WEITRON

BAL99

Surface Mount Switching Diode

*** "G" Lead(Pb)-Free**

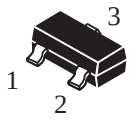
SWITCHING DIODE
100m AMPERRES
70 VOLTS

Features:

*Fast Switching Speed
*Surface Mount Package Ideally Suited for Automatic Insertion
*For General Purpose Switching Applications
*High Conductance

Mechanical Data:

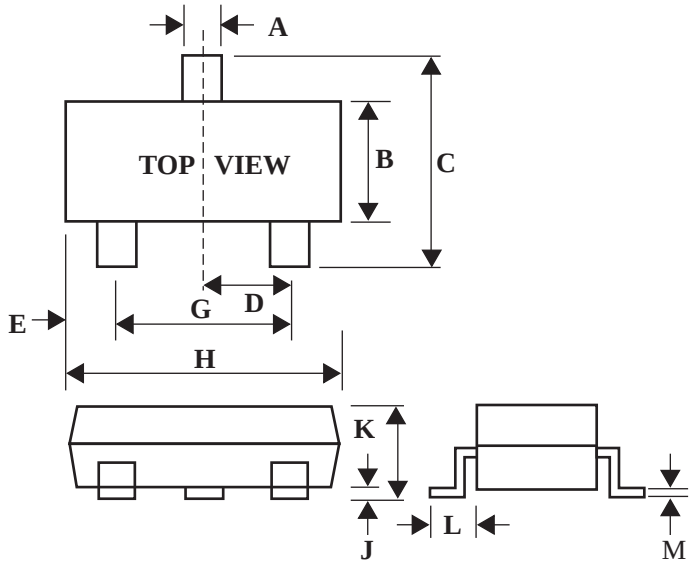
*Case: SOT-23, Molded Plastic
*Terminals: Solderable per MIL-STD-202, Method 208
*Polarity: See diagram
*Weight: 0.008 grams



SOT-23

SOT-23 Outline Dimensions

Unit:mm



Dim	Min	Max
A	0.35	0.51
B	1.19	1.40
C	2.10	3.00
D	0.85	1.05
E	0.46	1.00
G	1.70	2.10
H	2.70	3.10
J	0.01	0.13
K	0.89	1.10
L	0.30	0.61
M	0.076	0.25

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Maximum Ratings ((TA=25°C Unless Otherwise Note)

Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	Volts
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	70	Volts
RMS Reverse Voltage	$V_{R(RMS)}$	53	Volts
Forward Continuous Current (1)	I_{FM}	100	mA
Non-Repetitive Peak Forward @ t=1.0us Surge Current @ t=1.0s	I_{FSM}	2.0 1.0	A
Power Dissipation (1)	Pd	350	mW
Thermal Resistance Junction to Ambient Air (1)	$R_{\theta JA}$	357	°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to + 150	°C

Electrical Characteristics (TA=25°C Unless Otherwise Note) (Each Diode)

Characteristic		Symbol	Min	Max	Unit
Off Characteristics					
Forward Voltage (2)	I_F=1.0mA I_F=10mA I_F=50mA I_F=150mA	V_F	-	0.715 0.855 1.0 1.25	Volts
Reverse Current (2)	V_R=70V V_R=75V, Tj=150°C V_R=25V, Tj=150°C V_R=20V	I_R	-	2.5 50 30 25	uA uA uA nA
Total Capacitance	V_R=0, f=1.0MHz	C_T	-	2.0	P_F
Reverse Recovery Time	$I_F=I_R$=10mA, I_{rr} =0.1×I_R, R_L=100Ω	t_{rr}	-	6.0	ns

Note:

1. Part mounted on FR-4 board with recommended pad layout.
2. Short duration pulse test used to minimize self-heating effect.

