

Features

- Halogen Free. "Green" Device (Note 1)
- AEC-Q101 Qualified
- Silicon Epitaxial Planar Diodes
- For General Purpose
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

- Operating Junction Temperature Range: -65°C to +150°C
- Storage Temperature Range: -65°C to +150°C
- Thermal Resistance: 500°C/W Junction to Ambient (Note 2)

MCC Part Number	Repetitive Peak Reverse Voltage V_{RRM}	RMS Reverse Voltage $V_{R(RMS)}$	DC Blocking Voltage V_R
BAV19WSHE3	120V	85V	120V
BAV20WSHE3	200V	141V	200V
BAV21WSHE3	250V	177V	250V

Electrical Characteristics @ 25°C Unless Otherwise Specified

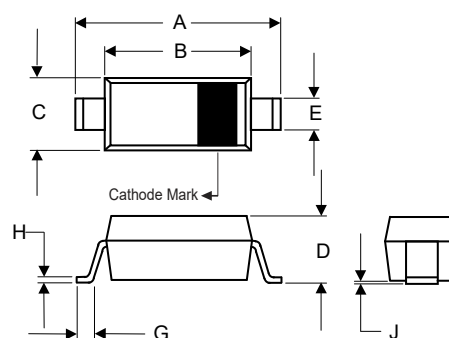
Average Rectified Forward Current	$I_{F(AV)}$	200mA	(Note 2)
Peak Forward Current	I_{FM}	400mA	
Non-Repetitive Peak Forward Surge Current	I_{FSM}	9.0A 0.5A	@ t=1us @ t=1s
Repetitive Peak Forward Current	I_{FRM}	625mA	
Power Dissipation	P_{TOT}	250mW	$T_A=25^\circ\text{C}$

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

2. Mounted on FR-4 board with recommended pad layout.

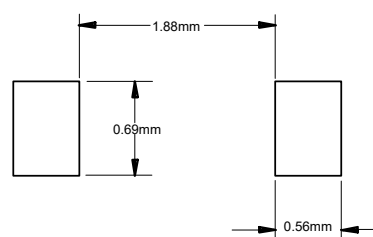
250mW Small Signal Diodes 120 to 250 Volts

SOD-323

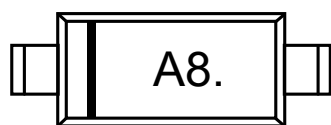


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.090	0.107	2.30	2.70	
B	0.063	0.071	1.60	1.80	
C	0.045	0.053	1.15	1.35	
D	0.031	0.045	0.80	1.15	
E	0.010	0.016	0.25	0.40	
G	0.004	0.018	0.10	0.45	
H	0.004	0.010	0.10	0.25	
J	----	0.006	----	0.15	

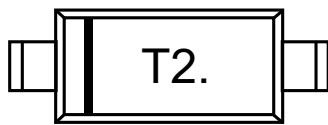
Suggested Solder Pad Layout



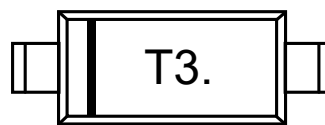
Internal Structure and Marking Code



BAV19WSHE3



BAV20WSHE3



BAV21WSHE3

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

BAV19WSHE3

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Breakdown Voltage	V_{BR}	$I_R=100\mu A$	120			V
Forward Voltage	V_F	$I_F=100mA$			1.00	V
		$I_F=200mA$			1.25	V
Reverse Current	I_R	$V_R=100V$			100	nA
		$V_R=100V, T_J=100^\circ C$			15	μA
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$		1.5	2.0	pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=30mA,$ $I_{rr}=3mA, R_L=100\Omega$			50	ns

BAV20WSHE3

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Breakdown Voltage	V_{BR}	$I_R=100\mu A$	200			V
Forward Voltage	V_F	$I_F=100mA$			1.00	V
		$I_F=200mA$			1.25	V
Reverse Current	I_R	$V_R=150V$			100	nA
		$V_R=150V, T_J=100^\circ C$			15	μA
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$		1.5	2.0	pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=30mA,$ $I_{rr}=3mA, R_L=100\Omega$			50	ns

BAV21WSHE3

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Breakdown Voltage	V_{BR}	$I_R=100\mu A$	250			V
Forward Voltage	V_F	$I_F=100mA$			1.00	V
		$I_F=200mA$			1.25	V
Reverse Current	I_R	$V_R=200V$			100	nA
		$V_R=200V, T_J=100^\circ C$			15	μA
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$		1.5	2.0	pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=30mA, I_{rr}=3mA, R_L=100\Omega$			50	ns

Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

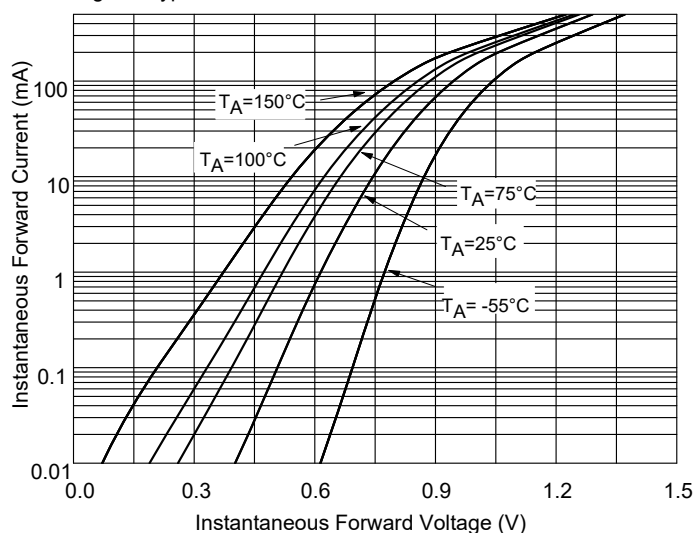


Fig. 2 - Typical Reverse Leakage Characteristics

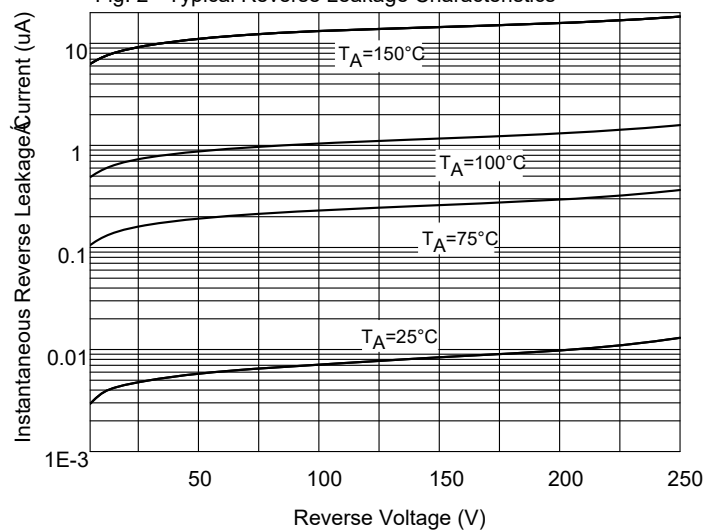


Fig. 3 - Capacitance Characteristics

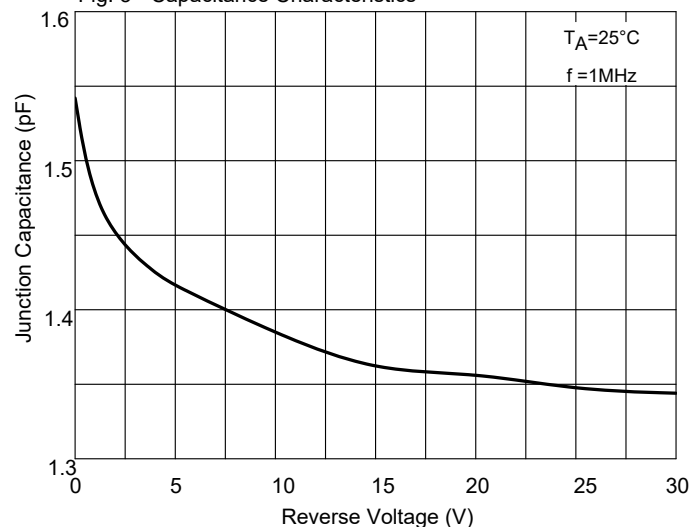
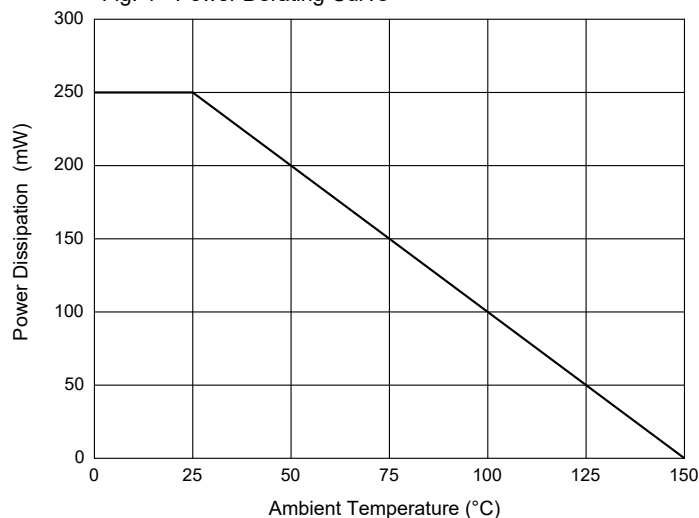


Fig. 4 - Power Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

IMPORTANT NOTICE

Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp .** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp .** and all the companies whose products are represented on our website, harmless against all damages. **Micro Commercial Components Corp.** products are sold subject to the general terms and conditions of commercial sale, as published at <https://www.mccsemi.com/Home/TermsAndConditions>.

LIFE SUPPORT

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

CUSTOMER AWARENESS

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Micro Commercial Components \(MCC\):](#)

[BAV19WSHE3-TP](#) [BAV20WSHE3-TP](#) [BAV21WSHE3-TP](#)