

### ■ Features

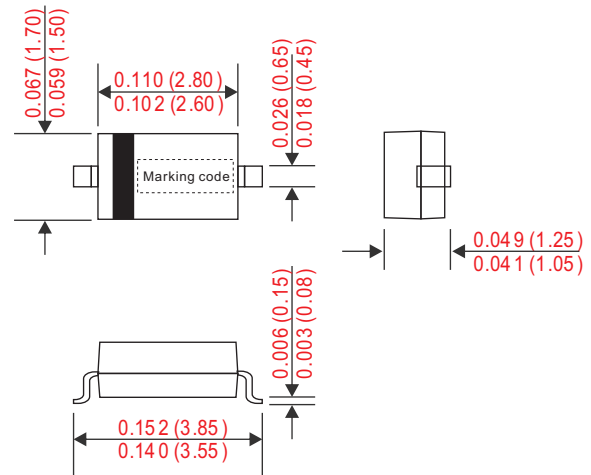
- Low profile surface mounted application in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Suffix "G" indicates Halogen-free part, ex. B120WG.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

### ■ Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-123
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Weight : 0.0004 ounce, 0.010 gram

### ■ Outline

SOD-123



### ■ 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	See Fig.1	$I_o$			1.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method)	$I_{FSM}$			5.5	A
Reverse current	$V_R = V_{RRM} \quad T_A = 25^\circ\text{C}$	$I_R$			0.1	mA
	$V_R = V_{RRM} \quad T_A = 100^\circ\text{C}$				20	
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	$C_j$		120		pF
Thermal resistance	Junction to ambient	$R_{BJA}$		88		°C/W
Storage temperature		$T_{STG}$	-55		+175	°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)	Operating temperature $T_J$ (°C)
B120W	SJ	20	14	20	0.52	-55 ~ +150
B140W	SL, SF	40	28	40	0.55	
B160W	SM	60	42	60	0.75	
B1100W	SN	100	70	100	0.86	

■ Rating and characteristic curves

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

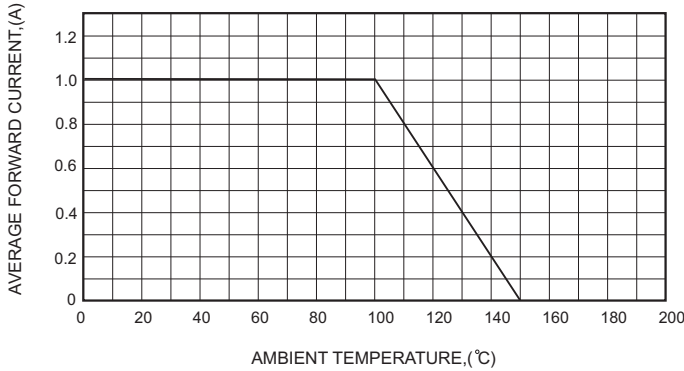


FIG.2-TYPICAL FORWARD CHARACTERISTICS

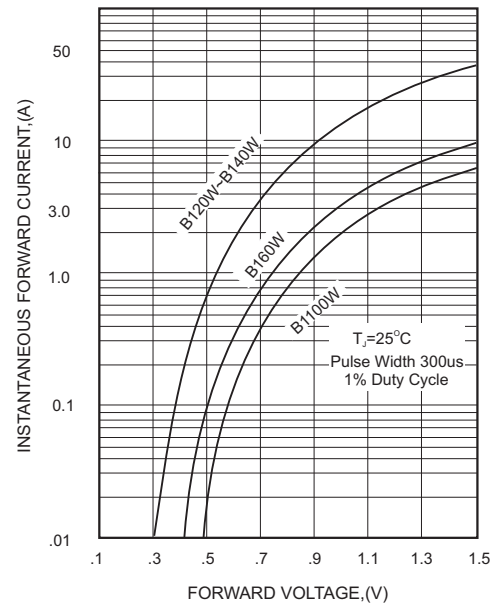


FIG.3-TYPICAL JUNCTION CAPACITANCE

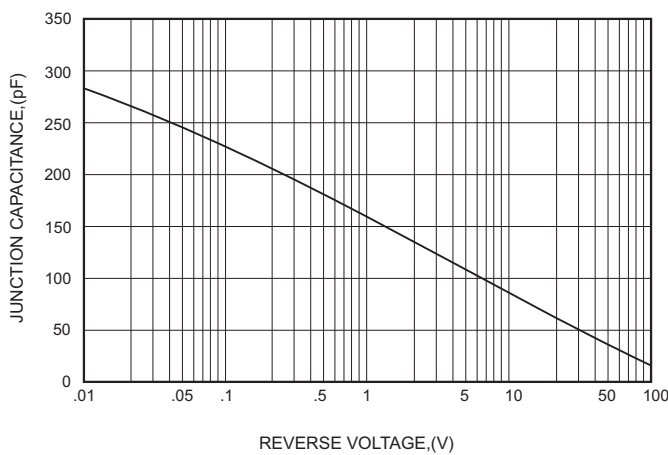
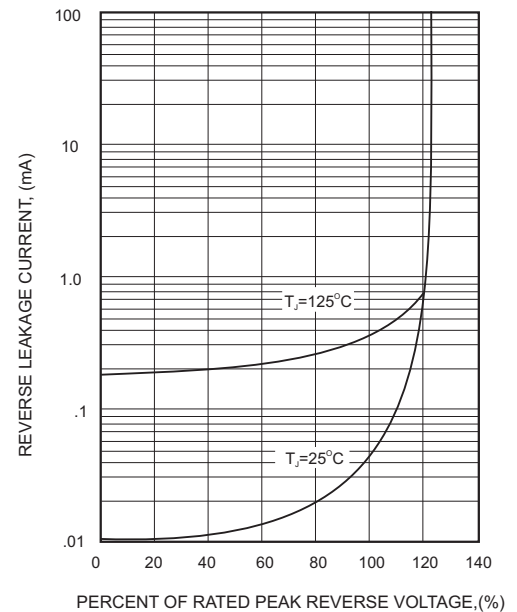
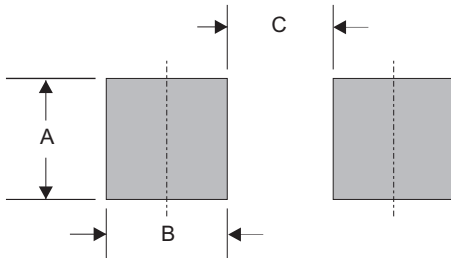


FIG.4 - TYPICAL REVERSE CHARACTERISTICS



■ SOD-123 foot print



A	B	C
0.059 (1.50)	0.059 (1.50)	0.094 (2.40)

Dimensions in inches and (millimeters)

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