

SOD-123 Plastic-Encapsulate Schottky Barrier Diode

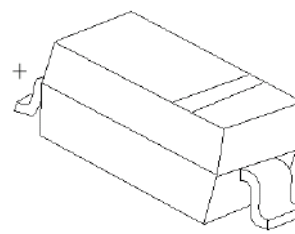
Features

- High Current Capability
- Low Forward Voltage Drop
- AEC-Q101 qualified

Mechanical Data

- package: SOD-123
- Polarity: Color band denotes cathode end
- Flammability rating of epoxy resin: UL 94V-0
- Mounting Position: Any

SOD-123



Ordering Information

Part Number	Package	Marking	Packing	Quantity per reel	Reel Size
B0520W-AEC	SOD-123	SD	Tape & Reel	3,000 PCS	7 inches
B0530W-AEC	SOD-123	SE	Tape & Reel	3,000 PCS	7 inches
B0540W-AEC	SOD-123	SF	Tape & Reel	3,000 PCS	7 inches

Maximum Ratings & Thermal Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted.)

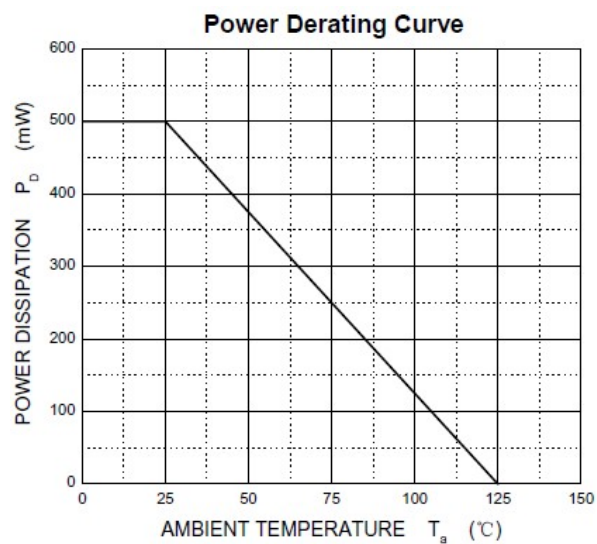
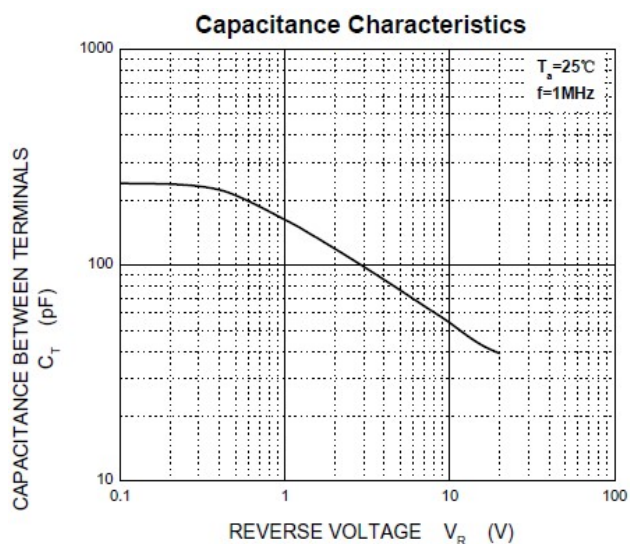
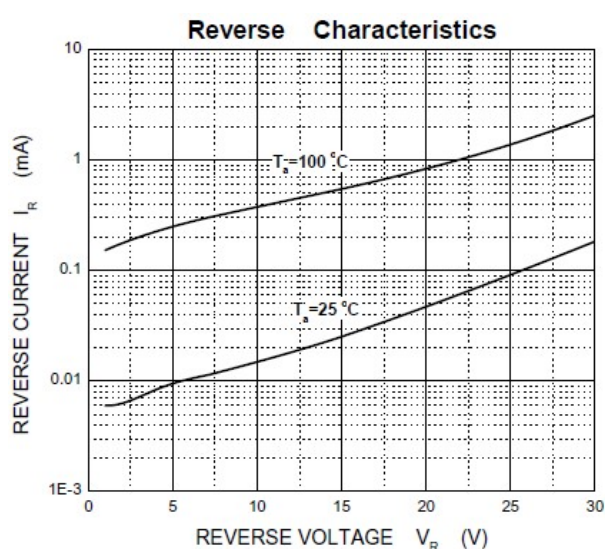
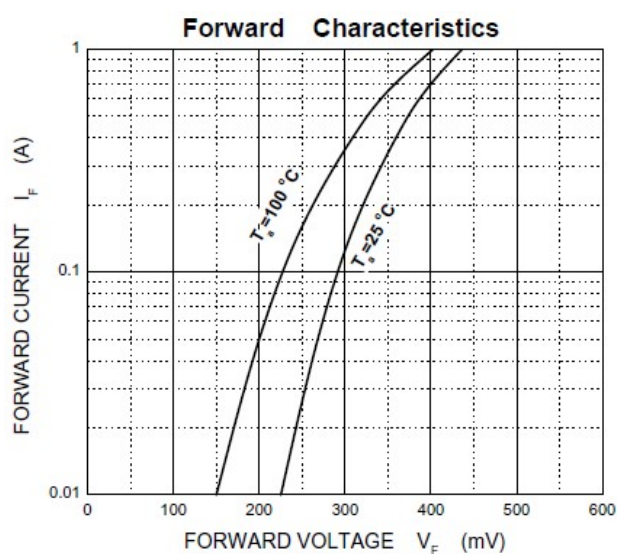
Parameters	Symbol	B0520W-AEC	B0530W-AEC	B0540W-AEC	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	V
Maximum RMS voltage	V_{RMS}	14	21	28	V
Maximum DC blocking voltage	V_{DC}	20	30	40	V
Maximum average forward rectified current	I_{FM}	0.5			A
Peak forward surge current 8.3 ms single half sine-wave	I_{FSM}	5.5			A
Typical thermal resistance	$R_{\theta JA}$	200			$^{\circ}\text{C}/\text{W}$
Power Dissipation	P_D	500			mW
Storage temperature range	T_{STG}	-50~+150			$^{\circ}\text{C}$
Voltage rate of change	DV/dt	1000			V/ μS



