

■ Features

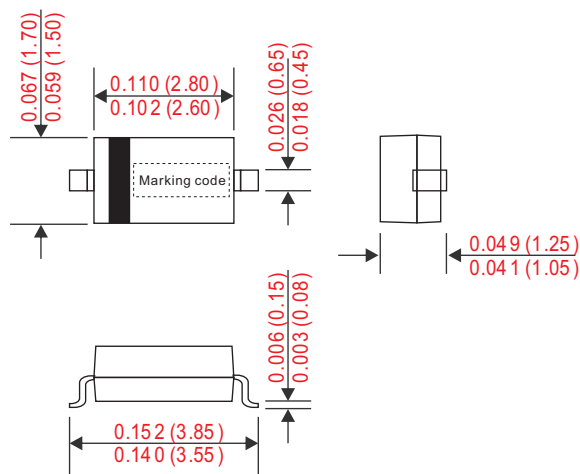
- Low profile surface mounted application in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Suffix "G" indicates Halogen-free part, ex. B0520WG.
- 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			0.5	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	$R_{\theta JA}$		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 @0.5A, $T_A = 25^\circ\text{C}$ V_F (V)	Operating temperature T_J (°C)
B0520W	SD, B0	20	14	20	0.43	-55 ~ +150
B0540W	SF, SL	40	28	40	0.51	
B0560W	SG	60	42	60	0.60	
B05100W	SH	100	70	100	0.76	

■ Rating and characteristic curves

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

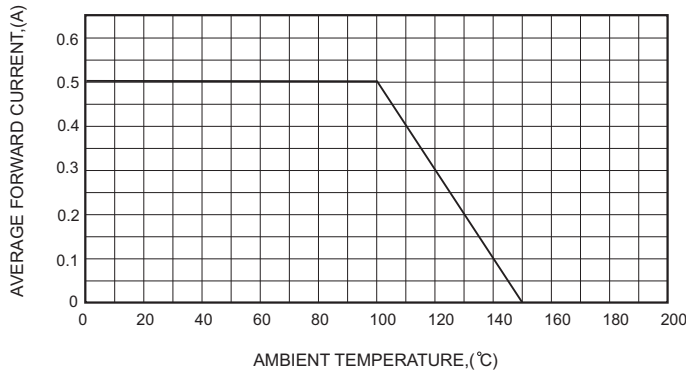


FIG.2-TYPICAL FORWARD CHARACTERISTICS

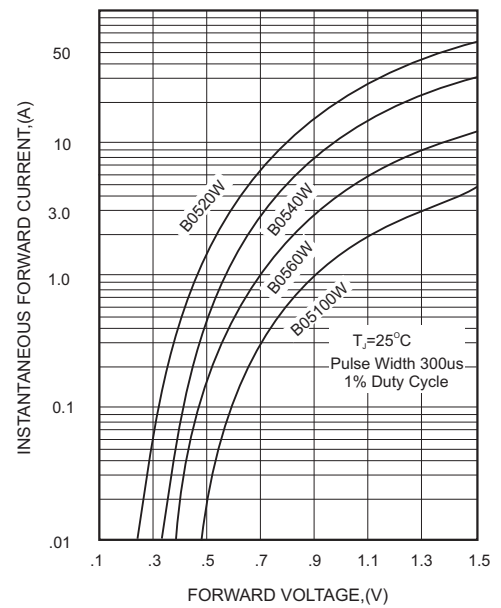


FIG.3-TYPICAL JUNCTION CAPACITANCE

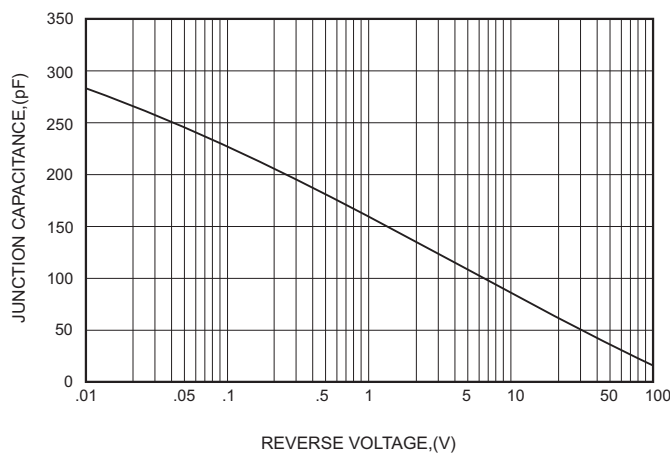
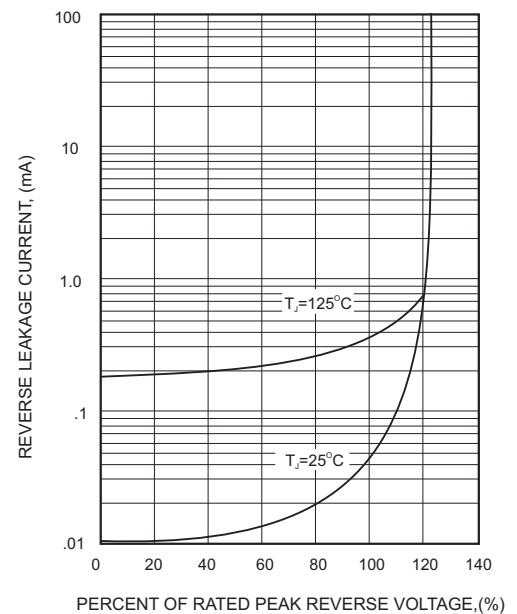
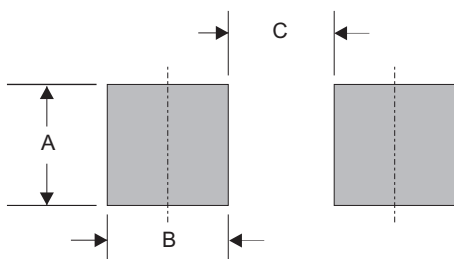


FIG.4 - TYPICAL REVERSE CHARACTERISTICS



■ 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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