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# 1N4148WT / 1N4448WT / 1N914BWT

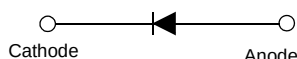
## High Conductance Fast Switching Diode

### Features

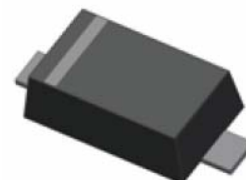
- Fast Switching Diode ( $T_{rr} < 4.0\text{ nsec}$ )
- Flat Lead, Surface Mount Device Under 0.70mm Height
- Extremely Small Outline Plastic Package SOD523F
- Moisture Level Sensitivity 1
- Pb-free Version and RoHS Compliant
- Matte Tin (Sn) Lead Finish
- Green Mold Compound

#### Device Marking Code

| Device Type | Device Marking |
|-------------|----------------|
| 1N4148WT    | E1             |
| 1N4448WT    | E2             |
| 1N914BWT    | E3             |



ELECTRICAL SYMBOL



SOD-523F

Band Indicates Cathode

### Absolute Maximum Ratings\* $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol    | Parameter                            | Value       | Units            |
|-----------|--------------------------------------|-------------|------------------|
| $V_{RSM}$ | Non-Repetitive Peak Reverse Voltage  | 75          | V                |
| $V_{RRM}$ | Repetitive Peak Reverse Voltage      | 75          | V                |
| $I_{FRM}$ | Repetitive Peak Forward Current      | 300         | mA               |
| $T_J$     | Operating Junction Temperature Range | -55 to +150 | $^\circ\text{C}$ |
| $T_{STG}$ | Storage Temperature Range            | -55 to +150 | $^\circ\text{C}$ |

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

#### NOTES:

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Thermal Characteristics

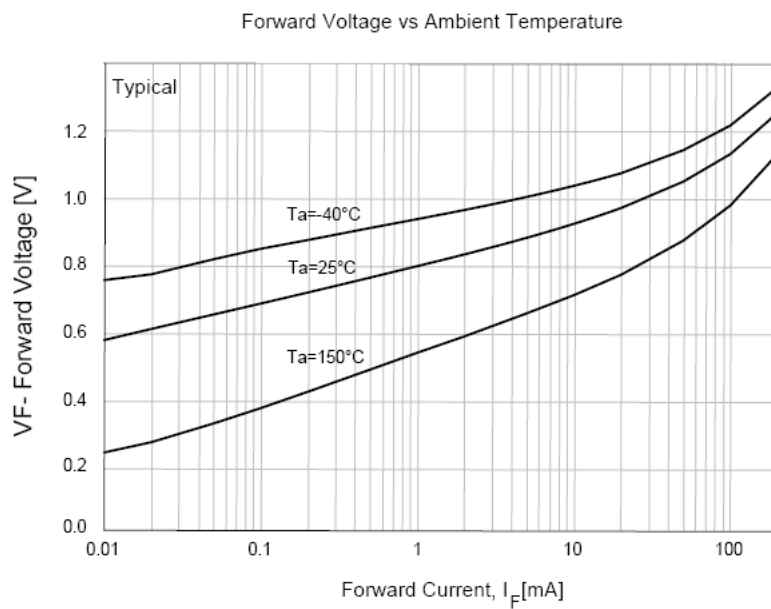
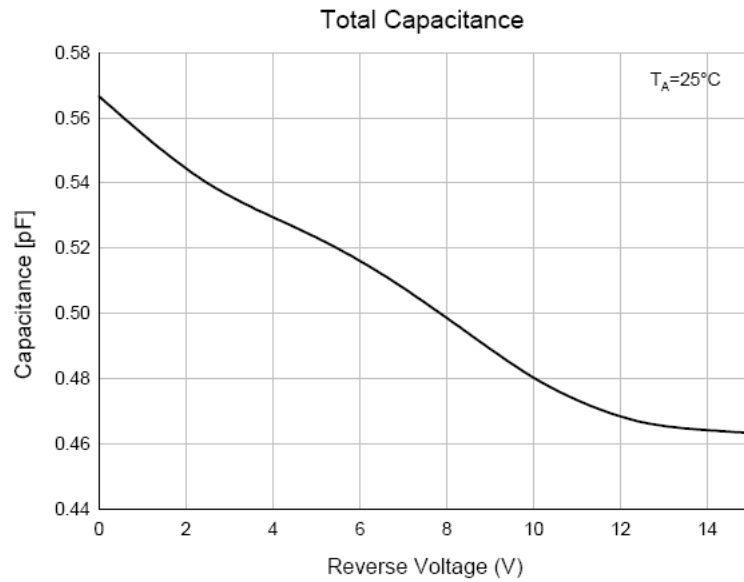
| Symbol          | Parameter                                      | Value | Units              |
|-----------------|------------------------------------------------|-------|--------------------|
| $P_D$           | Power Dissipation ( $T_C = 25^\circ\text{C}$ ) | 200   | mW                 |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient        | 500   | $^\circ\text{C/W}$ |

\* Device mounted on FR-4 PCB minimum land pad.

