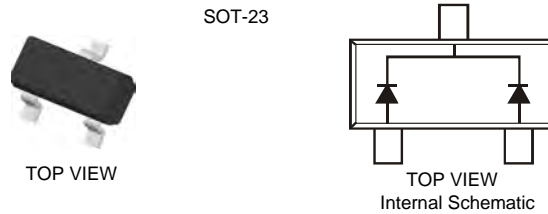


Features

- Surface Mount Package Ideally Suited for Automated Insertion
- Very Low Leakage Current
- **Lead Free/RoHS Compliant (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagram
- Marking Information: See page 2
- Ordering Information: See Page 2
- Weight: 0.008 grams (approximate)



Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	85	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	60	V
Forward Continuous Current (Note 1)	Single Diode	215	mA
	Double Diode	125	
Repetitive Peak Forward Current	I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	@ $t = 1.0\mu\text{s}$	4.0	A
	@ $t = 1.0\text{ms}$	1.0	
	@ $t = 1.0\text{s}$	0.5	

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P_D	250	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	500	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	$^\circ\text{C}$

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	85	—	—	V	$I_R = 100\mu\text{A}$
Forward Voltage	V_F	—	—	0.90	V	$I_F = 1.0\text{mA}$
				1.0		$I_F = 10\text{mA}$
				1.1		$I_F = 50\text{mA}$
				1.25		$I_F = 150\text{mA}$
Leakage Current (Note 2)	I_R	—	—	5.0 80	nA nA	$V_R = 75\text{V}$ $V_R = 75\text{V}, T_J = 150^\circ\text{C}$
Total Capacitance	C_T	—	2	—	pF	$V_R = 0, f = 1.0\text{MHz}$
Reverse Recovery Time	t_{rr}	—	—	3.0	μs	$I_F = I_R = 10\text{mA}$, $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$

- Notes:
1. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 2. Short duration pulse test used to minimize self-heating effect.
 3. No purposefully added lead.

