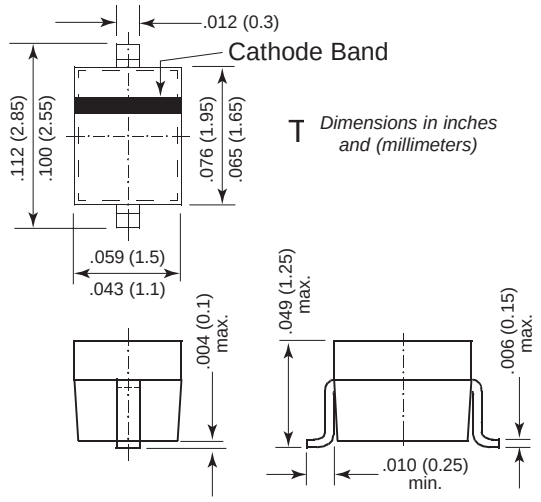
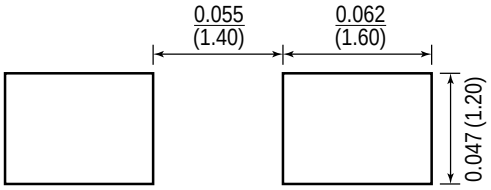
Small-Signal Diodes

SOD-323



T *Dimensions in inches and (millimeters)*

Mounting Pad Layout



Mechanical Data

Case: SOD-323 Plastic Case

Weight: approx. 0.004g

Marking Code: BAV19WS = A8
BAV20WS = A9
BAV21WS = AA

Packaging Codes/Options:
D5/10K per 13” reel (8mm tape), 30K/box
D6/3K per 7” reel (8mm tape), 30K/box

Features

- Silicon Epitaxial Planar Diodes
- For general purpose
- These diodes are also available in other case styles including: the DO-35 case with the type designation BAV19 - BAV21, the MiniMELF case with the type designation BAV100 - BAV103, the SOT-23 case with the type designation BAS19 - BAS21 and the SOD-123 case with the type designation BAV19W - BAV21W

Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

Parameter		Symbol	Value	Unit
Continuous Reverse Voltage	BAV19WS BAV20WS BAV21WS	V_R	100 150 200	V
Repetitive Peak Reverse Voltage	BAV19WS BAV20WS BAV21WS	V_{RRM}	120 200 250	V
Forward DC Current at T_{amb} = 25°C		I_F	250(1)	mA
Rectified Current (Average) Half Wave Rectification with Resist. Load at T_{amb} = 25°C and f ≥ 50Hz		$I_{F(AV)}$	200(1)	mA
Repetitive Peak Forward Current at f ≥ 50Hz, θ = 180°, T_{amb} = 25°C		I_{FRM}	625(1)	mA
Surge Forward Current at t < 1s, T_j = 25°C		I_{FSM}	1	A
Power Dissipation at T_{amb} = 25°C		P_{tot}	200(1)	mW
Thermal Resistance Junction to Ambient Air		$R_{\theta JA}$	650(1)	°C/W
Junction Temperature		T_j	150(1)	°C
Storage Temperature Range		T_S	–65 to +175(1)	°C

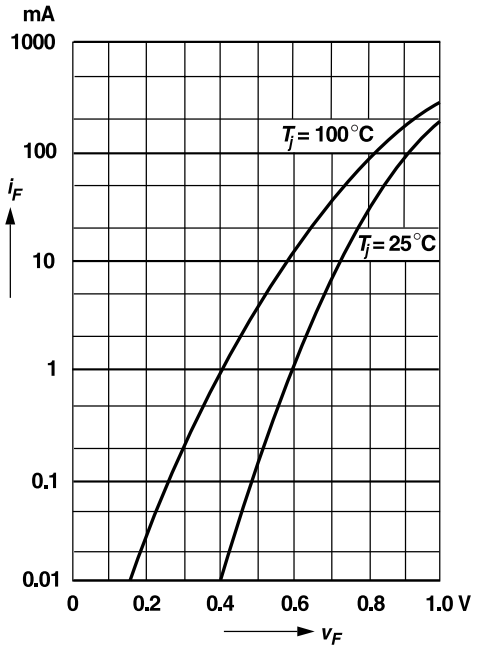
Note:
(1) Valid provided that leads are kept at ambient temperature.

Electrical Characteristics (T_J = 25°C unless otherwise noted)

Parameter		Symbol	Test Condition	Min	Typ	Max	Unit
Forward Voltage		V_F	I_F = 100 mA I_F = 200 mA	— —	— —	1.00 1.25	V
Leakage Current	BAV19WS	I_R	V_R = 100V	—	—	100	nA
	BAV19WS		V_R = 100V, T_j = 100 °C	—	—	15	µA
	BAV20WS		V_R = 150V	—	—	100	nA
	BAV20WS		V_R = 150V, T_j = 100 °C	—	—	15	µA
	BAV21WS		V_R = 200V	—	—	100	nA
	BAV21WS		V_R = 200V, T_j = 100 °C	—	—	15	µA
Dynamic Forward Resistance		r_f	I_F = 10 mA	—	5	—	Ω
Capacitance		C_{tot}	V_R = 0, f = 1 MHz	—	—	1.5	pF
Reverse Recovery Time		t_{rr}	I_F = 30 mA, I_R = 30 mA I_{rr} = 3 mA, R_L = 100 Ω	—	—	50	ns

