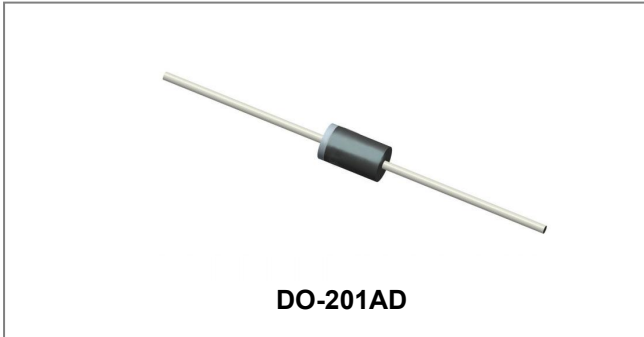


## 95SQ015 SCHOTTKY RECTIFIER



### Features

- 125°C T<sub>J</sub> operation (V<sub>R</sub><5V)
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Optimized for OR-ing applications
- Ultra low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Applications

- Parallel switching power supply
- Converters
- Redundant power subsystems
- Reverse battery protection

### Maximum Ratings(T<sub>C</sub> =25°C unless otherwise specified)

| Characteristics  | Symbol   | Condition   | Max.                  | Units |
|--|--|---|-----------------------|-------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>R</sub> | -   | 15(DC)<br>25(Working) | V     |
| Average Rectified Forward Current  | I <sub>F(AV)</sub>                                     | 50% duty cycle @T <sub>C</sub> =55°C,<br>rectangular wave form  | 9                     | A     |
| Peak One Cycle Non-Repetitive Surge Current  | I <sub>FSM</sub>                                       | 8.3 ms, half Sine pulse   | 480                   | A     |
| Non-Repetitive Avalanche Energy  | E <sub>AS</sub>  | T <sub>J</sub> =25°C, I <sub>AS</sub> =1.8A, L=7.4mH  | 12                    | mJ    |
| Repetitive Avalanche Current   | I <sub>AR</sub>  | Current decaying linearly to zero in 1<br>µsec Frequency limited by T <sub>J</sub> max.<br>V <sub>A</sub> =1.5×V <sub>R</sub> typical | 1.8                   | A     |

### Electrical Characteristics:

| Characteristics        | Symbol          | Condition   | Typ.         | Max.         | Units |
|------------------------|-----------------|---|--------------|--------------|-------|
| Forward Voltage Drop*  | V <sub>F1</sub> | @ 9A, Pulse, T <sub>J</sub> = 25 °C<br>@ 18A, Pulse, T <sub>J</sub> = 25 °C   | 0.32<br>0.36 | 0.34<br>0.37 | V     |
|                        | V <sub>F2</sub> | @ 9A, Pulse, T <sub>J</sub> = 125 °C<br>@ 18A, Pulse, T <sub>J</sub> = 125 °C | 0.21<br>0.28 | 0.25<br>0.31 | V     |
| Reverse Current*       | I <sub>R1</sub> | @V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 25 °C               | 2.5          | 7.0          | mA    |
|                        | I <sub>R2</sub> | @V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 100 °C              | 119          | 348          | mA    |
|                        | I <sub>R3</sub> | @V <sub>R</sub> = 12 V, T <sub>J</sub> = 100 °C                               | 130          | 310          | mA    |
|                        | I <sub>R4</sub> | @V <sub>R</sub> = 5 V, T <sub>J</sub> = 100 °C                                | 80           | 190          | mA    |
| Junction Capacitance   | C <sub>T</sub>  | @V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C, f <sub>SIG</sub> = 1MHz         | 940          | 1300         | pF    |
| Voltage Rate of Change | dv/dt           | -   | -            | 10,000       | V/us  |

