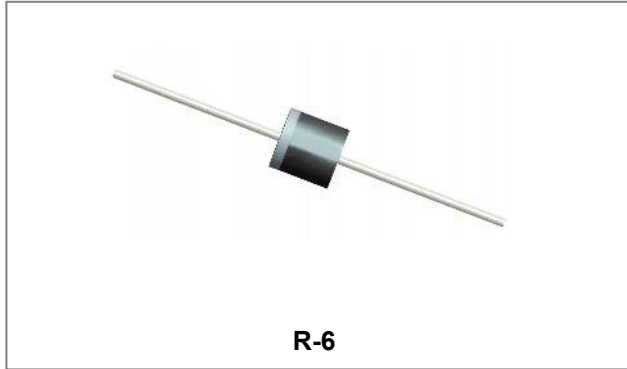


## ST1545AX SCHOTTKY BARRIER RECTIFIER



### Features

- 150°C T<sub>J</sub> operation
- Center tap configuration
- Ultralow forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- 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

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

### Maximum Ratings:

| Characteristics                             | Symbol             | Condition  | Max. | Units |
|---|--------------------|--|------|-------|
| Peak Repetitive Reverse Voltage             | V <sub>RRM</sub>   | -  | 45   | V     |
| Working Peak Reverse Voltage                | V <sub>RWM</sub>   |  |      |       |
| DC Blocking Voltage                         | V <sub>R</sub>     |  |      |       |
| Average Rectified Forward Current           | I <sub>F(AV)</sub> | 50% duty cycle @T <sub>C</sub> = 75°C, rectangular wave form | 15   | A     |
| Peak One Cycle Non-Repetitive Surge Current | I <sub>FSM</sub>   | 8.3 ms, half Sine pulse, T <sub>C</sub> = 25°C               | 200  | A     |

### Electrical Characteristics:

| Characteristics       | Symbol          | Condition   | Typ. | Max. | Units |
|-----------------------|-----------------|---|------|------|-------|
| Forward Voltage Drop* | V <sub>F1</sub> | @ 5A, Pulse, T <sub>J</sub> = 25 °C                                     | 0.38 | -    | V     |
|                       |                 | @ 7.5A, Pulse, T <sub>J</sub> = 25 °C                                   | 0.40 | -    |       |
|                       |                 | @ 15A, Pulse, T <sub>J</sub> = 25 °C                                    | 0.46 | 0.59 |       |
|                       | V <sub>F2</sub> | @ 5A, Pulse, T <sub>J</sub> = 125 °C                                    | 0.25 | -    | V     |
|                       |                 | @ 7.5A, Pulse, T <sub>J</sub> = 125 °C                                  | 0.28 | -    |       |
|                       |                 | @ 15A, Pulse, T <sub>J</sub> = 125 °C                                   | 0.37 | 0.54 |       |
| Reverse Current*      | I <sub>R1</sub> | @V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 25 °C         | 0.2  | 0.8  | mA    |
|                       | I <sub>R2</sub> | @V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 125 °C        | 110  | 150  | mA    |
| Junction Capacitance  | C <sub>T</sub>  | @V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C<br>f <sub>SIG</sub> = 1MHz | 868  | -    | pF    |

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

**Thermal-Mechanical Specifications:**

| Characteristics                                | Symbol           | Condition    | Specification | Units                |
|--|------------------|--------------|---------------|----------------------|
| Junction Temperature                           | $T_J$            | -            | -55 to +150   | $^{\circ}\text{C}$   |
| Storage Temperature                            | $T_{\text{stg}}$ | -            | -55 to +150   | $^{\circ}\text{C}$   |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta JA}$  | DC operation | 55            | $^{\circ}\text{C/W}$ |
| Approximate Weight                             | wt               | -            | 2.24          | g                    |
| Case Style                                     |                  | R-6          |               |                      |

