

■ Features

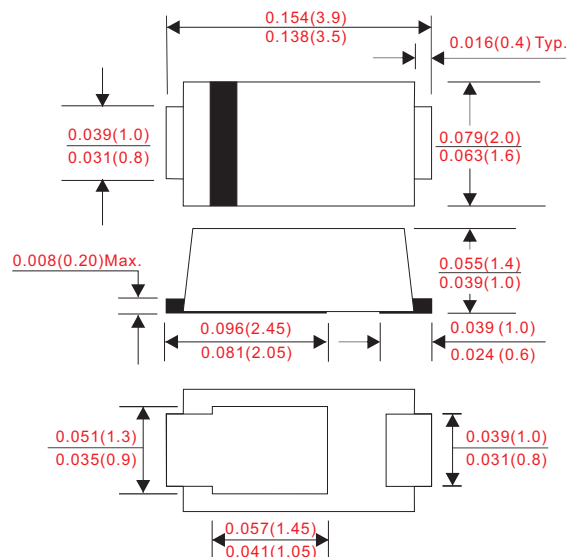
- Low profile surface mounted application in order to optimize board space.
- High current capability.
- High surge capability.
- Glass passivated chip junction inside.
- Suffix "G" indicates Halogen-free part, ex. BGP4001WG-ST.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

■ Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-123ST
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Weight : Approximated 0.0155 gram

■ Outline

SOD-123ST



Dimensions in inches and (millimeters)

■ 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	$V_R = V_{RRM} \quad T_A = 25^\circ\text{C}$	I_R			5.0	uA
	$V_R = V_{RRM} \quad T_A = 125^\circ\text{C}$				100	
Thermal resistance	Junction to ambient	$R_{\theta JA}$		60		°C/W
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		15		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 @1.0A, $T_A = 25^\circ\text{C}$ V_F (V)	Operating temperature T_J (°C)
BGP4001W-ST	A1	50	35	50	1.10	-55 ~ +150
BGP4002W-ST	A2	100	70	100		
BGP4003W-ST	A3	200	140	200		
BGP4004W-ST	A4	400	280	400		
BGP4005W-ST	A5	600	420	600		
BGP4006W-ST	A6	800	560	800		
BGP4007W-ST	A7	1000	700	1000		