Device Marking

Item	Marking	Eqivalent Circuit diagram
BAL99	JF	

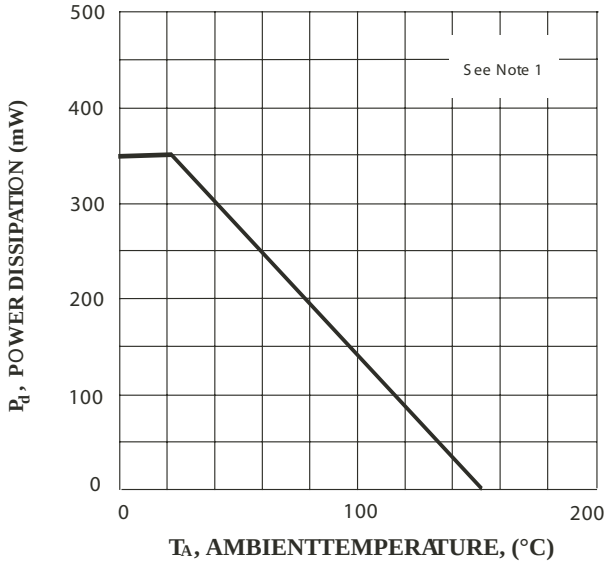

FIG1. Power Derating Curve

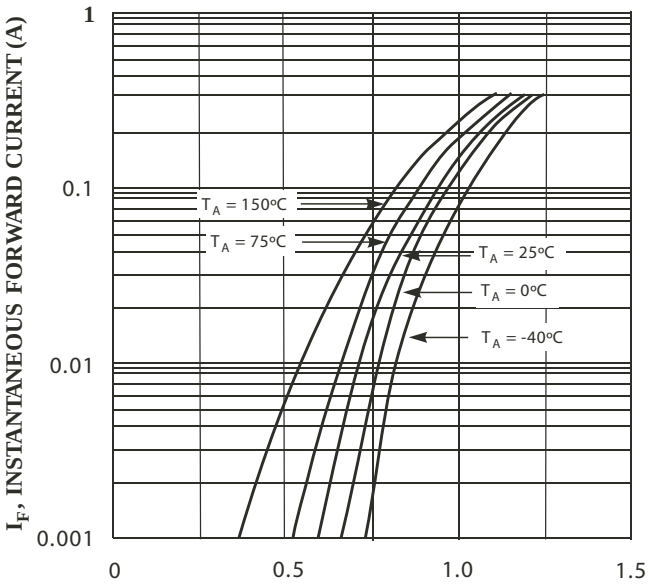

FIG2. Forward Characteristics

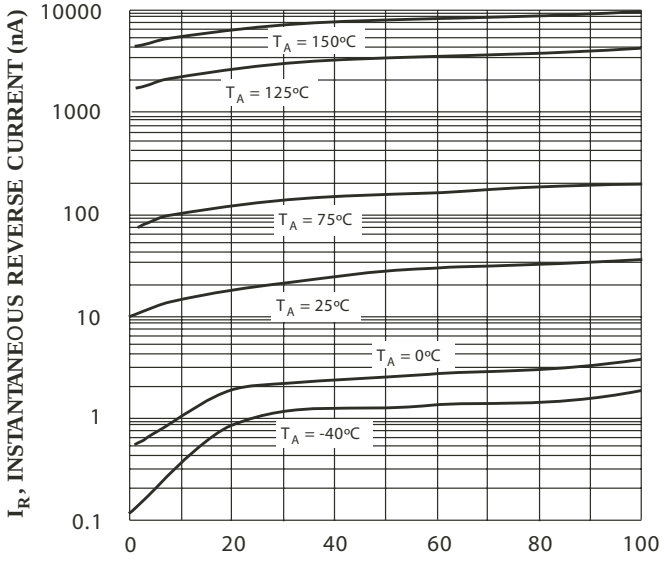

FIG3. Typical Reverse Characteristics

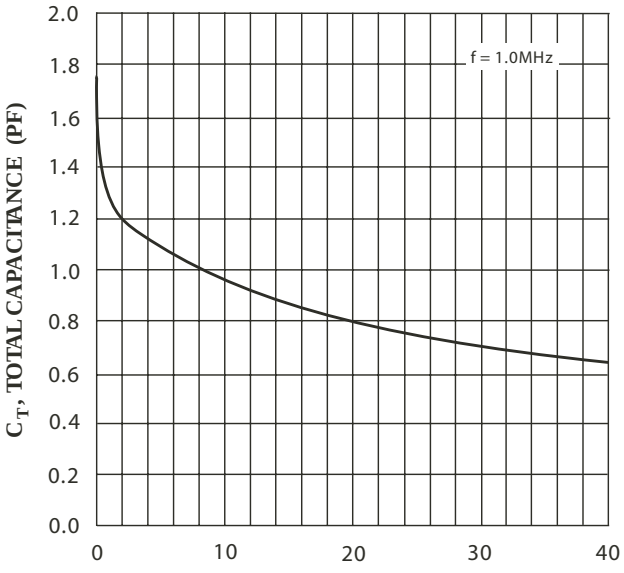

FIG4. Typical Capacitance vs. Reverse Voltage