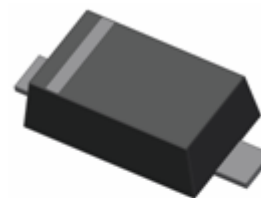


## 200mW SOD-523 SURFACE MOUNT

### Very Small Outline Flat Lead Plastic Package

### General Purpose Application

### Fast Switching Diode

**Green Product**


SOD-523 Flat Lead



ELECTRICAL SYMBOL

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

Symbol	Parameter	Value	Units
$P_D$	Power Dissipation	200	mW
$T_{STG}$	Storage Temperature Range	-55 to +150	$^\circ\text{C}$
$T_J$	Operating Junction Temperature	+150	$^\circ\text{C}$
$V_{RSM}$	Non-Repetitive Peak Reverse Voltage	100	V
$V_{RRM}$	Repetitive Peak Reverse Voltage	75	V
$I_{FRM}$	Repetitive Peak Forward Current	300	mA
$I_O$	Continuous Forward Current	150	mA
$I_{FSM}$	Non-repetitive Peak Forward Surge Current (Pulse Width=1us)	2	A

These ratings are limiting values above which the serviceability of the diode may be impaired.

**Specification Features:**

- Fast Switching Device ( $T_{RR} < 4.0$  nS)
- General Purpose Diodes
- RoHS Compliant
- Green EMC
- Matte Tin(Sn) Lead Finish
- Band Indicates Cathode
- Weight: approx. 0.002g
- AEC-Q101 Qualified

**DEVICE MARKING CODE:**

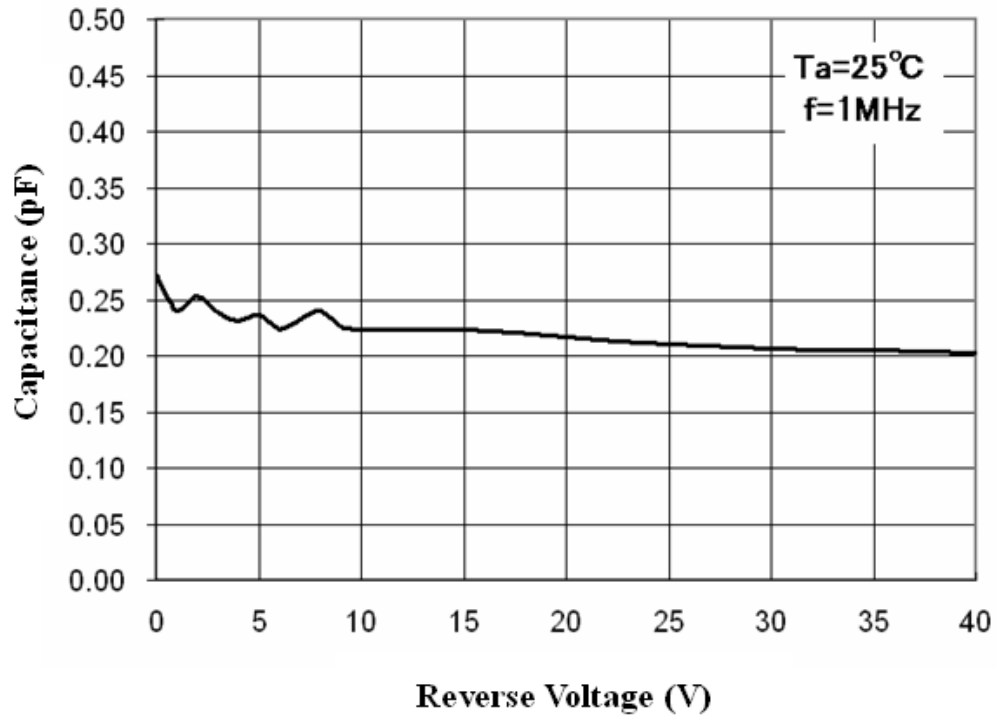
Device Type	Device Marking
TC1N4148WT	E1
TC1N4448WT	E2
TC1N914BWT	E3