■ Rating and characteristic curves

FIG.1-TYPICAL FORWARD CHARACTERISTICS

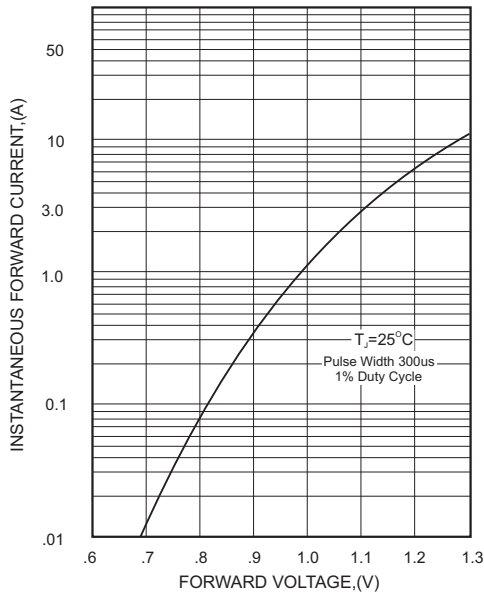


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

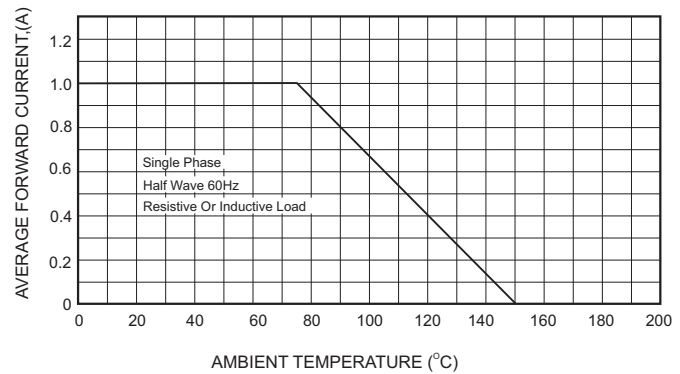


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

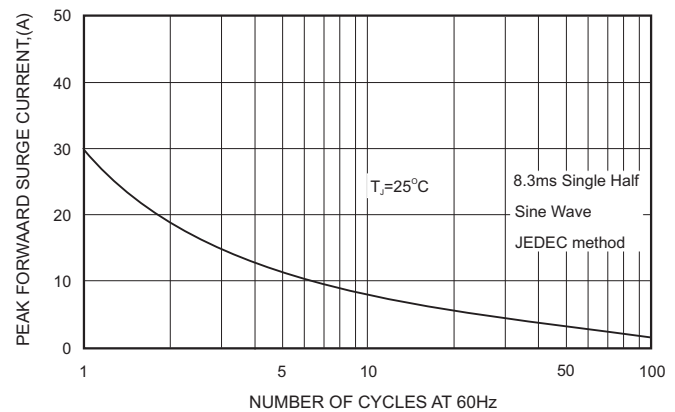


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

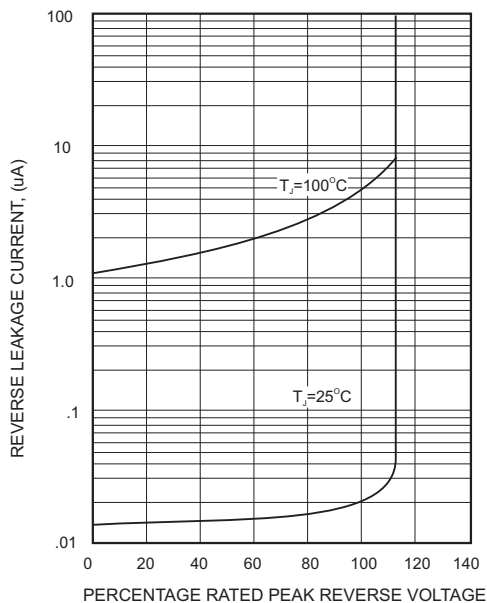
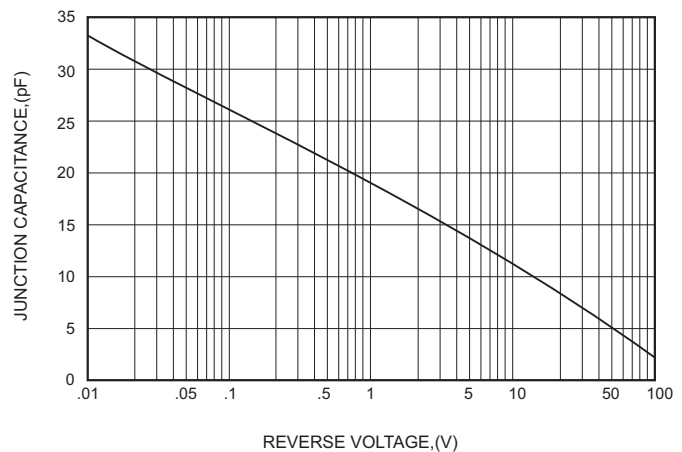
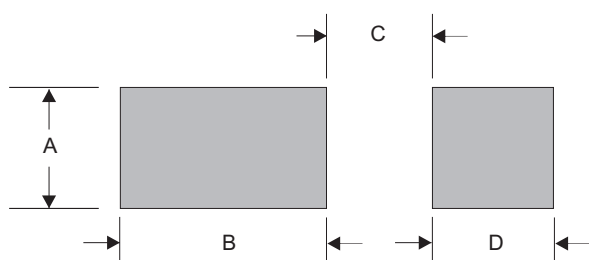


FIG.5-TYPICAL JUNCTION CAPACITANCE



■ SOD-123ST foot print



A	B	C	D
0.036 (0.90)	0.084 (2.10)	0.032 (0.80)	0.032 (0.80)

Dimensions in inches and (millimeters)

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