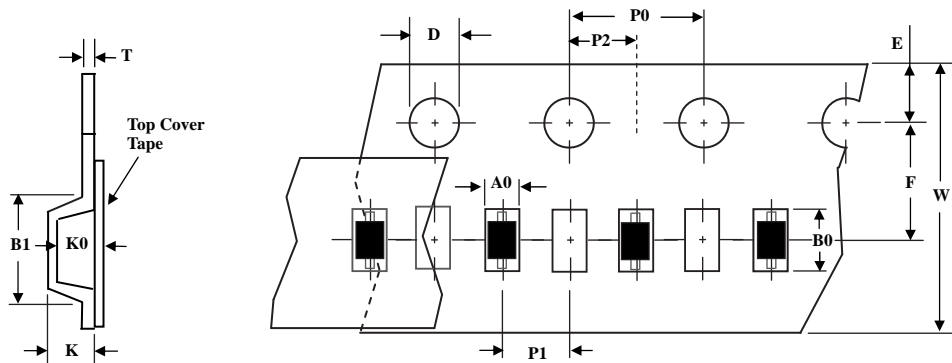
| Dim | millimeters |      |
|-----|-------------|------|
|     | min         | max  |
| A   | 0.50        | 0.70 |
| C   | 0.07        | 0.20 |
| D   | 0.70        | 0.90 |
| E   | 1.10        | 1.30 |
| F   | 1.50        | 1.70 |
| G   | 0.15        | 0.25 |
| H   | 0.25        | 0.35 |

### PAD Dimensions



| Dim | millimeters |
|-----|-------------|
| I   | 1.35        |
| J   | 0.35        |
| K   | 0.39        |

### Package Information

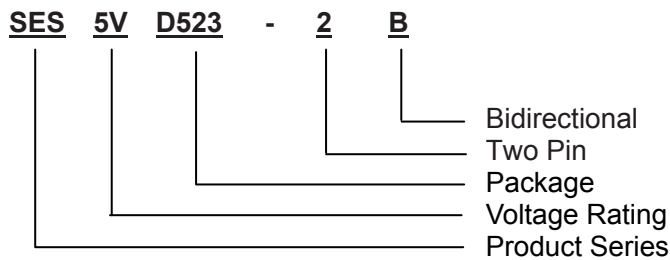


| TapeSize(W) | B1 max | D         | E        | F        | K max | P0      | P1       | P2       | T max | W max |
|-------------|--------|-----------|----------|----------|-------|---------|----------|----------|-------|-------|
| 8           | 4.55   | 1.55±0.05 | 1.75±0.1 | 3.5±0.05 | 2.4   | 4.0±0.1 | 2.0±0.05 | 2.0±0.05 | 0.6   | 8.3   |

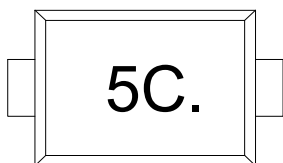
Note: 1. unit : mm

2. A0, B0, and K0 are determined by component size. The clearance between the components and the cavity must be within 0.05mm min to 0.50 mm max. The component cannot rotate more than 10° within the determined cavity.

### Part Number System



### Marking



## Order Information

| Device       | Package | Net Weight | Carrier     | Quantity       | HSF Status     |
|--------------|---------|------------|-------------|----------------|----------------|
| SES5VD523-2B | SOD-523 | 0.0014g    | Tape & Reel | 3000pcs / Reel | RoHS compliant |

## Revision history


| Date              | Revision | Description of changes |
|-------------------|----------|------------------------|
| 14-September-2011 | A0       | First issue            |
| 1-January-2015    | A3       | Modify Qty/Reel        |

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