

BAT42W

ROHS

Plastic-Encapsulate Schottky Barrier Diode

Features

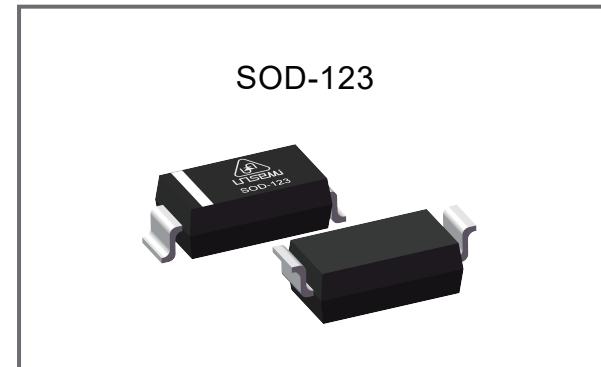
- ◆ Low Forward Voltage Drop
- ◆ Fast Switching Time
- ◆ Surface Mount Package Ideally Suited for Automatic Insertion



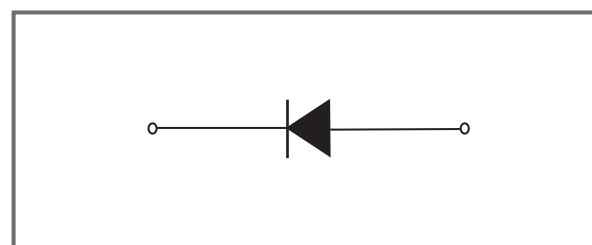
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Mechanical Data

- ◆ Case: SOD-123
- ◆ Molding Compound Flammability Rating : UL 94V-O
- ◆ Polarity: Color Band Denotes Cathode End
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Device Marking: S7



Functional Diagram



Mechanical Characteristics

Parameter	Symbol	Value	Units
Repetitive Peak Reverse Voltage	V_{RRM}	30	V
Reverse Voltage	V_R	30	V
Repetitive Peak Forward Current	I_{FM}	0.2	A
Non-Repetitive Peak Forward Surge Current @t=8.3ms	I_{FSM}	4.0	A
Power Dissipation	P_D	0.5	W
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	200	$^{\circ}\text{C}/\text{W}$
Junction Temperature Range	T_J	-40~+125	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55~+150	$^{\circ}\text{C}$

Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified)

Parameter	Symbol	Test Conditions	Value		Units
			Min.	Max.	
Reverse Current	I_R	$V_R=25V$	-	0.5	μA
Forward Voltage	V_F	$I_F=10mA$	-	0.4	V
		$I_F=50mA$	-	0.65	V
		$I_F=200mA$	-	1.0	V
Capacitance Between Terminals	C_T	$V_R=1V, f=1MHz$	-	10	pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=10mA, I_{rr}=0.1 \times I_R, R_L=100\Omega$	-	5.0	ns

Electrical Characteristics Curves

Fig.1 Forward Characteristics

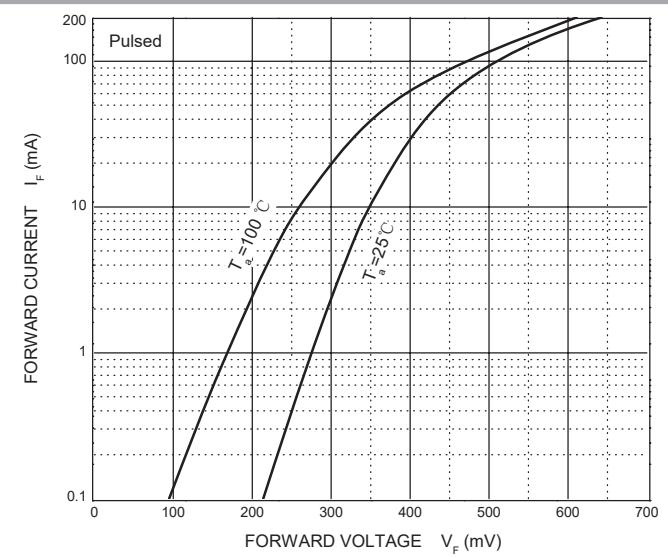
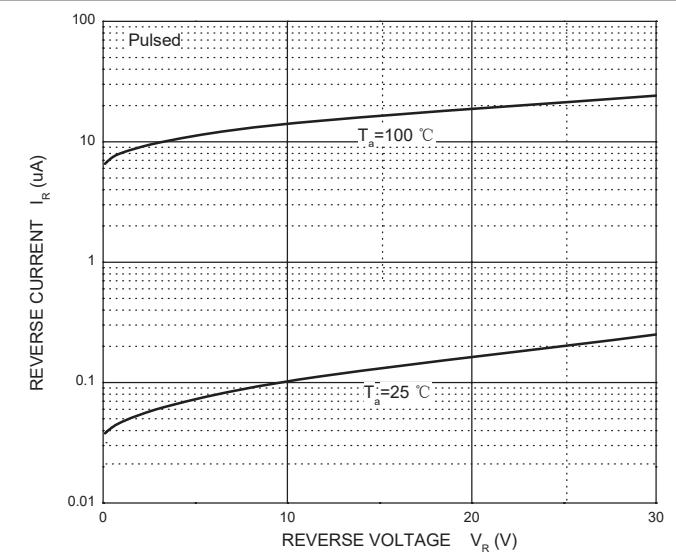


