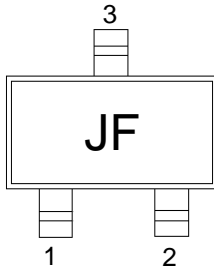
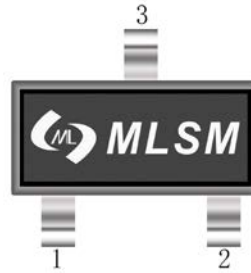


**Features**

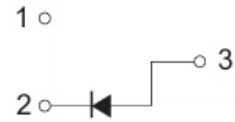
- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance



Marking and pin assignment



SOT-23 top view



Schematic diagram



Halogen-Free

**Maximum Ratings( $T_a=25^{\circ}\text{C}$  unless otherwise noted)**

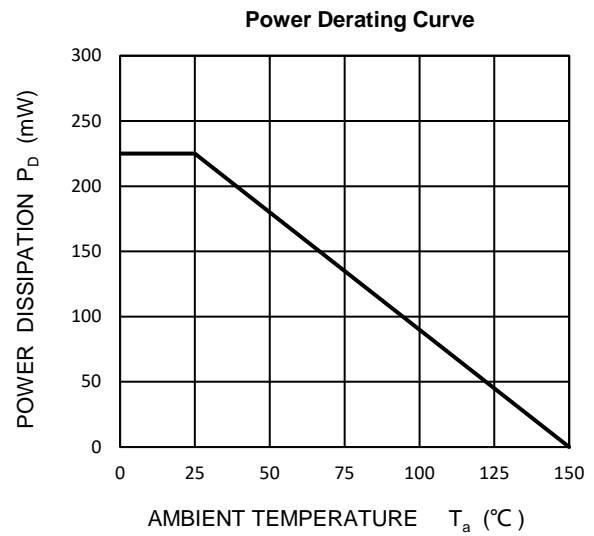
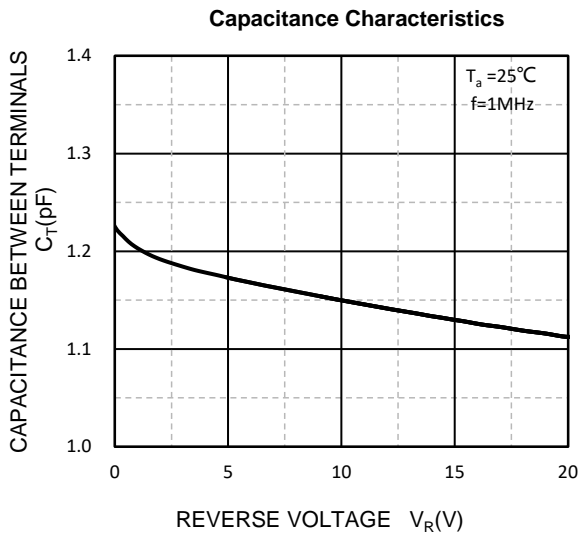
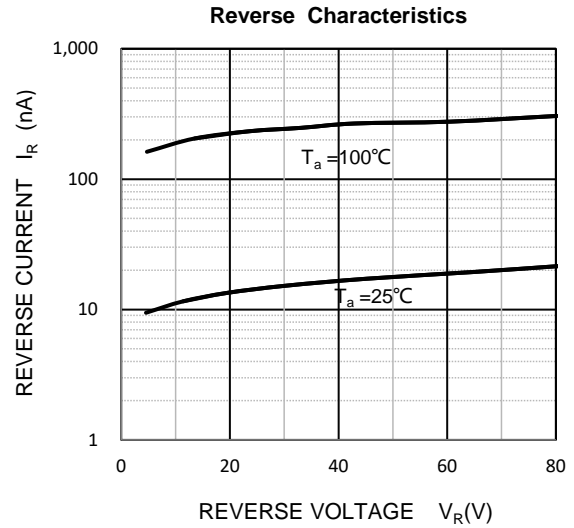
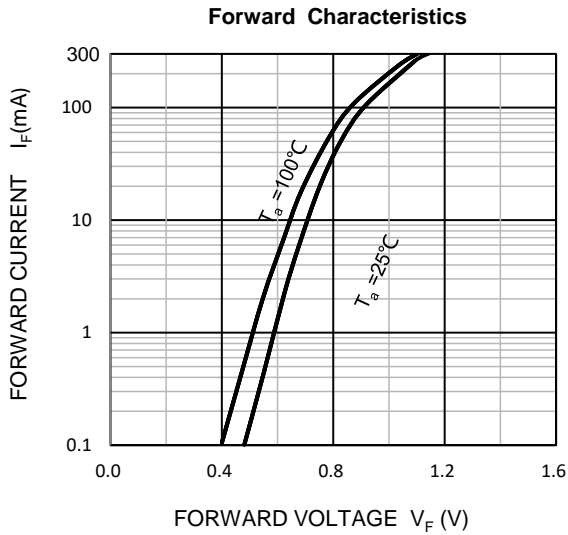
Symbol	Parameter	Value	Unit
$V_{RM}$	Non-Repetitive Peak Reverse Voltage	70	V
$V_R$	Peak Repetitive Peak Reverse Voltage	70	V
$I_o$	Average Rectified Output Current	100	mA
$I_{FSM}$	Non-Repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$	2.0	A
$P_D$	Power Dissipation	225	mW
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	556	$^{\circ}\text{C}/\text{W}$
$T_J, T_{STG}$	Operating and Storage Temperature Range	-55~ +150	$^{\circ}\text{C}$