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

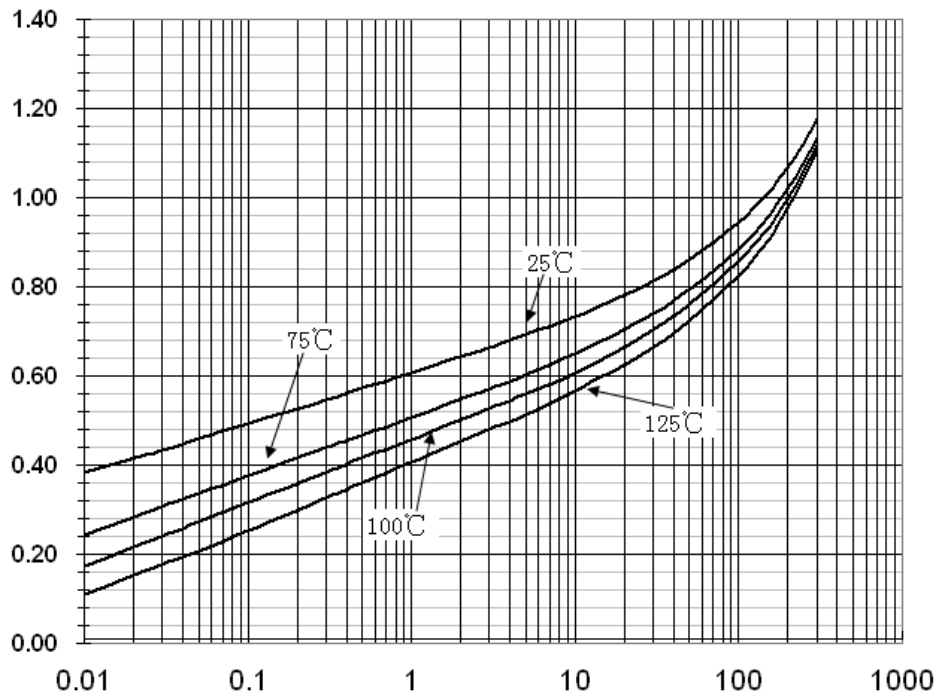
Symbol	Parameter	Test Condition	Limits		Unit
			Min	Max	
$B_V$	Breakdown Voltage	$I_R=100\mu\text{A}$	100		Volts
		$I_R=5\mu\text{A}$	75		
$I_R$	Reverse Leakage Current	$V_R=20\text{V}$		25	nA
		$V_R=75\text{V}$		5	$\mu\text{A}$
$V_F$	Forward Voltage	TC1N4448WT, TC1N914BWT $I_F=5\text{mA}$	0.62	0.72	Volts
		TC1N4148WT $I_F=10\text{mA}$		1.0	
		TC1N4448WT, TC1N914BWT $I_F=100\text{mA}$		1.0	
$T_{RR}$	Reverse Recovery Time	$I_F=10\text{mA}$ $I_R=60\text{mA}$ $R_L=100\Omega$ $I_{RR}=1\text{mA}$		4	nS
$C$	Capacitance	$V_R=0\text{V}$ , $f=1\text{MHz}$		4	pF

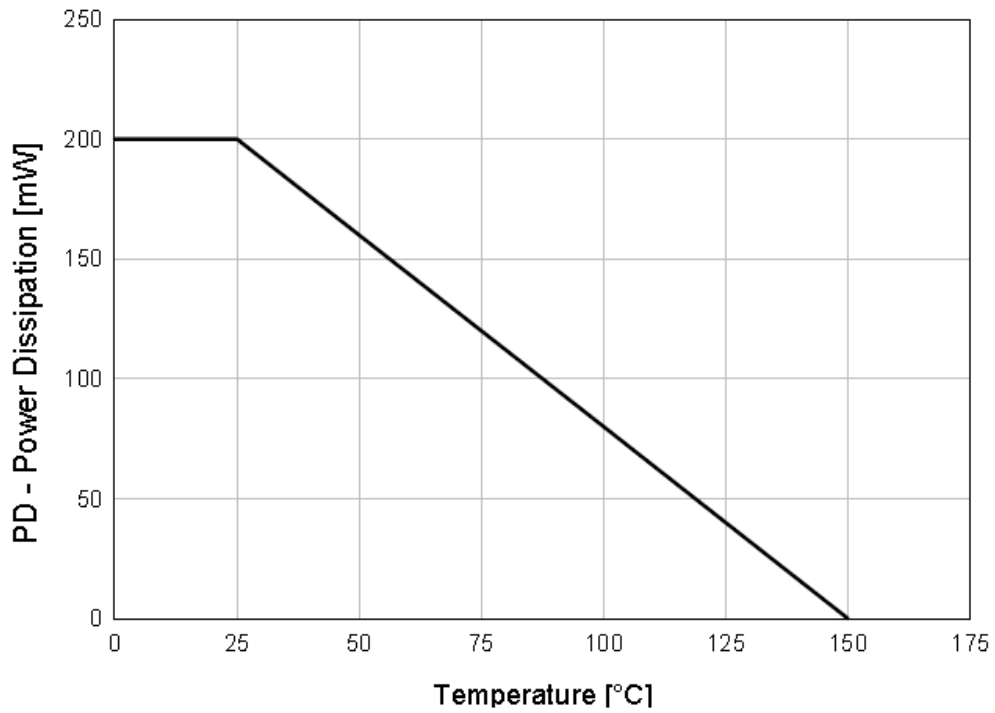
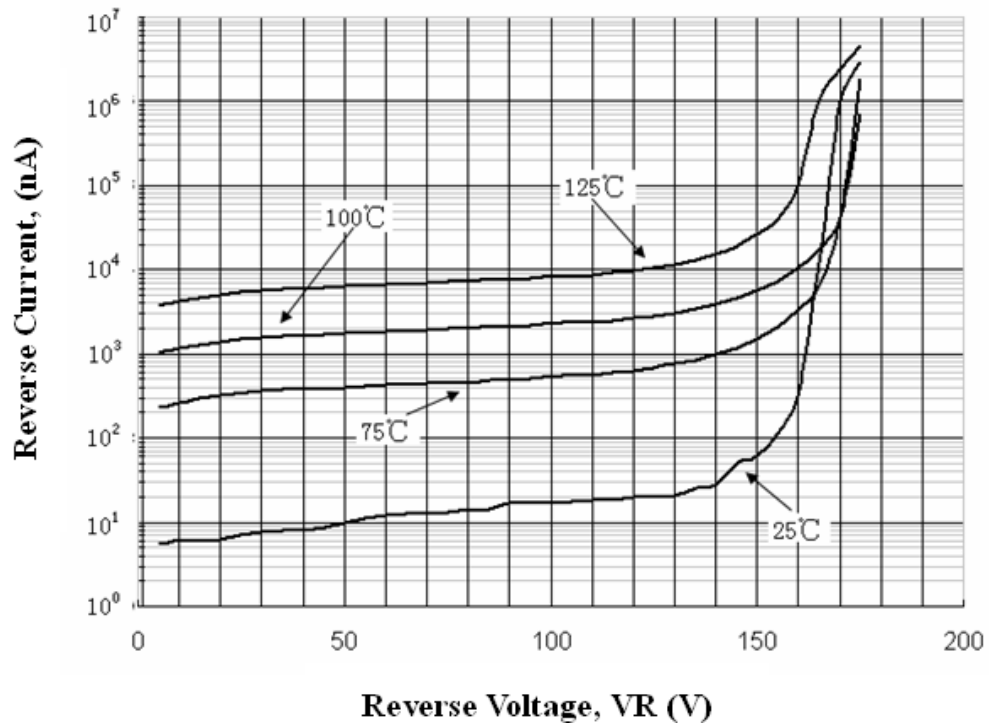
**Typical Performance Characteristics**