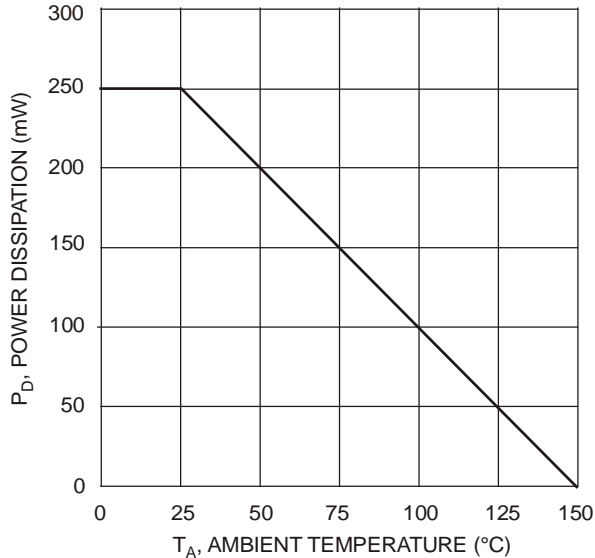


Fig. 1 Power Derating Curve

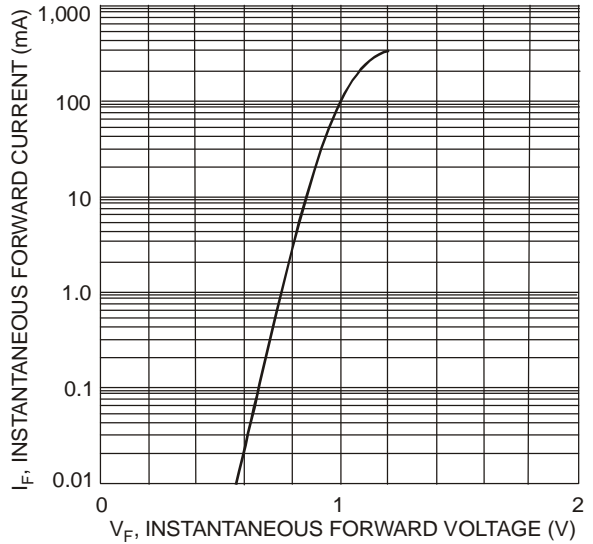


Fig. 2 Typical Forward Characteristics

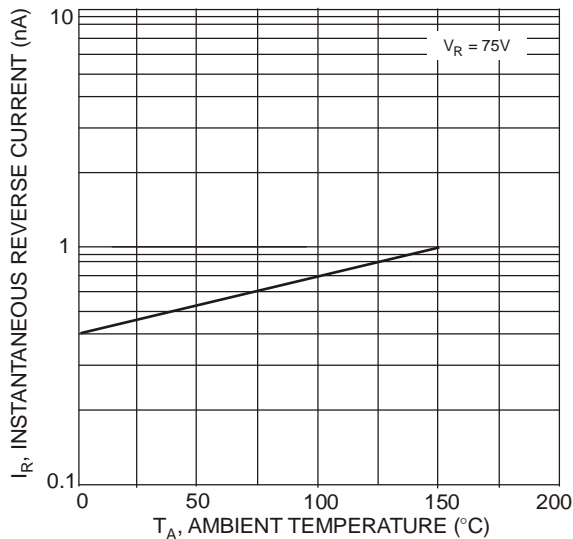


Fig. 3 Typical Reverse Characteristics

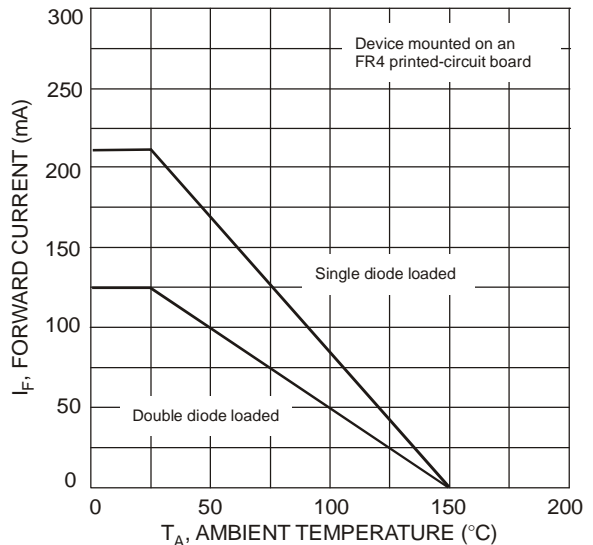


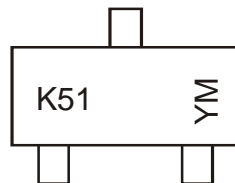
Fig. 4 Current Derating Curve

Ordering Information (Note 4)

Part Number	Case	Packaging
BAV170-7-F	SOT-23	3000/Tape & Reel

Notes: 4. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information

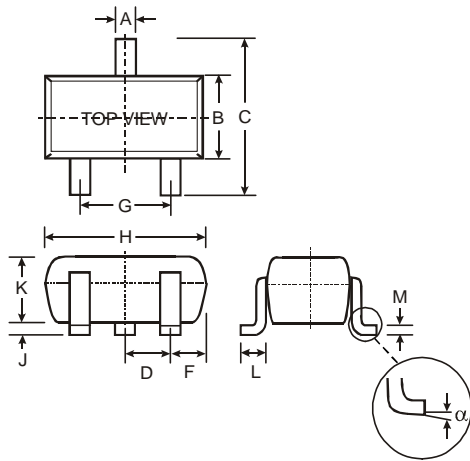


K51 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year ex: N = 2002
 M = Month ex: 9 = September

Date Code Key

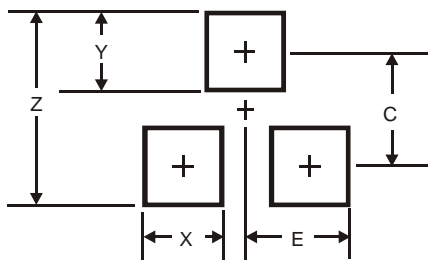
Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	M	N	P	R	S	T	U	V	W	X	Y	Z
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Package Outline Dimensions



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
F	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35

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