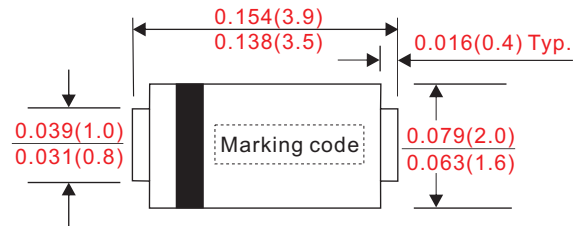


### ■ Features

- Low profile surface mounted application in order to optimize board space.
- High current capability, low forward voltage drop.
- High surge capability.
- Superfast recovery time for switching mode application.
- Glass passivated chip junction.
- Suffix "G" indicates Halogen-free part, ex. B1AWG-S.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

### ■ Outline

SOD-123S



Dimensions in inches and (millimeters)

### ■ Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-123S
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Weight : Approximated 0.018 gram

### ■ Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current		$I_O$			1.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	$I_{FSM}$			30	A
Reverse current	$V_R = V_{RRM}$ $T_A = 25^\circ\text{C}$	$I_R$			5.0	uA
	$V_R = V_{RRM}$ $T_A = 125^\circ\text{C}$				100	
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	$C_j$		10		pF
Storage temperature		$T_{STG}$	-55		+150	°C

Symbol	Marking code	Max. repetitive peak reverse voltage $V_{RRM}$ (V)	Max. RMS voltage $V_{RMS}$ (V)	Max. DC blocking voltage $V_R$ (V)	Max. forward voltage @1A, $T_A = 25^\circ\text{C}$ $V_F$ (V)	Max. reverse recovery time(1) $T_{rr}$ (ns)	Operating temperature $T_J$ (°C)
B1AW-S	1A	50	35	50	0.95	35	-55 ~ +150
B1BW-S	1B	100	70	100			
B1DW-S	1D	200	140	200			
B1GW-S	1G	400	280	400			
B1JW-S	1J	600	420	600			

Note : 1.  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_{RR} = 0.25A$

### Rating and characteristic curves

FIG.1-TYPICAL FORWARD CHARACTERISTICS

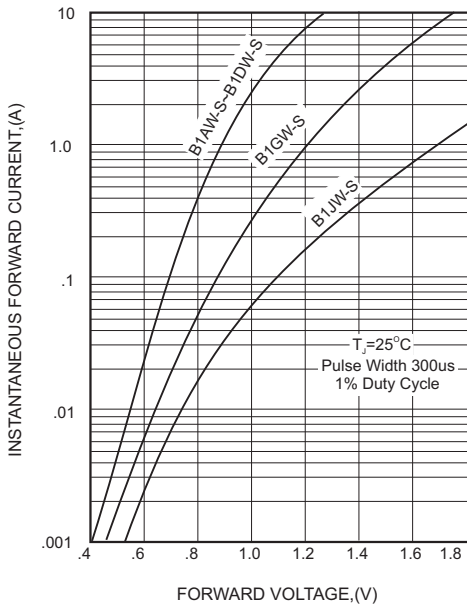


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

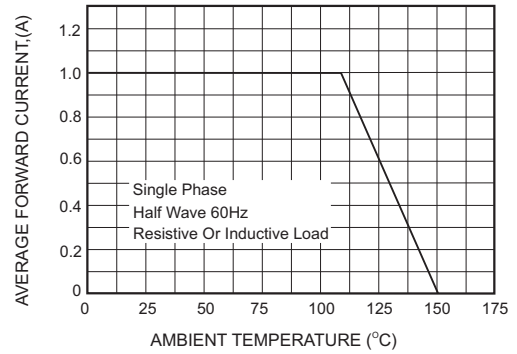
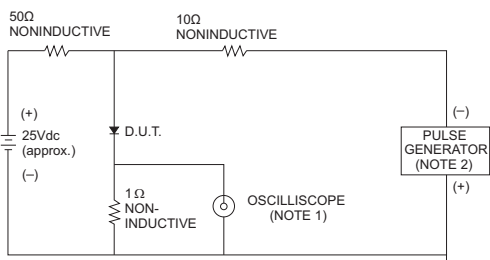


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.  
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

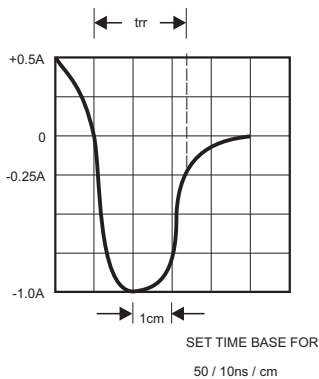


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

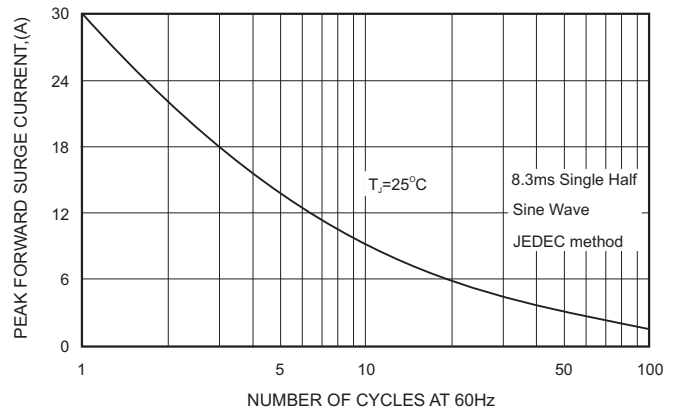
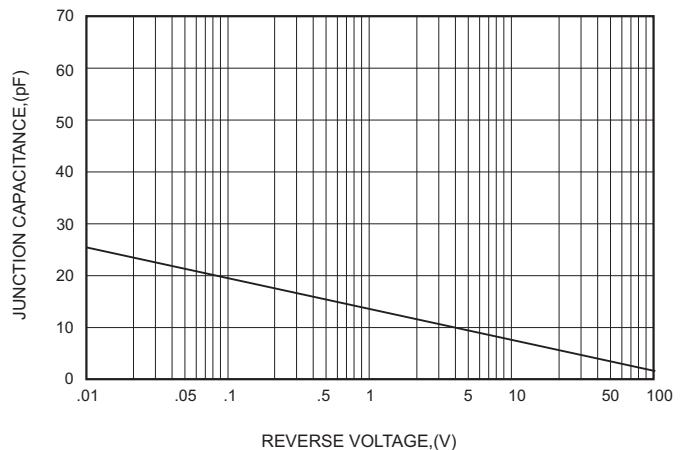
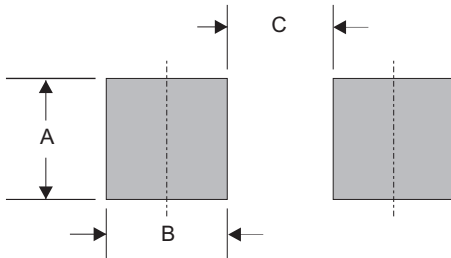


FIG.5-TYPICAL JUNCTION CAPACITANCE



■ SOD-123S foot print



A	B	C
0.044 (1.10)	0.039 (1.00)	0.079 (2.00)

Dimensions in inches and (millimeters)

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