**Ratings and Characteristics Curves**

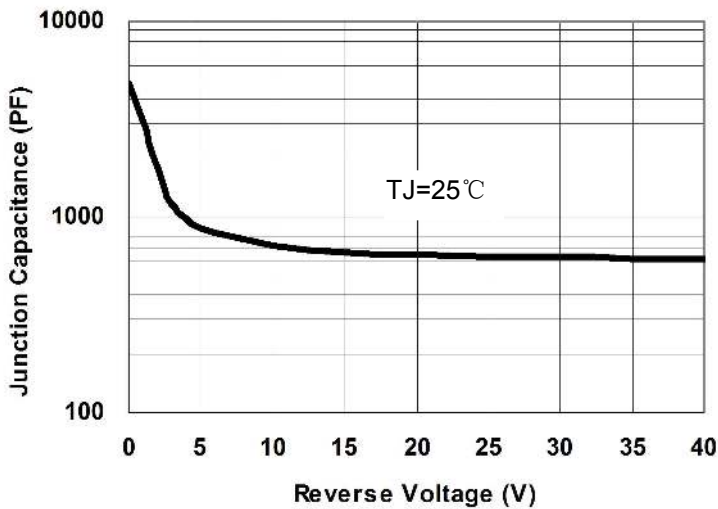


Fig.1-Typical Junction Capacitance

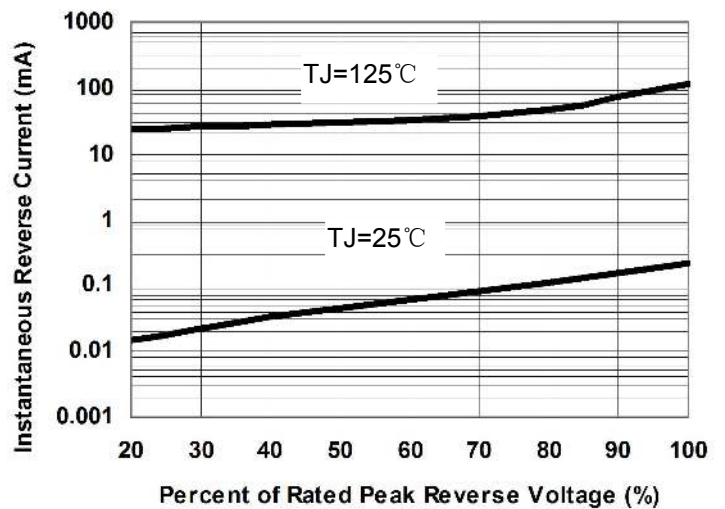


Fig.2-Typical Reverse Characteristics

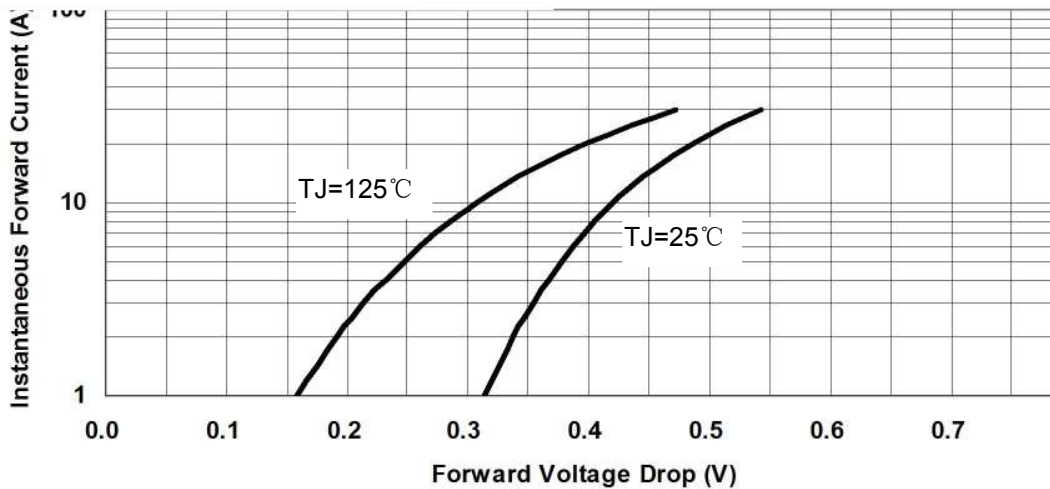
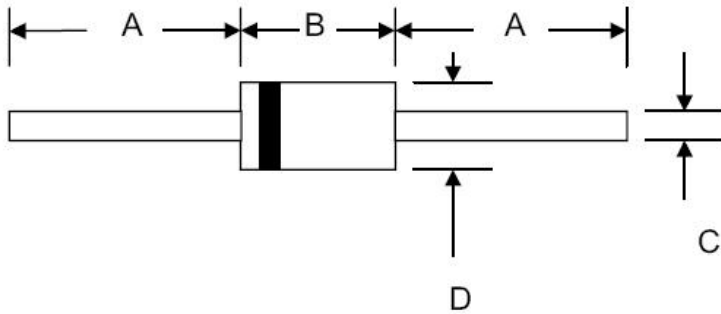
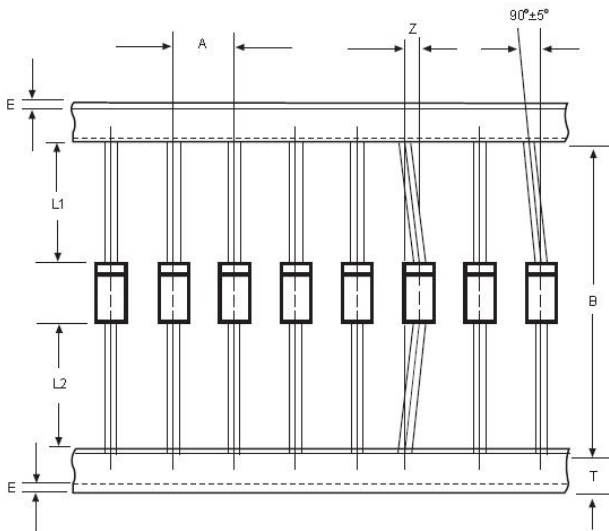


Fig.3-Typical Instantaneous Forward Voltage Characteristics

**Mechanical Dimensions R-6**


| SYMBOL | Millimeters |      | Inches |       |
|--------|-------------|------|--------|-------|
|        | Min.        | Max. | Min.   | Max.  |
| A      | 25.4        | -    | 1.000  | -     |
| B      | 8.60        | 9.10 | 0.340  | 0.360 |
| C      | 1.2         | 1.3  | 0.048  | 0.052 |
| D      | 8.60        | 9.10 | 0.340  | 0.360 |

**Carrier Tape Specification R-6**


| 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   |

**Ordering Information**

| Device   | Package      | Shipping      |
|----------|--------------|---------------|
| ST1545AX | R-6(Pb-Free) | 500pcs / reel |

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

**Marking Diagram**


Where XXXXX is YYWWL

S = Device Type  
T = Ultralow VF  
15 = Forward Current (15A)  
45 = Reverse Voltage (45V)  
AX = Package type  
SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number

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



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