



BAL99

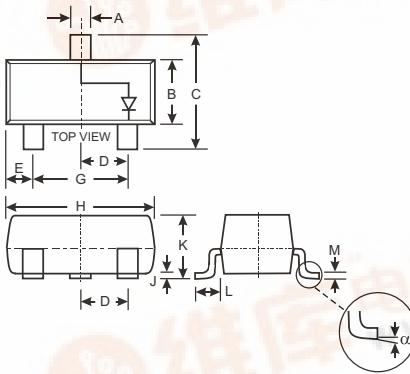
SURFACE MOUNT SWITCHING DIODE

Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance
- Lead Free/RoHS Compliant (Note 3)

Mechanical Data

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



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
E	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
	0	8

All Dimensions in mm

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

Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
Peak Repetitive Reverse Voltage	V_{RRM}		
Working Peak Reverse Voltage	V_{RWM}	75	V
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Forward Continuous Current (Note 1)	I_{FM}	300	mA
Non-Repetitive Peak Forward Surge Current @ $t = 1.0\text{ s}$ @ $t = 1.0\text{ s}$	I_{FSM}	2.0 1.0	A
Power Dissipation (Note 1)	P_d	350	mW
Thermal Resistance Junction to Ambient Air (Note 1)	R_{JA}	357	C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150	C

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

Characteristic	Symbol	Min	Max	Unit	Test Condition
Forward Voltage (Note 2)	V_F		0.715 0.855 1.0 1.25	V	$I_F = 1.0\text{mA}$ $I_F = 10\text{mA}$ $I_F = 50\text{mA}$ $I_F = 150\text{mA}$
Reverse Current (Note 2)	I_R		2.5 50 30 25	A A A nA	$V_R = 75\text{V}$ $V_R = 75\text{V}, T_j = 150^\circ C$ $V_R = 25\text{V}, T_j = 150^\circ C$ $V_R = 20\text{V}$
Total Capacitance	C_T		2.0	pF	$V_R = 0, f = 1.0\text{MHz}$
Reverse Recovery Time	t_{rr}		4.0	ns	$I_F = I_R = 10\text{mA}$, $I_{rr} = 0.1 \times I_R, R_L = 100$

Notes: 1. Part mounted on FR-4 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.

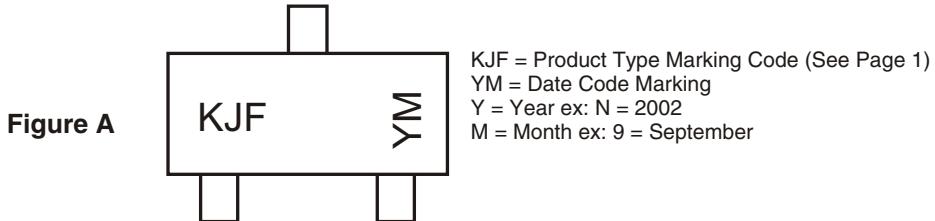
3. No purposefully added lead.

Ordering Information (Note 4)

Device	Packaging	Shipping
BAL99-7-F	SOT-23	3000/Tape & Reel

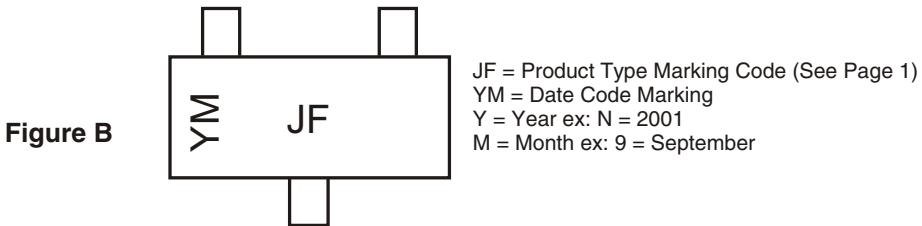
Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information (This part may be marked as Figure A or B Below)



Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Code	J	K	L	M	N	P	R	S	T	U	V	W
Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D



Date Code Key

Year	2000	2001	2002	2003	2004	2005	2006	2007				
Code	M	N	P	R	S	T	U	V				
Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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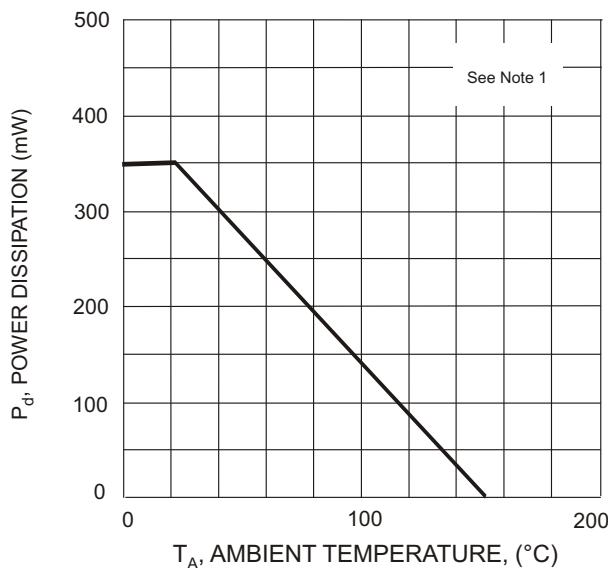