\* Pulse width < 300 µs, duty cycle < 2%

**Thermal-Mechanical Specifications:**

| Characteristics                                | Symbol                | Condition    | Specification | Units                |
|--|-----------------------|--------------|---------------|----------------------|
| Junction Temperature                           | $T_J$                 | -            | -55 to +125   | $^{\circ}\text{C}$   |
| Storage Temperature                            | $T_{\text{stg}}$      | -            | -55 to +150   | $^{\circ}\text{C}$   |
| Typical Thermal Resistance Junction to Lead    | $R_{\theta\text{JL}}$ | DC operation | 8             | $^{\circ}\text{C/W}$ |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta\text{JA}}$ | DC operation | 44            | $^{\circ}\text{C/W}$ |
| Approximate Weight                             | wt                    | -            | 1.02          | g                    |

**Ratings and Characteristics Curves**

Figure 1 Typical Forward Characteristics

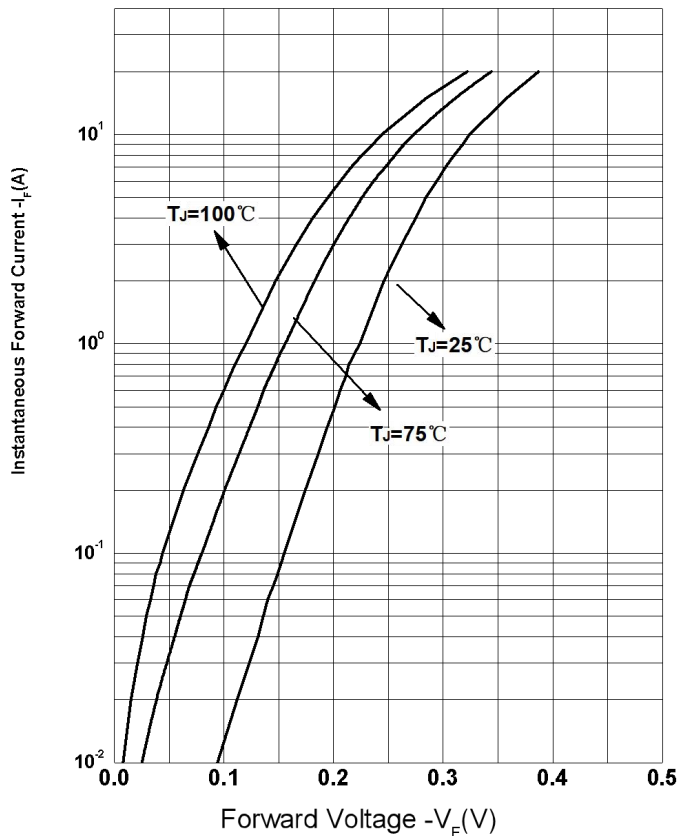


Figure 2 Typical Reverse Characteristics

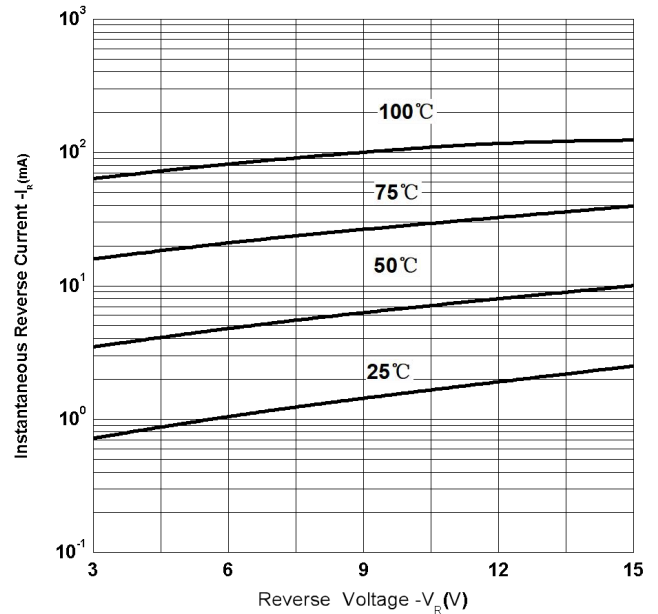
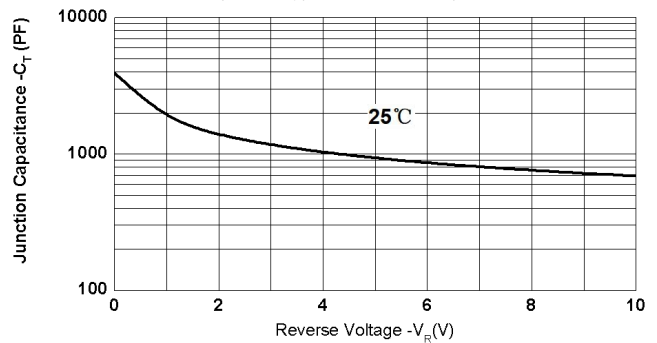
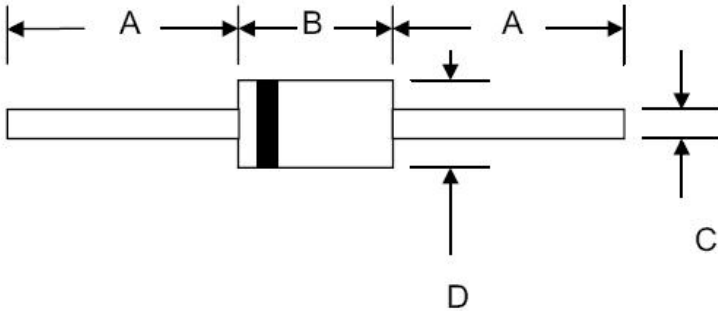