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

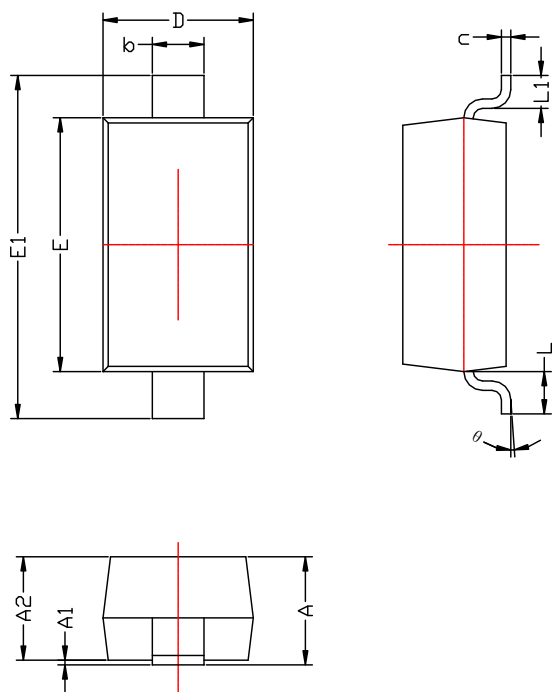
Parameters	Symbol	Test conditions	B0520W-AEC	B0530W-AEC	B0540W-AEC	Unit
Maximum forward voltage	V_F	$I_F = 0.1\text{A}$	0.330	0.375	---	V
		$I_F = 0.5\text{A}$	0.385	0.430	0.510	
		$I_F = 1.0\text{A}$	---	---	0.620	
Maximum reverse breakdown voltage	V_R	$I_R=250\mu\text{A}$	20	---	---	V
		$I_R=200\mu\text{A}$	---	30	---	
		$I_R=20.0\mu\text{A}$	---	---	40	
Maximum reverse current	I_R	$V_R=10\text{V}$	75	---	---	μA
		$V_R=15\text{V}$	---	20	---	
		$V_R=20\text{V}$	250	---	10	
		$V_R=30\text{V}$	---	130	---	
		$V_R=40\text{V}$	---	---	20	
Capacitance between terminals	C_T	$V_R = 0\text{V}$, $f = 1\text{MHz}$			170	pF

Typical Characteristics





SOD-123 Package Outline Dimensions



Symbol	Dimensions	
	Min	Max
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.450	0.650
c	0.080	0.150
D	1.500	1.700
E	2.600	2.800
E1	3.550	3.850
L	0.500REF	
L1	0.250	0.450
θ	0°	8°