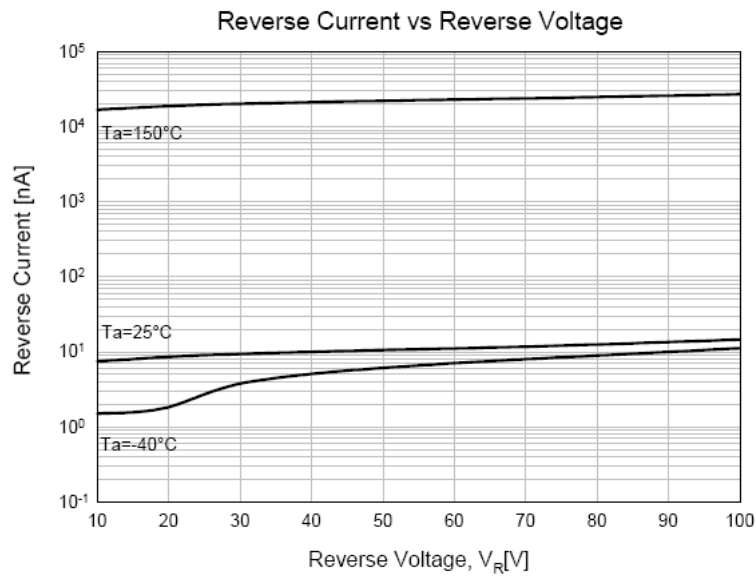
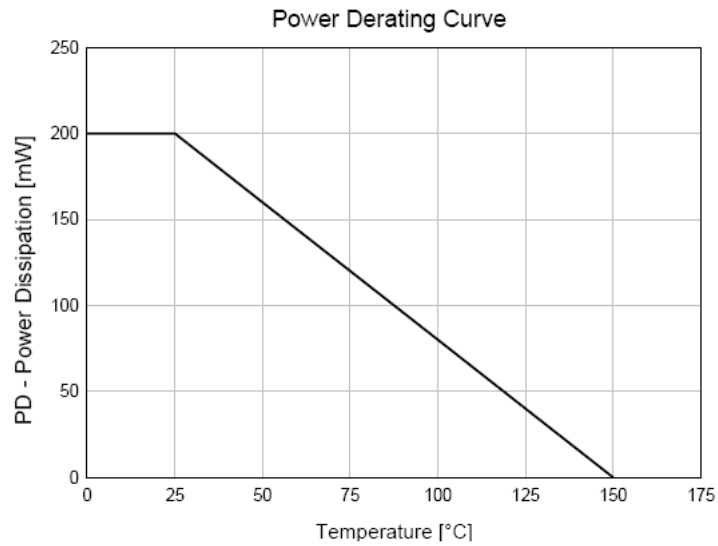
### Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol   | Parameter             | Test Conditions                                                                                                          | Min       | Typ | Max            | Units               |
|----------|-----------------------|--------------------------------------------------------------------------------------------------------------------------|-----------|-----|----------------|---------------------|
| $BV_R$   | Breakdown Voltage     | $I_R = 100\text{ }\mu\text{A}$<br>$I_R = 5\text{ }\mu\text{A}$                                                           | 100<br>75 |     |                | V                   |
| $I_R$    | Reverse Current       | $V_R = 20\text{ V}$<br>$V_R = 75\text{ V}$                                                                               |           |     | 25<br>5        | nA<br>$\mu\text{A}$ |
| $V_F$    | Forward Voltage       | 1N4448WT/ 914BWT<br>1N4148WT<br>1N4448WT/ 914BWT<br>$I_F = 5\text{ mA}$<br>$I_F = 10\text{ mA}$<br>$I_F = 100\text{ mA}$ | 0.62      |     | 0.72<br>1<br>1 | V                   |
| $C_O$    | Diode Capacitance     | $V_R = 0, f = 1\text{ MHz}$                                                                                              |           |     | 4              | pF                  |
| $T_{RR}$ | Reverse Recovery Time | $I_F = 10\text{ mA}, V_R = 6.0\text{ V}$<br>$I_{RR} = 1\text{ mA}, R_L = 100\text{ }\Omega$                              |           |     | 4              | nS                  |

