

SOD-523 Plastic-Encapsulate Diodes

High Voltage Switching Diode

1. FEATURES

- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- AEC-Q101 qualified (Automotive grade with suffix "Q.")
- Exsemi technology

SOD-523



2. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	Shipping
BAS16X	A6	8000/Tape&Reel

3. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Continuous Reverse Voltage	VR	75	V
Peak Forward Current	IF	200	mA
Peak Forward Surge Current	IFSM	500	mA

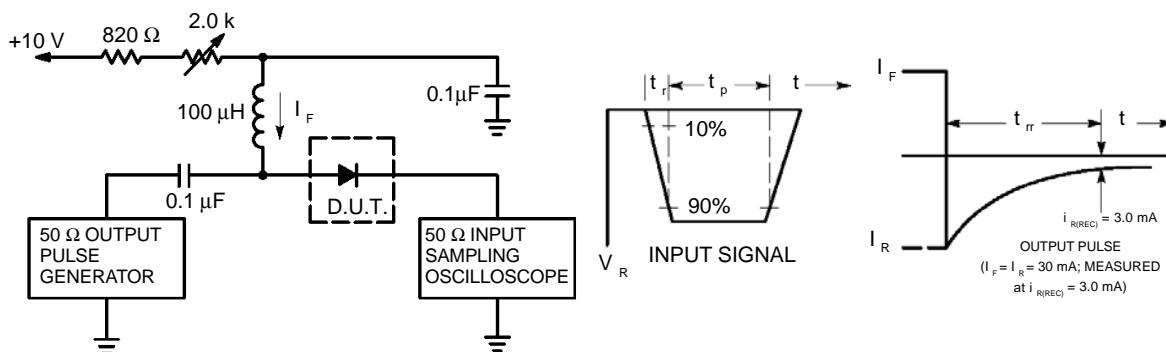
4. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Total Device Dissipation FR-5 Board, (Note 1) TA = 25°C	PD	150	mW
Thermal Resistance, Junction to Ambient	RθJA	833	°C/W
Junction and Storage Temperature	TJ , Tstg	-55~+150	°C

