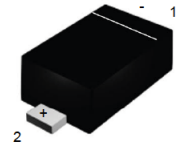


**Features**

- Low reverse current
- Fast switching speed



SOD-523



Schematic Diagram

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

Parameter	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	$V_{RM}$	100	V
Peak Repetitive Reverse Voltage	$V_{RRM}$	75	V
Working Peak Reverse Voltage	$V_{RWM}$	75	V
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Average Rectified Output Current	$I_o$	250	mA
Non-Repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$	$I_{FSM}$	2	A
Power Dissipation ( $T_{sp}\leq 90^{\circ}\text{C}$ ) <sup>1</sup>	$P_D$	500	mW
Max. Thermal Resistance from Junction to Soldering Point <sup>1</sup>	$R_{th(j-sp)}$	120	$^{\circ}\text{C}/\text{W}$
Junction Temperature Range	$T_J$	-55 to +150	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

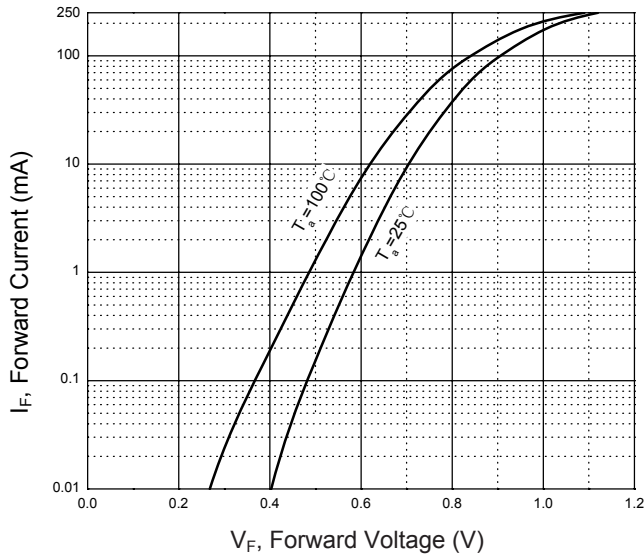
Note:

1. FR4 PCB, standard footprint. Soldering point at cathode.

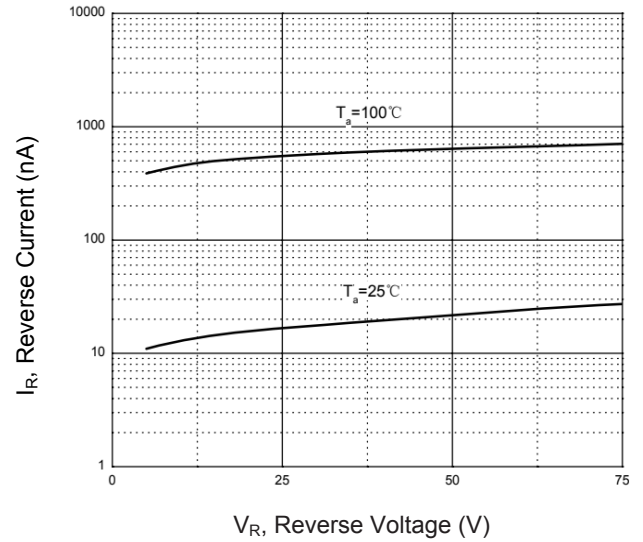
**Electrical Characteristics** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ.	Max	Unit
Reverse Voltage	$V_{(BR)}$	$I_R=100\mu\text{A}$	75	-	-	V
Reverse Current	$I_R$	$V_R=25\text{V}$	-	-	30	nA
		$V_R=75\text{V}$	-	-	1	$\mu\text{A}$
Forward Voltage	$V_F$	$I_F=1\text{mA}$	-	-	0.715	V
		$I_F=10\text{mA}$	-	-	0.855	V
		$I_F=50\text{mA}$	-	-	1	V
		$I_F=150\text{mA}$	-	-	1.25	V
Total Capacity	$C_{tot}$	$V_R=0\text{V}, f=1\text{MHz}$	-	-	1	pF
Reverse Recovery Time	$t_{rr}$	$I_F=I_R=10\text{mA}, I_{rr}=0.1 \times I_R, R_L=100\Omega$	-	-	4	nS