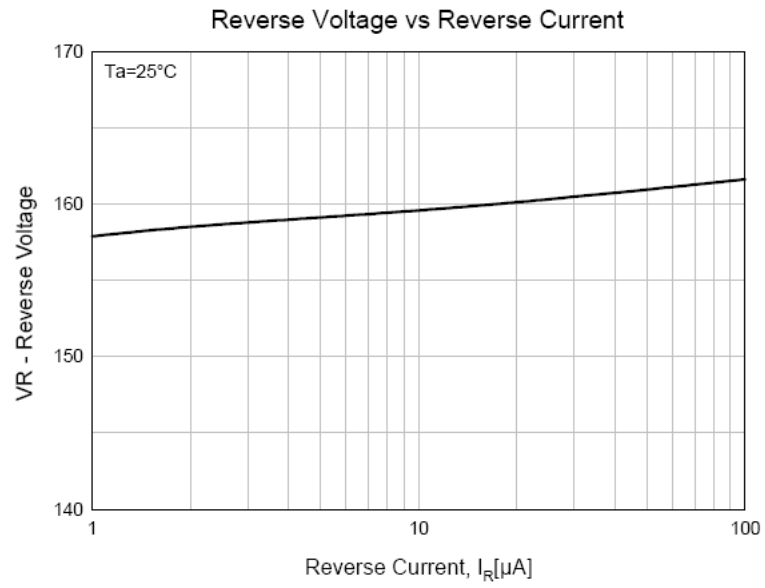
## Typical Performance Characteristics



## Typical Performance Characteristics (Continue)

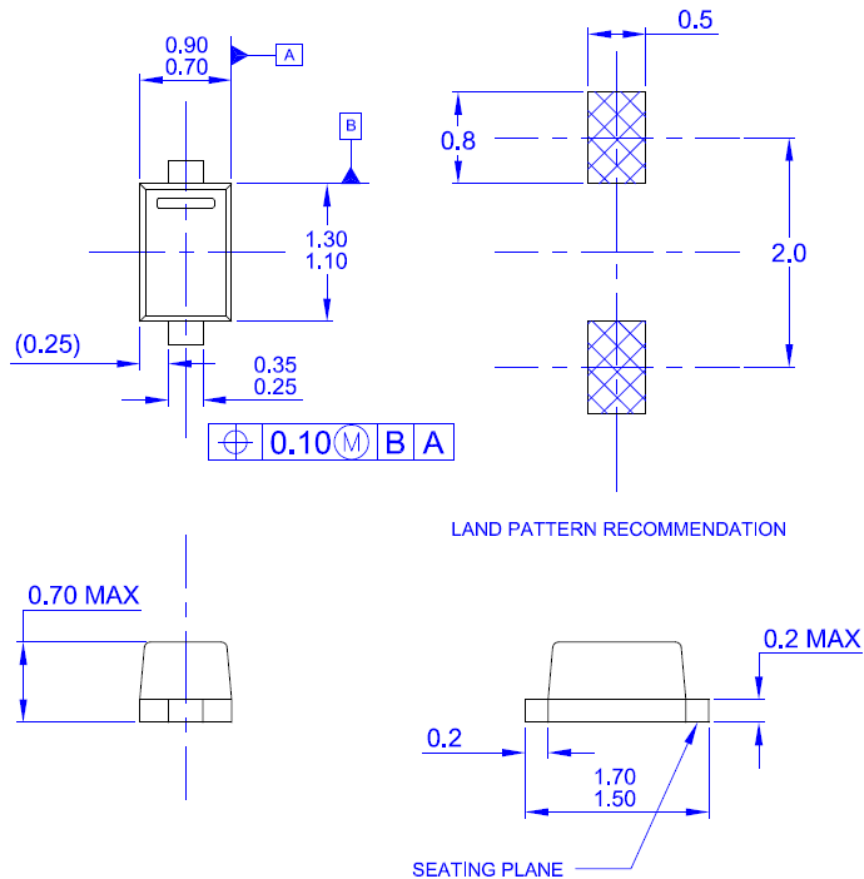


## Typical Performance Characteristics (Continue)



# Physical Dimension

## SOD-523F



### NOTES: UNLESS OTHERWISE SPECIFIED

- A) PACKAGE REFERENCE: THIS PACKAGE OUTLINE CONFORMS TO JEITA SC-79.
- B) ALL DIMENSIONS ARE IN MILLIMETERS.
- C) DRAWING CONFORMS TO ASME Y14.5M - 1994
- D) DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR EXTRUSIONS.
- E) LANDPATTERN RECOMMENDATION IS BASED ON IPC7351A STANDARD SOD1609X65M.
- F) DRAWING NUMBER AND REVISION: MKT-SOD523F1rev1



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