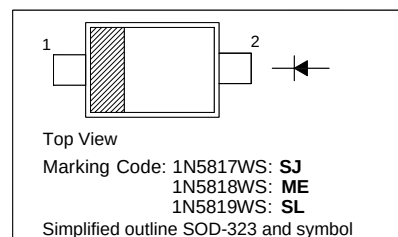


## 1 A Surface Mount Schottky Barrier Diode

### PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Cathode     |
| 2   | Anode       |



### Absolute Maximum Ratings ( $T_a = 25\text{ }^{\circ}\text{C}$ )

| Parameter                                                         | Symbol      | Value          | Unit               |
|-------------------------------------------------------------------|-------------|----------------|--------------------|
| Reverse Voltage                                                   | $V_R$       | 1N5817WS<br>20 | V                  |
|                                                                   |             | 1N5818WS<br>30 |                    |
|                                                                   |             | 1N5819WS<br>40 |                    |
| Average Forward Rectified Current                                 | $I_{F(AV)}$ | 1              | A                  |
| Non-Repetitive Peak Forward Surge Current ( $t = 8.3\text{ ms}$ ) | $I_{FSM}$   | 9              | A                  |
| Power Dissipation                                                 | $P_{tot}$   | 450            | mW                 |
| Operating Temperature Range                                       | $T_j$       | - 55 to + 125  | $^{\circ}\text{C}$ |
| Storage Temperature Range                                         | $T_{stg}$   | - 55 to + 125  | $^{\circ}\text{C}$ |

### Characteristics at $T_a = 25\text{ }^{\circ}\text{C}$

| Parameter                                                       | Symbol      | Min.           | Max.  | Unit |
|-----------------------------------------------------------------|-------------|----------------|-------|------|
| Reverse Breakdown Voltage<br>at $I_R = 1\text{ mA}$             | $V_{(BR)R}$ | 1N5817WS<br>20 | -     | V    |
|                                                                 |             | 1N5818WS<br>30 | -     |      |
|                                                                 |             | 1N5819WS<br>40 | -     |      |
| Forward Voltage<br>at $I_F = 1\text{ A}$                        | $V_F$       | 1N5817WS<br>-  | 0.45  | V    |
|                                                                 |             | 1N5818WS<br>-  | 0.55  |      |
|                                                                 |             | 1N5819WS<br>-  | 0.6   |      |
| at $I_F = 3\text{ A}$                                           | $V_F$       | 1N5817WS<br>-  | 0.75  | V    |
|                                                                 |             | 1N5818WS<br>-  | 0.875 |      |
|                                                                 |             | 1N5819WS<br>-  | 0.9   |      |
| Reverse Voltage Leakage Current<br>at $V_R = 20\text{ V}$       | $I_R$       | 1N5817WS<br>-  | 1     | mA   |
| at $V_R = 30\text{ V}$                                          |             | 1N5818WS<br>-  | 1     |      |
| at $V_R = 40\text{ V}$                                          |             | 1N5819WS<br>-  | 1     |      |
| Total Capacitance<br>at $V_R = 4\text{ V}$ , $f = 1\text{ MHz}$ | $C_{tot}$   | -              | 120   | pF   |

## 1N5817WS~1N5819WS

**Fig. 1 - Forward Current Derating Curve**

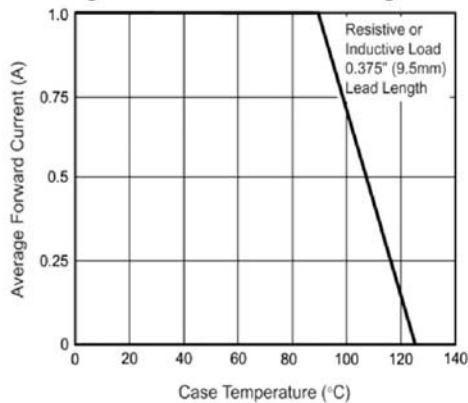


**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current**

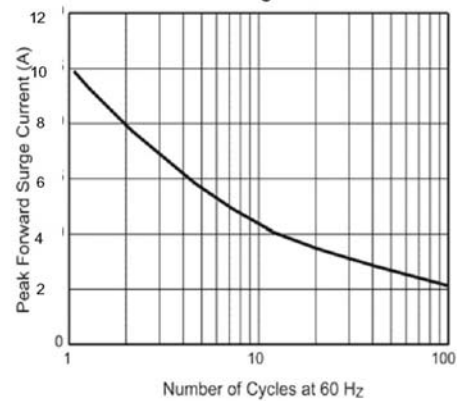


**Fig. 3 - Typical Instantaneous Forward Characteristics**

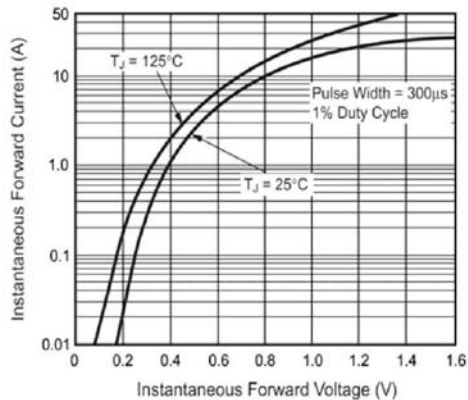


**Fig. 4 - Typical Reverse Characteristics**

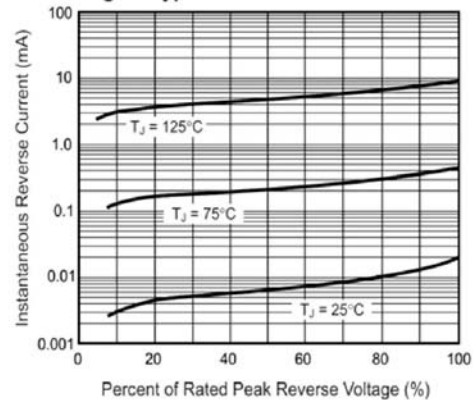


**Fig. 5 - Typical Junction Capacitance**

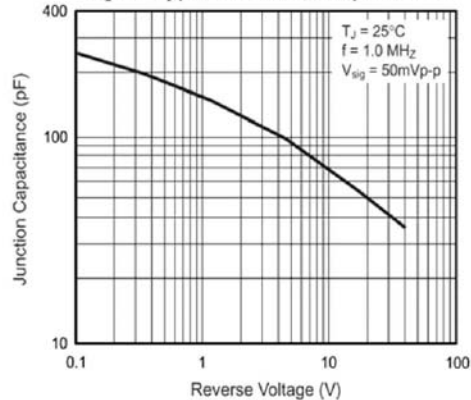


**Fig. 6 - Typical Transient Thermal Impedance**