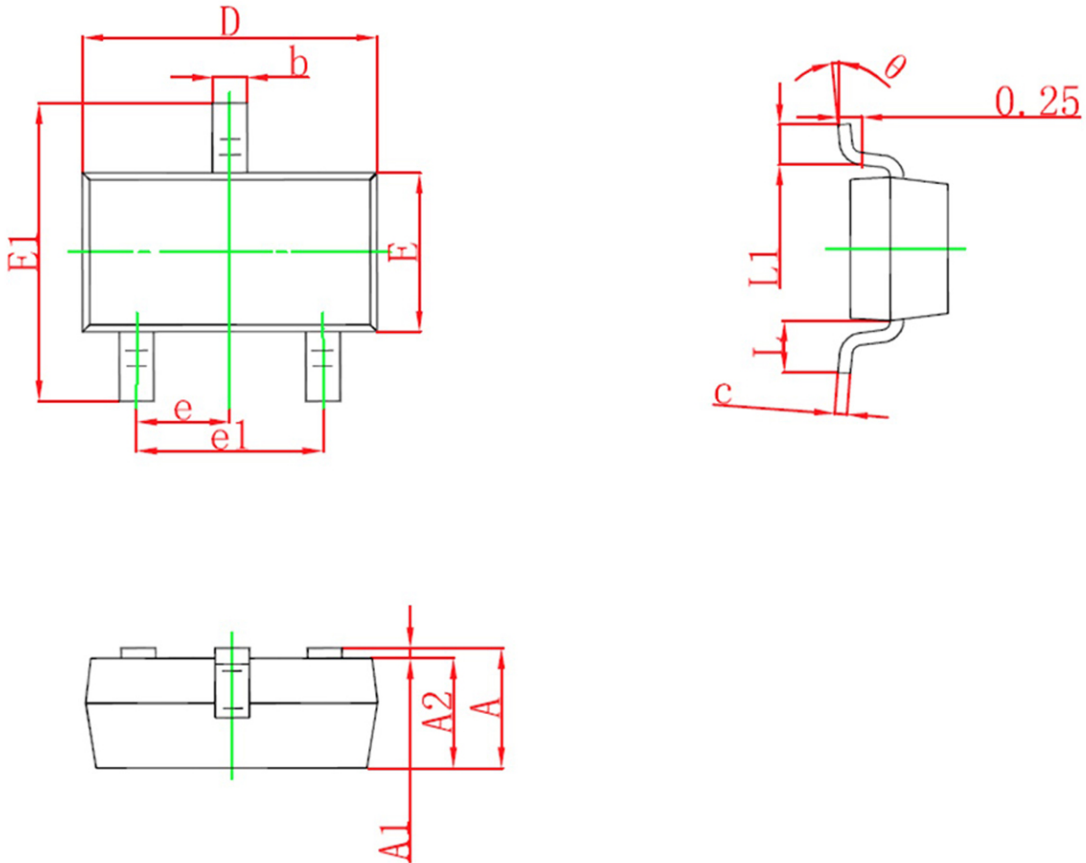
**ELECTRICAL CHARACTERISTICS( $T_a=25^{\circ}\text{C}$  unless otherwise specified)**

Symbol	Parameter	Condition	Min	Typ	Max	Unit
$V_{(BR)}$	Reverse voltage	$I_R=100\mu\text{A}$	70	--	--	V
$I_R$	Reverse current	$V_R=70\text{V}$	--	--	2.5	$\mu\text{A}$
$V_F$	Forward voltage	$I_F=1\text{mA}$	--	--	0.715	V
		$I_F=10\text{mA}$	--	--	0.855	V
		$I_F=50\text{mA}$	--	--	1.000	V
		$I_F=150\text{mA}$	--	--	1.250	V
$C_D$	Diode capacitance	$V_R=0, f=1\text{MHz}$	--	--	1.5	pF
$t_{rr}$	Reverse recovery time	$I_F=I_R=10\text{mA}, R_L=100\Omega, I_{rr}=0.1 \times I_R$	--	--	6.0	ns

**Ordering Information (Example)**

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
BAL99	SOT-23	JF	3,000	45,000	180,000	7" reel

**Typical Operating Characteristics**


**SOT-23 Package information**


Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E1	2.250	2.550	0.088	0.100
E	1.200	1.400	0.047	0.055
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°