Fig. 2 Reverse Characteristics



Electrical Characteristics Curves

Fig.3 Capacitance Characteristics

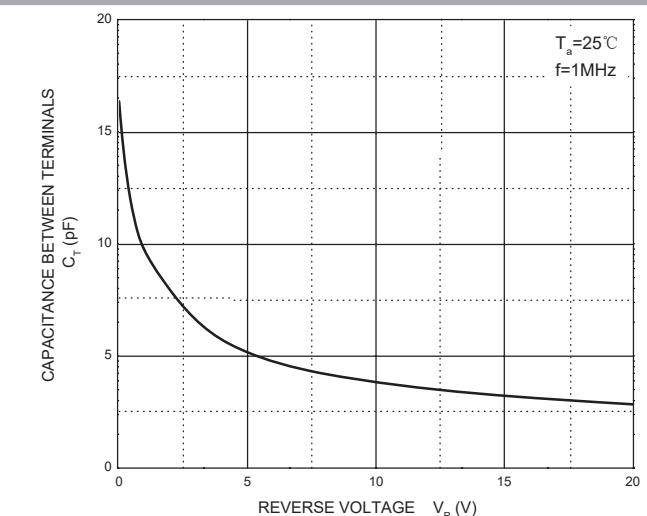
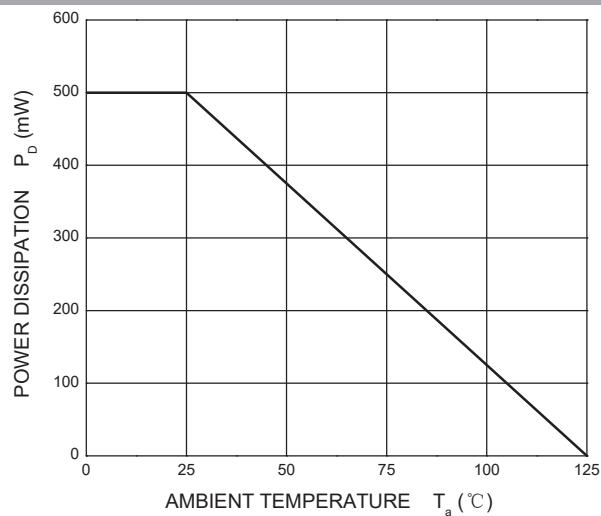
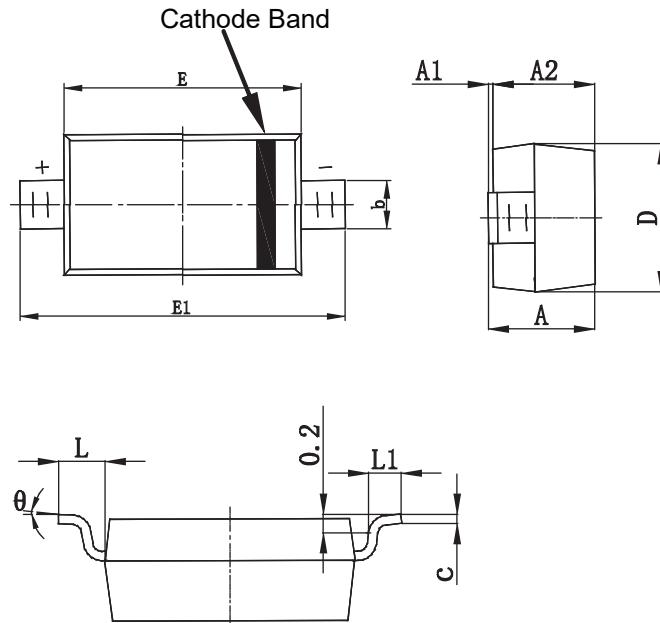


Fig. 4 Power Derating Curve



Package Outline & Dimensions

SOD-123



Dimensions	Inches		Millimeters	
	Min.	Max.	Min.	Max.
A	0.041	0.049	1.050	1.250
A1	0	0.004	0	0.100
A2	0.041	0.045	1.050	1.150
b	0.018	0.026	0.450	0.650
c	0.003	0.006	0.080	0.150
D	0.059	0.067	1.500	1.700
E	0.102	0.110	2.600	2.800
E1	0.140	0.152	3.550	3.850
L	0.020REF		0.500 REF	
L1	0.010	0.018	0.250	0.450
θ	0°	8°	0°	8°



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