**Total Capacitance**

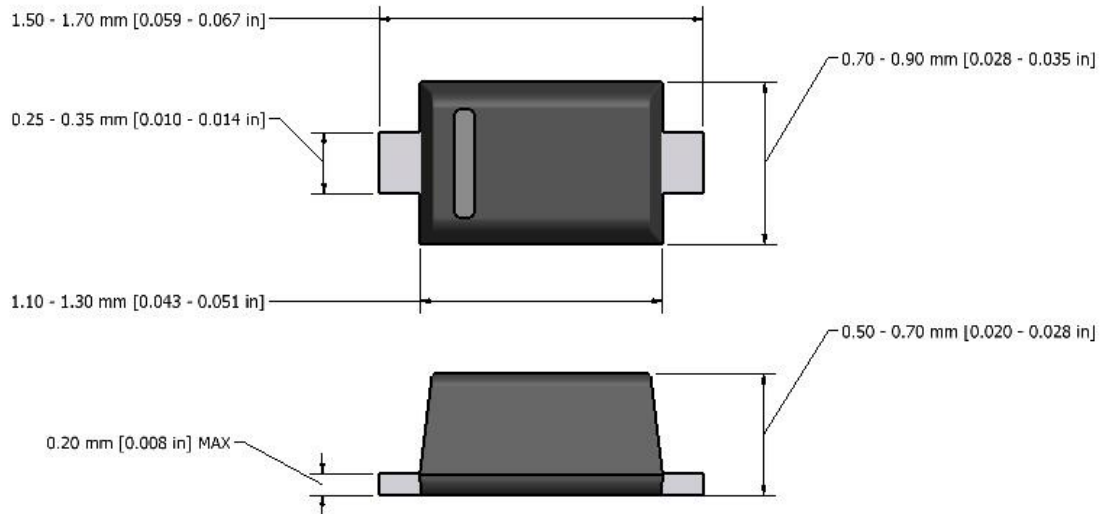


**Forward Voltage vs Ambient Temperature**



**Power Derating Curve**

**Reverse Current vs Reverse Voltage**


**Flat Lead SOD-523 Package Outline**



**Note:** Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

## **NOTICE**

The information presented in this document is for reference only. Tak Cheong reserves the right to make changes without notice for the specification of the products displayed herein.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Tak Cheong Semiconductor Co., Ltd., or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <http://www.takcheong.com>, or consult your nearest Tak Cheong's sales office for further assistance.

### **“AEC-Q101 QUALIFIED” Statement:**

Tak Cheong has the capabilities to conduct tests for product packages by grouping in selective bases. Tak Cheong reserves the rights for making necessary arrangement for the subject test due to the amount of time and resources involved.