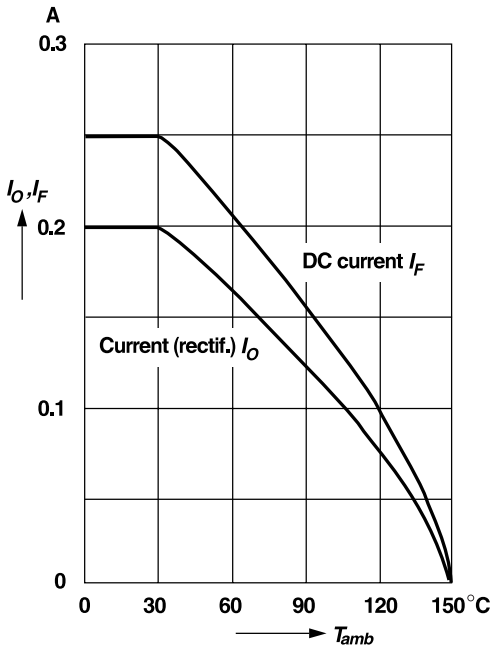
Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Forward characteristics



Admissible forward current versus ambient temperature

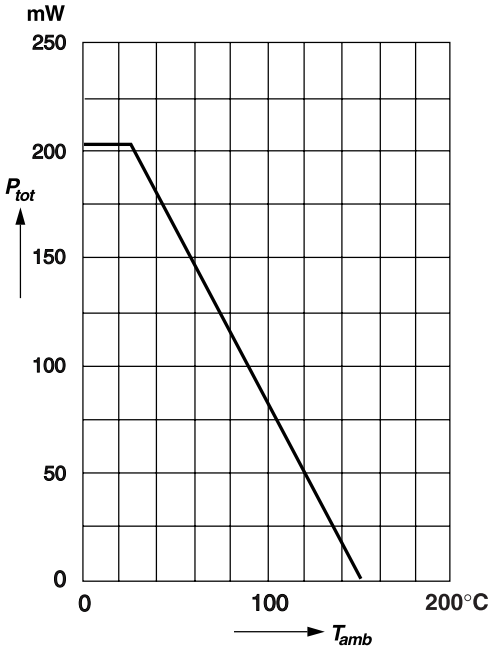
Valid provided that electrodes are kept at ambient temperature



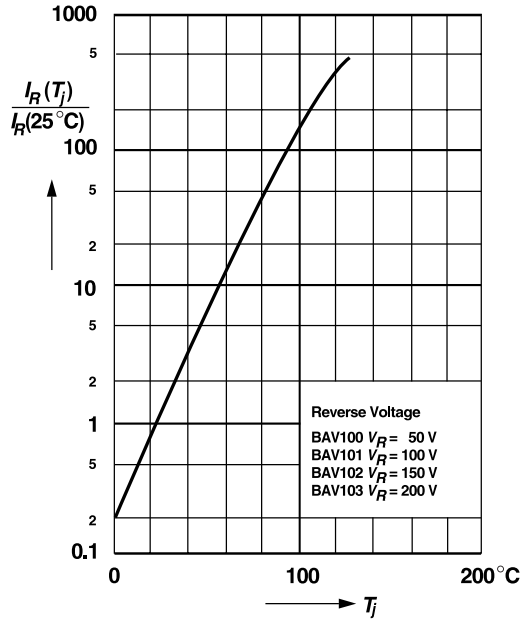
Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Admissible power dissipation versus ambient temperature

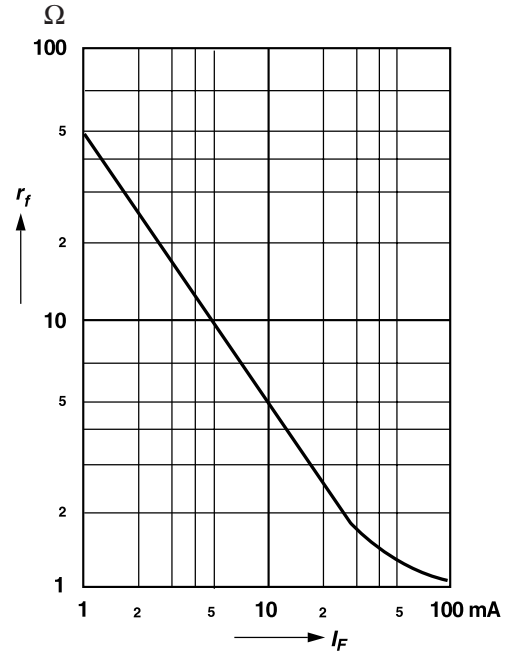
For conditions, see footnote in table "Absolute Maximum Ratings"



Leakage current versus junction temperature



Dynamic forward resistance versus forward current



Capacitance versus reverse voltage