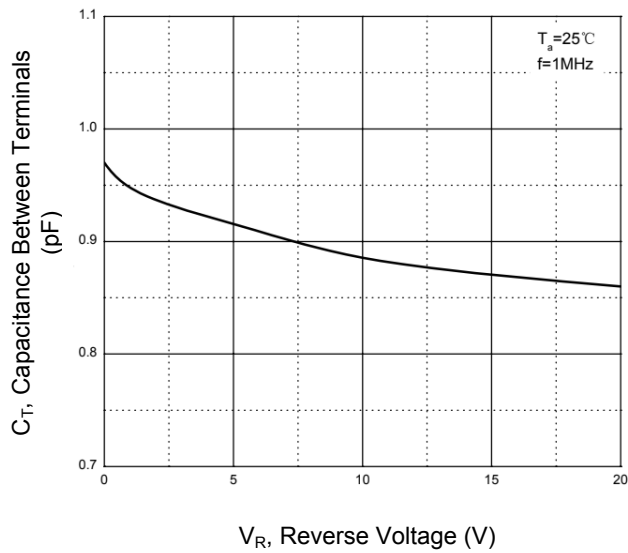
**Typical Characteristic Curves**



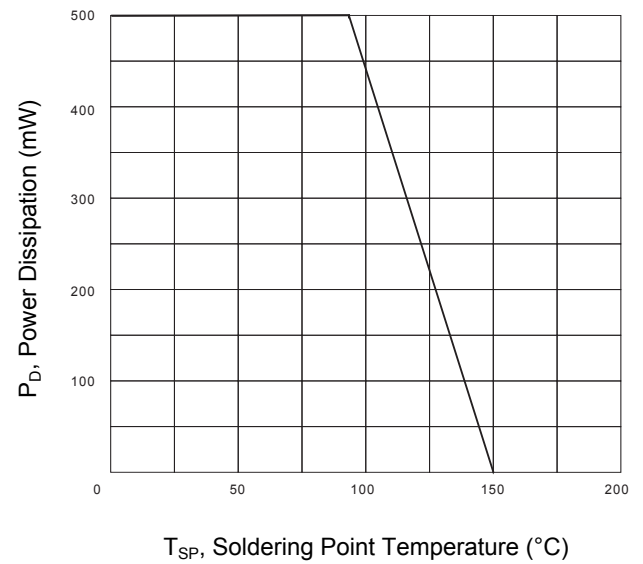
**Figure 1. Forward Characteristics**



**Figure 2. Reverse Characteristics**

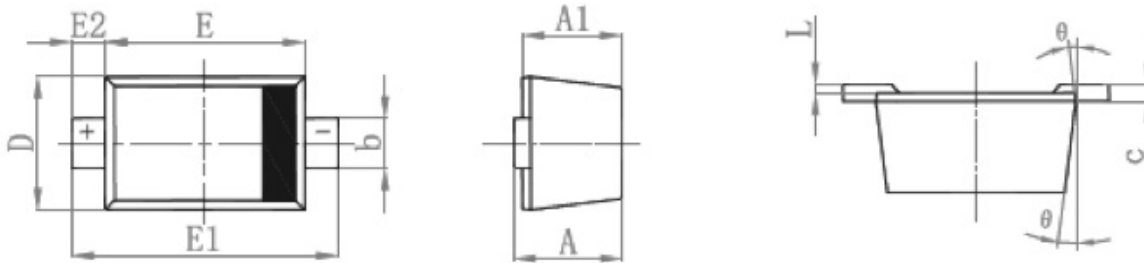


**Figure 3. Capacitance Characteristics**



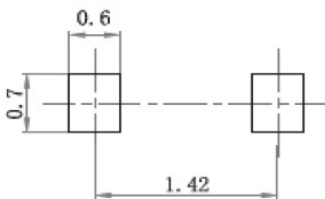
**Figure 4. Power Derating Curve**

**Package Outline Dimensions (SOD-523)**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
$\theta$	7° REF		7° REF	

**Recommended Pad Layout**



- Note:
1. Controlling dimension: in millimeters
  2. General tolerance: 0.05mm
  3. The pad layout is for reference purpose only

**Order Information**

Device	Package	Marking	Packaging	SPQ
BAS516	SOD-523	61	Tape & Reel	3,000pcs / Reel

For more information, please contact us at: [inquiry@goodarksemi.com](mailto:inquiry@goodarksemi.com)