1. FR-5 = 1.0 x 0.75 x 0.062 in.

5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

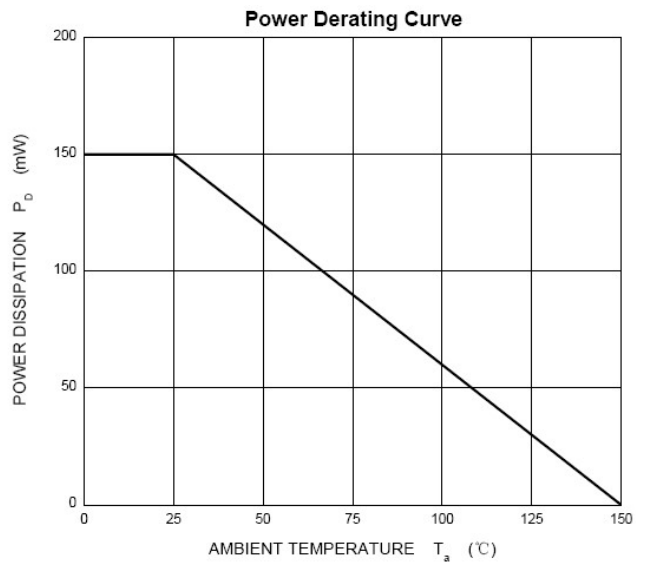
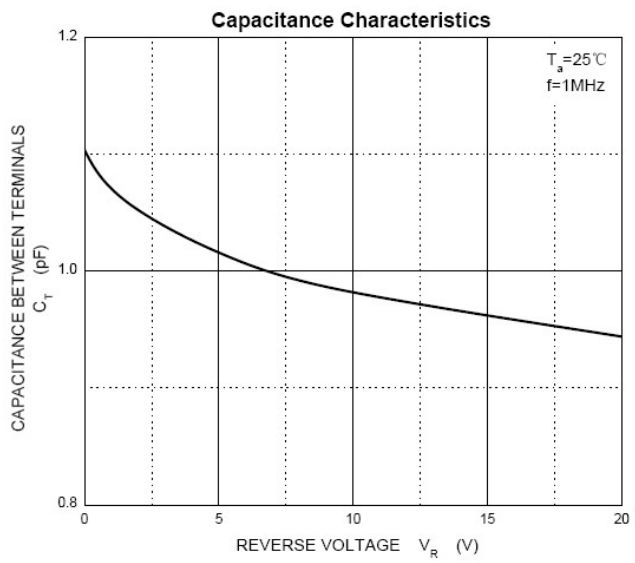
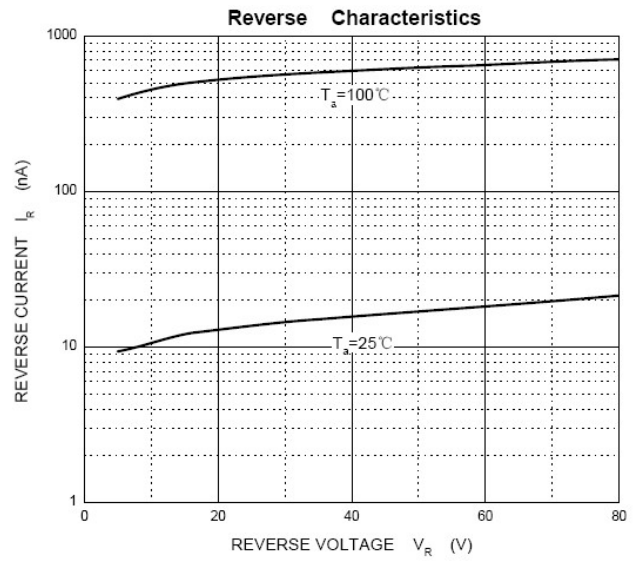
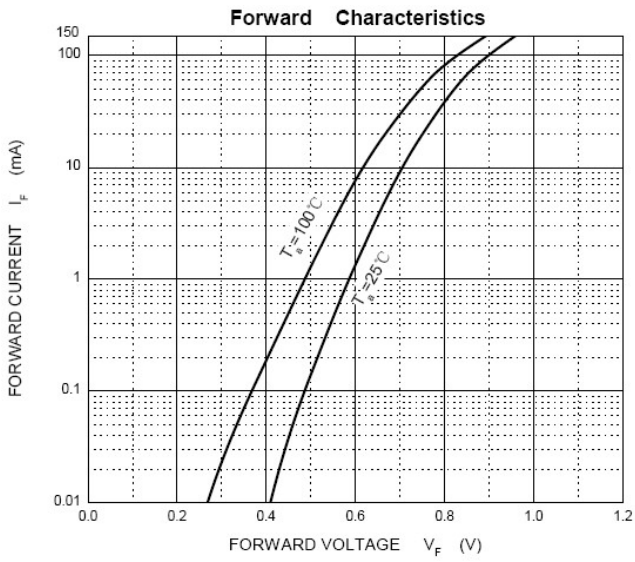
Characteristic	Symbol	Min	Max	Unit
Reverse Voltage Leakage Current ($V_R = 75\text{Vdc}$)	I_R	—	1.0	μAdc
($V_R = 75\text{ Vdc}$, $T_J = 150^\circ\text{C}$)		—	50	
($V_R = 25\text{ Vdc}$, $T_J = 150^\circ\text{C}$)		—	30	
Reverse Breakdown Voltage ($I_{BR} = 100\ \mu\text{Adc}$)	$V_{(BR)}$	75	—	Vdc
Forward Voltage ($I_F = 1.0\ \text{mAdc}$)	V_F	—	715	mV
($I_F = 10\ \text{mAdc}$)		—	855	
($I_F = 50\ \text{mAdc}$)		—	1000	
($I_F = 150\ \text{mAdc}$)		—	1250	
Diode Capacitance ($V_R = 0$, $f = 1.0\ \text{MHz}$)	C_D	—	2.0	pF
Forward Recovery Voltage ($I_F = 10\ \text{mAdc}$, $t_r = 20\text{ns}$)	V_{FR}	—	1.75	Vdc
Reverse Recovery Time ($I_F = I_R = 10\ \text{mAdc}$, $R_L = 50\ \Omega$)	t_{rr}	—	6.0	ns
Stored Charge ($I_F = 10\ \text{mAdc}$ to $V_R = 5.0\text{Vdc}$, $R_L = 500\ \Omega$)	Q_S	—	45	pC



- Notes: 1. A 2.0 k Ω variable resistor adjusted for a Forward Current (I_F) of 30 mA.
 2. Input pulse is adjusted so $I_{R(\text{peak})}$ is equal to 30 mA.
 3. $t_p \gg t_{rr}$

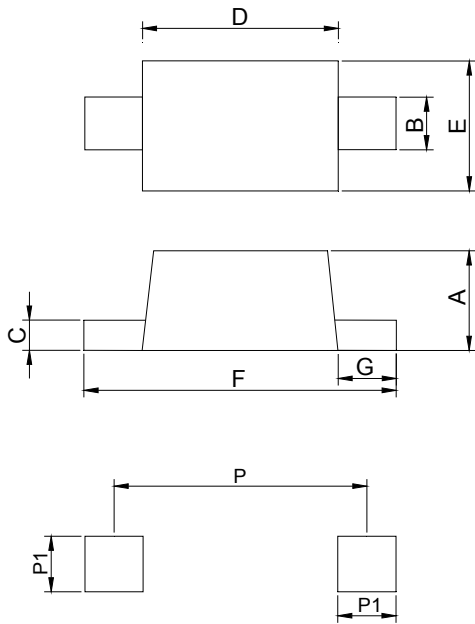
Figure 1. Recovery Time Equivalent Test Circuit

6.ELECTRICAL CHARACTERISTICS CURVES



7. PACKAGE MECHANICAL DATA

SOD-523 Package Outline Dimensions



Land Pattern

Symbol	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	Max
A	0.50	0.61	0.77	0.020	0.024	0.030
B	0.25	0.30	0.40	0.010	0.012	0.016
C	0.07	0.13	0.20	0.003	0.005	0.008
D	1.10	1.20	1.30	0.043	0.047	0.051
E	0.70	0.80	0.90	0.028	0.031	0.035
F	1.50	1.60	1.70	0.059	0.063	0.067
G	0.15	0.20	0.25	0.006	0.008	0.010
P1	0.60			0.024		
P	1.42			0.056		