

SOD-123

## Features:

- Extremely Low  $V_f$
- Low Stored Charge, Majority Carrier Conduction
- Low Power Loss / High Efficient

## Applications:

- For Use in Low Voltage, High Frequency Inverters
- Free Wheeling and Polarity Protection Applications

## Maximum Ratings:

Ratings at 25°C unless otherwise specified.

| Parameter   | Symbol                          | Value       | Unit |
|---|---------------------------------|-------------|------|
| Non-repetitive peak reverse voltage   | $V_{RSM}$                       | 48          | V    |
| Peak repetitive reverse voltage<br>Working peak reverse voltage<br>DC reverse voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 40          | V    |
| RMS reverse voltage   | $V_{R(RMS)}$                    | 28          | V    |
| Average rectified output current  | $I_o$                           | 1           | A    |
| Peak forward surge current at =8.3ms  | $I_{FSM}$                       | 25          | A    |
| Power dissipation   | $P_d$                           | 250         | mW   |
| Thermal resistance junction to ambient air  | $R_{\theta JA}$                 | 80          | °C/W |
| Storage temperature   | $T_j, T_{STG}$                  | -65 to +125 | °C   |

## Electrical Characteristics:

Ratings at 25°C unless otherwise specified

| Parameter                       | Symbol     | Min. | Max.       | Unit | Test Condition                     |
|---------------------------------|------------|------|------------|------|------------------------------------|
| Reverse breakdown voltage       | $V_{(BR)}$ | 40   | -          | V    | $I_R=1\text{mA}$                   |
| Forward voltage                 | $V_F$      | -    | 0.6<br>0.9 | V    | $I_F=1\text{A}$<br>$I_F=3\text{A}$ |
| Reverse voltage leakage current | $I_R$      | -    | 1          | mA   | $V_R=40\text{V}$                   |
| Diode capacitance               | $C_D$      | -    | 120        | pF   | $V_R=4\text{V}$ , $f=1\text{MHz}$  |

## Typical Characteristics:

$T_A = 25^\circ\text{C}$  unless otherwise specified

Fig. 1 - Forward Current Derating Curve

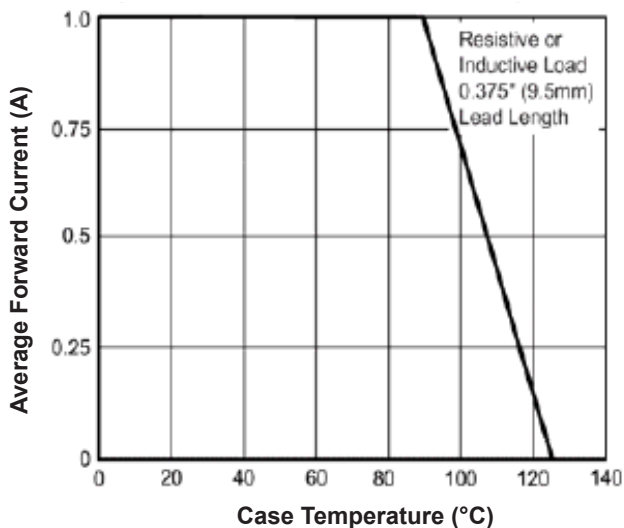
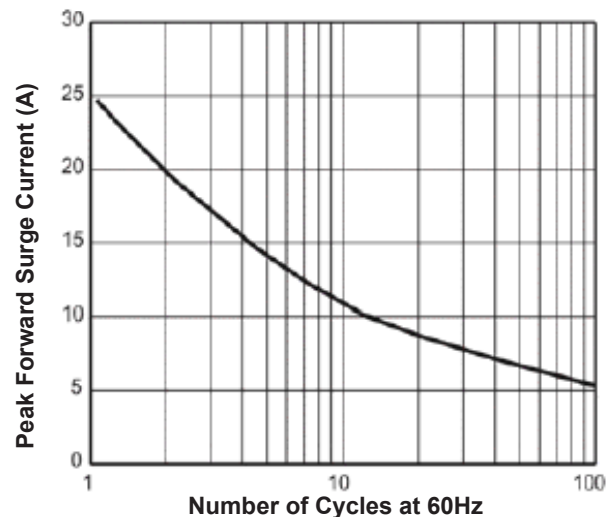
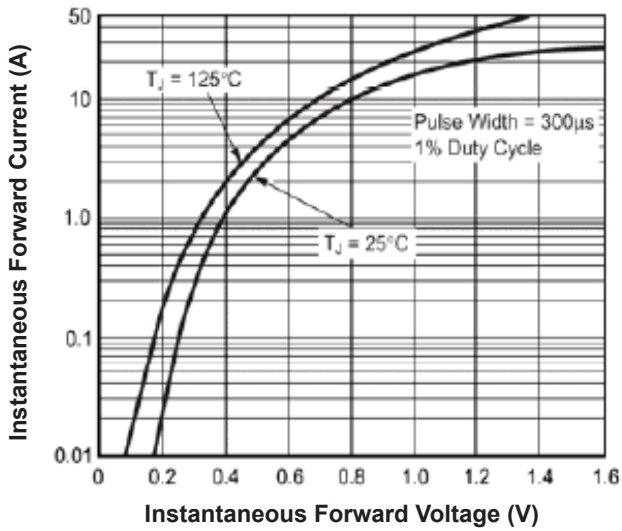