Fig. 1 Power Derating Curve

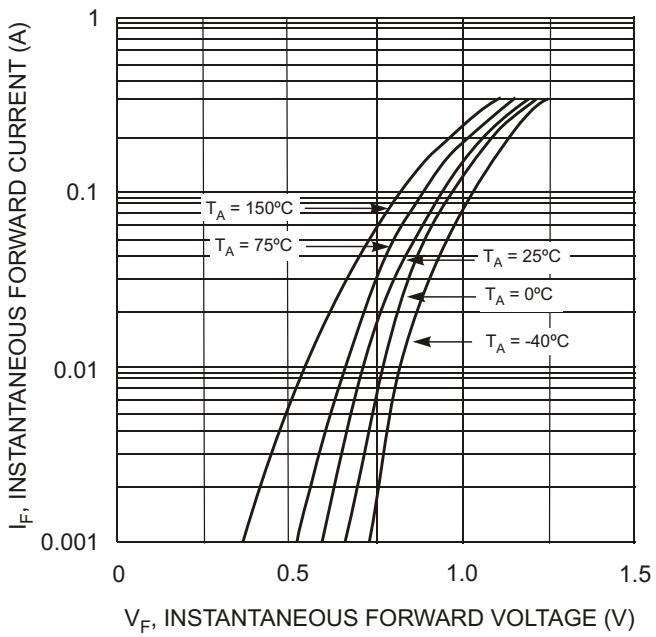


Fig. 2 Forward Characteristics

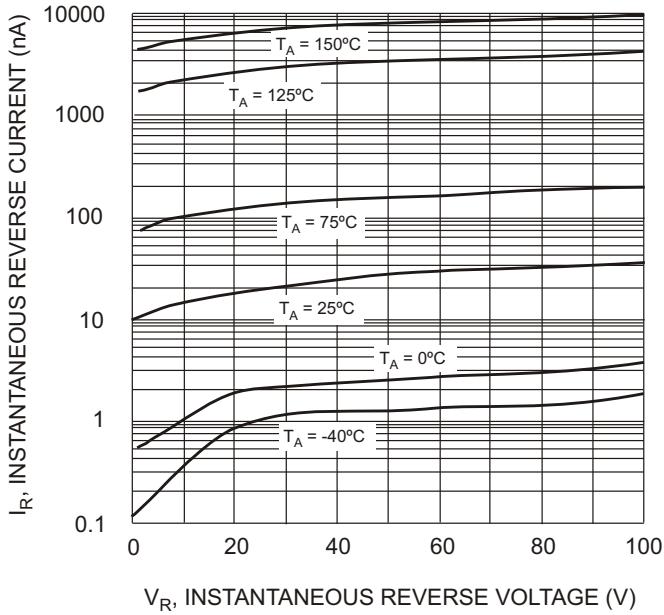


Fig. 3 Typical Reverse Characteristics

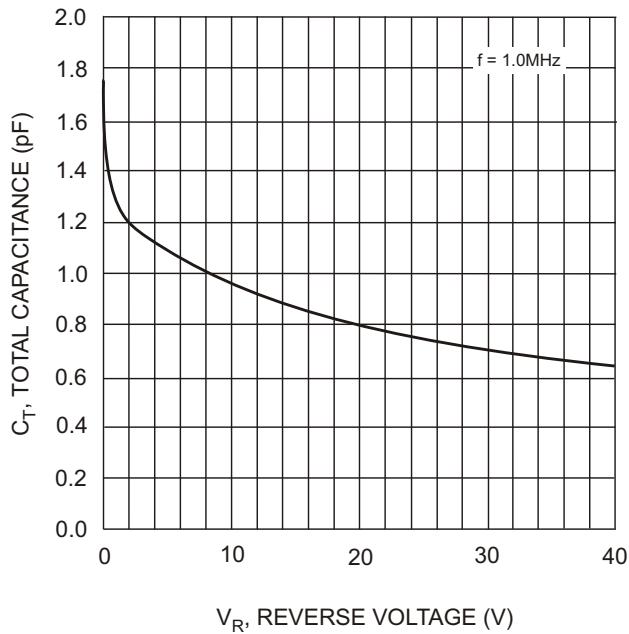


Fig. 4 Typical Capacitance vs. Reverse Voltage

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