

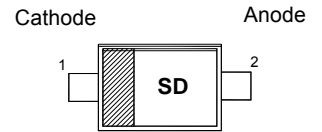


B120W SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER




Features

Low Forward Voltage Drop
Guard Ring Construction for Transient Protection
High Conductance
Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
Halogen and Antimony Free. "Green" Device (Note 3)



Mechanical Data

Case: SOD123
Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Rating Classification 94V-0
Moisture Sensitivity: Level 1 per J-STD-020
Polarity: Cathode Band
Terminals: Finish - Matte Tin Annealed Over Alloy 42 leadframe.
Solderable per MIL-STD-202, Method 208 
Weight: 0.004 grams (approximate)

SOD-123

Marking Information

Marking code: SD



Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitance load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	20	V
RMS Reverse Voltage	V _{R(RMS)}	20	V
Average Rectified Output Current	I _O	1	A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	3	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	235	mW
Typical Thermal Resistance Junction to Ambient (Note 5)	R _{θJA}	426	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-40 to +125	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V _{(BR)R}	20	—	—	V	I _R = 1mA
Forward Voltage	V _F	—	0.54	0.65	V	I _F = 1A
Reverse Current (Note 6)	I _R	—	2.0	50	μA	V _R = 20V
Total Capacitance	C _T	—	125 20	—	pF pF	V _R = 0V, f = 1.0MHz V _R = 10V, f = 1.0MHz

Notes: 5. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com>.
6. Short duration pulse test used to minimize self-heating effect.
7. $d P_{TDT} / d T_J < 1/R_{\theta JA}$