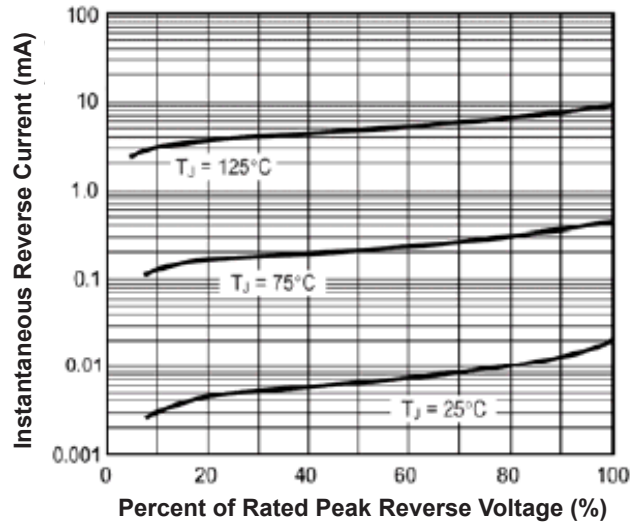
Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current



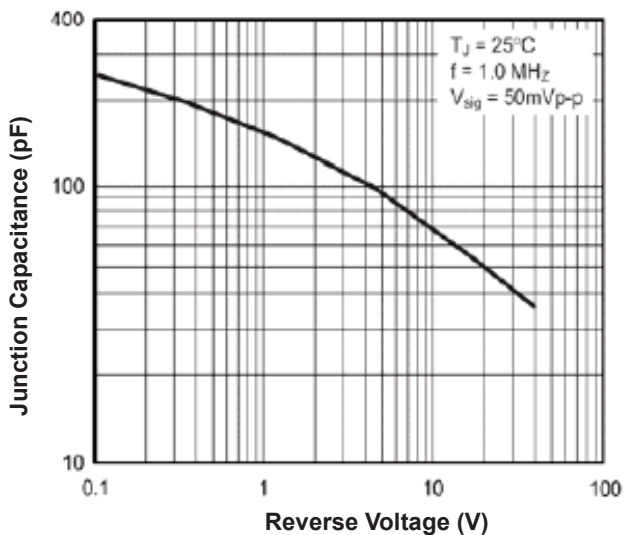
**Fig. 3 - Typical Instantaneous Forward Characteristics**



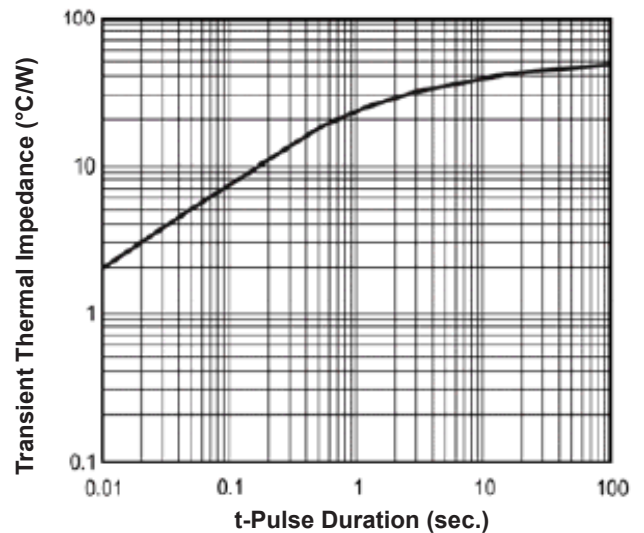
**Fig. 4 - Typical Reverse Characteristics**



**Fig. 5 - Typical Junction Capacitance**

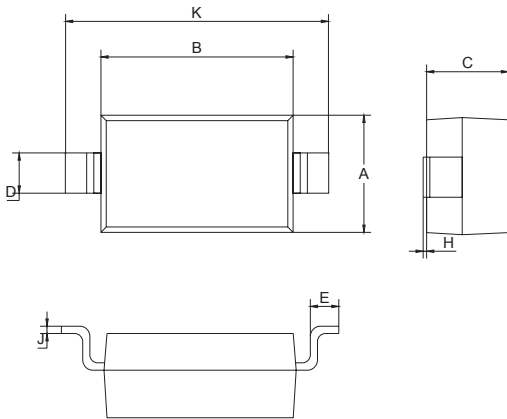


**Fig. 6 - Typical Transient Thermal Impedance**



## Package Outline:

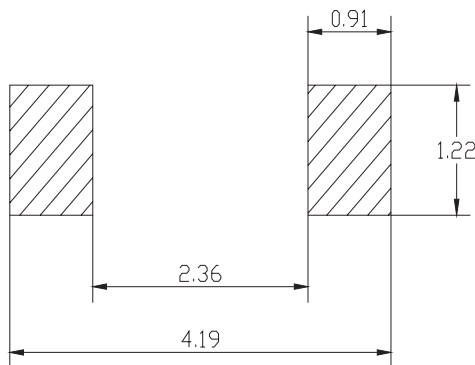
Plastic surface mounted package



| SOD-123 |           |      |
|---------|-----------|------|
| Dim.    | Min.      | Max. |
| A       | 1.4       | 1.8  |
| B       | 2.55      | 2.85 |
| C       | 1.15 Typ. |      |
| D       | 0.5       | 0.6  |
| E       | 0.3       | 0.4  |
| H       | 0.02      | 0.1  |
| J       | 0.1 Typ.  |      |
| K       | 3.55      | 3.85 |

Dimensions : Millimetres

## Soldering Footprint:



Dimensions : Millimetres

## Package Information:

| Device       | Package | Shipping            |
|--------------|---------|---------------------|
| 1N5819HW-7-F | SOD-123 | 3,000 / Tape & Reel |

## Part Number Table

| Description            | Part Number  |
|------------------------|--------------|
| Schottky Barrier Diode | 1N5819HW-7-F |

**Important Notice :** This data sheet and its contents (the "Information") belong to the members of the AVNET group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp Pro is the registered trademark of Premier Farnell Limited 2019.