Figure 3 Typical Junction Capacitance



**Mechanical Dimensions DO-201AD**



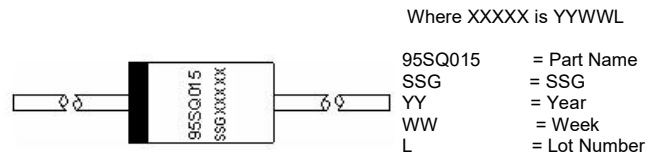
| SYMBOL | Millimeters |      | Inches |       |
|--------|-------------|------|--------|-------|
|        | Min.        | Max. | Min.   | Max.  |
| A      | 25.4        | -    | 1.000  | -     |
| B      | 8.50        | 9.50 | 0.335  | 0.374 |
| C      | 1.2         | 1.3  | 0.048  | 0.052 |
| D      | 5.0         | 5.6  | 0.197  | 0.220 |

**Ordering Information**

| Device  | Package               | Shipping       |
|---------|-----------------------|----------------|
| 95SQ015 | DO-201AD<br>(Pb-Free) | 1250pcs / tape |

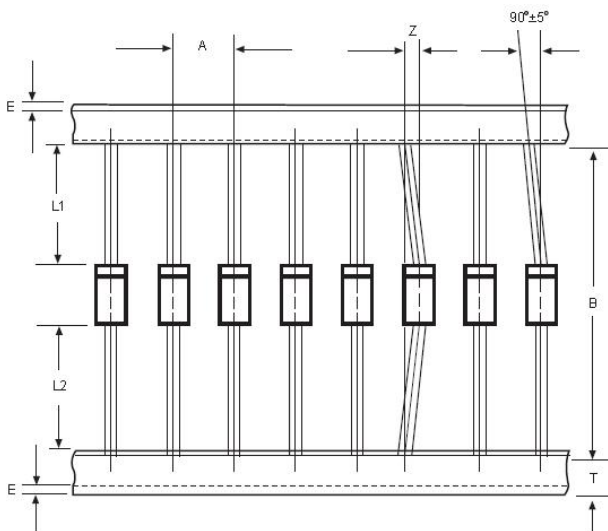
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Marking Diagram**



Cautions: Molding resin  
Epoxy resin UL:94V-0

**Carrier Tape Specification DO-201AD**



| SYMBOL  | Millimeters |       |
|---------|-------------|-------|
|         | Min.        | Max.  |
| A       | 9.50        | 10.50 |
| B       | 50.9        | 53.9  |
| Z       | -           | 1.20  |
| T       | 5.60        | 6.40  |
| E       | -           | 0.80  |
| IL1-L2I | -           | 1.0   |

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