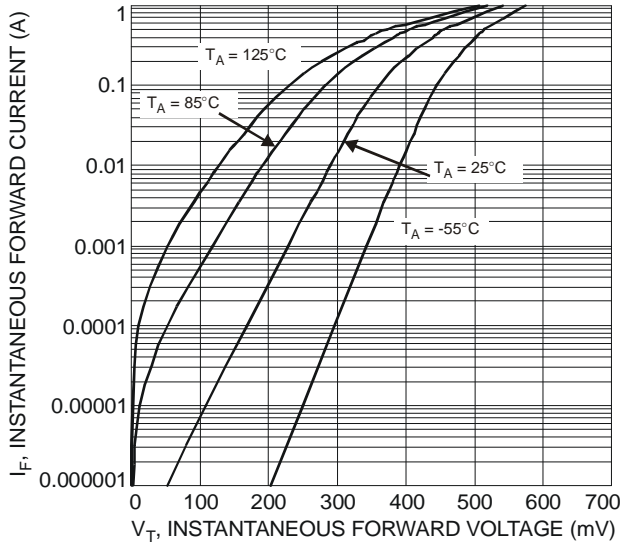


Figure 1 Typical Forward Characteristics

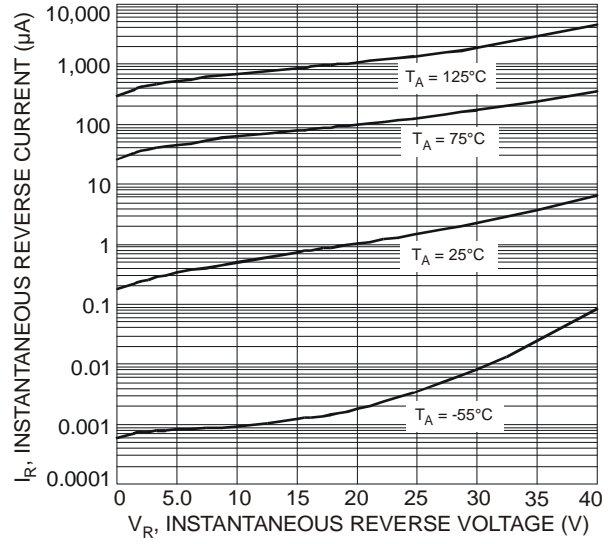


Figure 2 Typical Reverse Characteristics

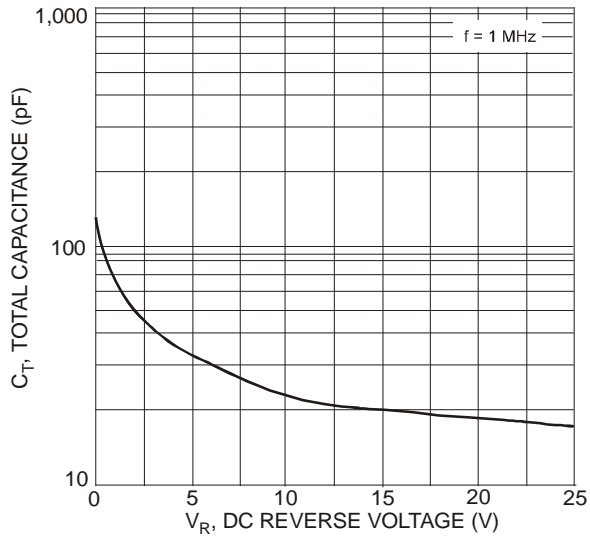


Figure 3 Total Capacitance vs. Reverse Voltage

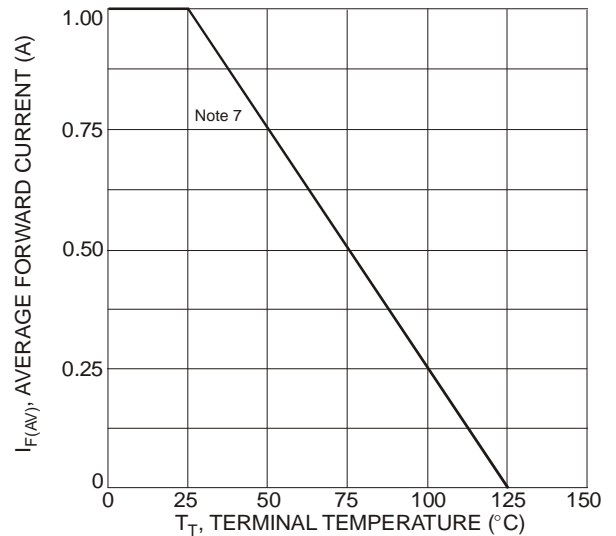


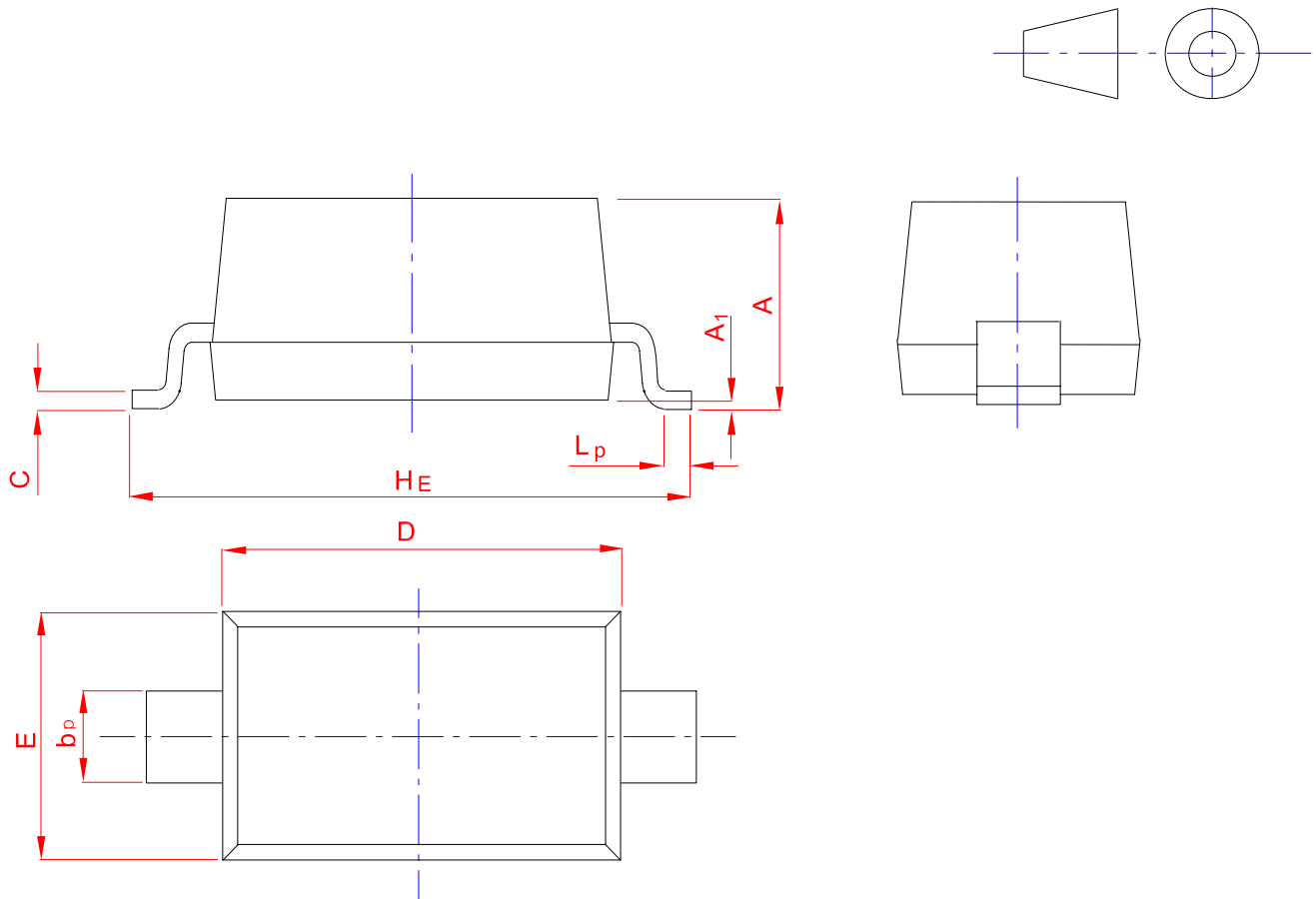
Figure 4 Forward Current Derating Curve



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-123



UNIT	A	bp	C	D	E	HE	A1	Lp
mm	1.20	0.60	0.135	2.75	1.65	3.85	0.10	0.50
	0.90	0.50	0.100	2.55	1.55	3.55	0.01	0.20