

■ Features

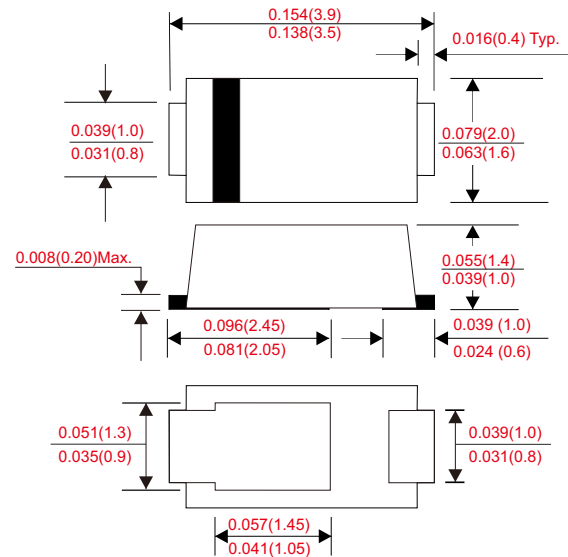
- Low profile surface mounted application in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Suffix "G" indicates Halogen-free part, ex.B120WG-ST.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

■ Mechanical data

- Epoxy:UL94V-0 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.

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}			30	A
Reverse current	$V_R = V_{RRM} \quad T_A = 25^\circ\text{C} < 100\text{V}$	I_R			0.1	mA
	$V_R = V_{RRM} \quad T_A = 25^\circ\text{C} \geq 100\text{V}$				0.05	
	$V_R = V_{RRM} \quad T_A = 100^\circ\text{C} < 100\text{V}$				20	
	$V_R = V_{RRM} \quad T_A = 125^\circ\text{C} \geq 100\text{V}$				1.1	
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		+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)	Operating Junction temperature T_J (°C)
B120W-ST	12	20	14	20	0.45	-55 ~ +150
B140W-ST	14	40	28	40	0.50	
B160W-ST	16	60	42	60	0.70	
B1100W-ST	10	100	70	100	0.85	
B1150W-ST	115	150	105	150	0.87	-55 ~ +175
B1200W-ST	120	200	140	200	0.90	

■ Rating and characteristic curves

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

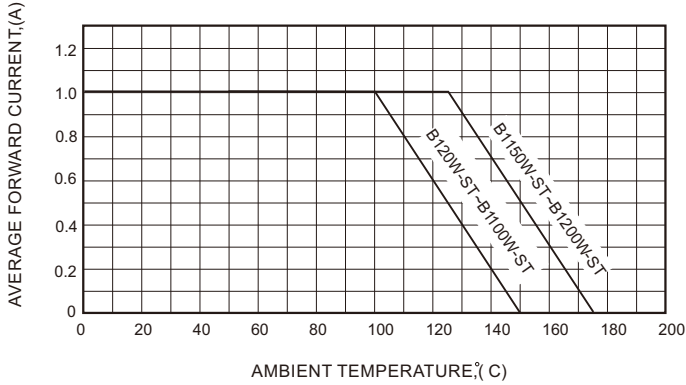


FIG.2-TYPICAL FORWARD CHARACTERISTICS

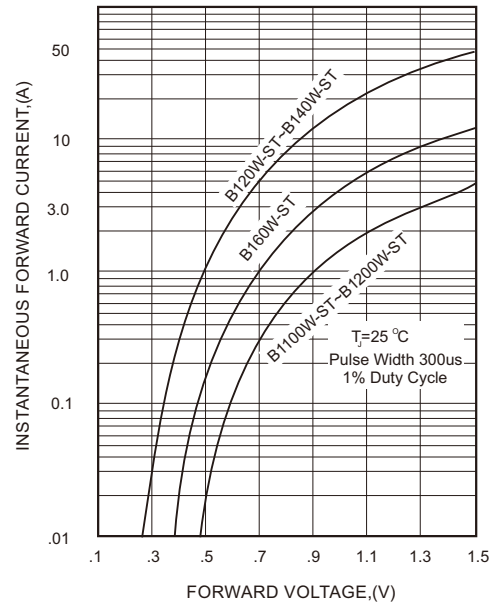


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

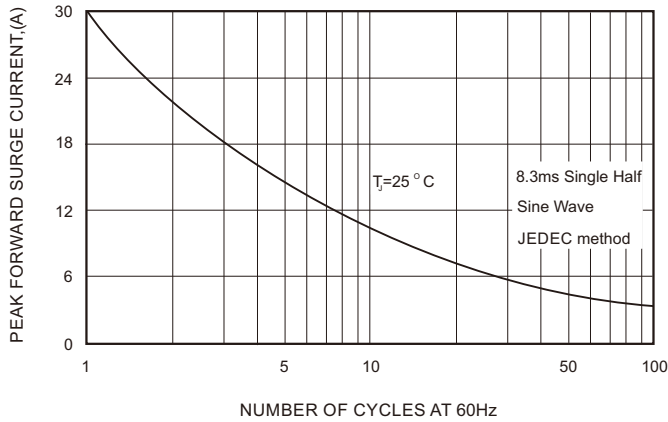


FIG.4-TYPICAL JUNCTION CAPACITANCE

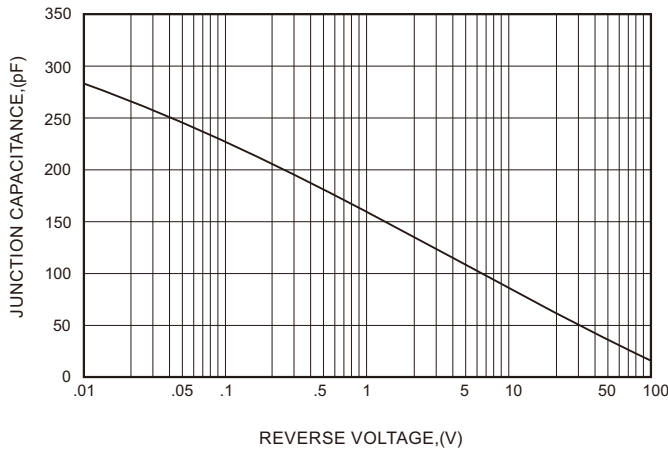
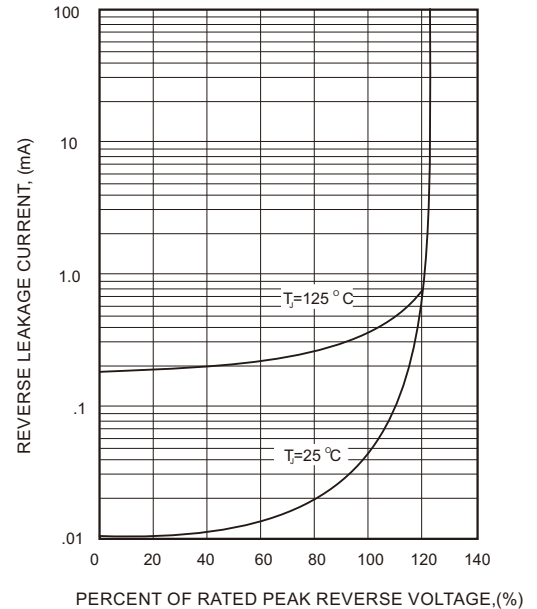
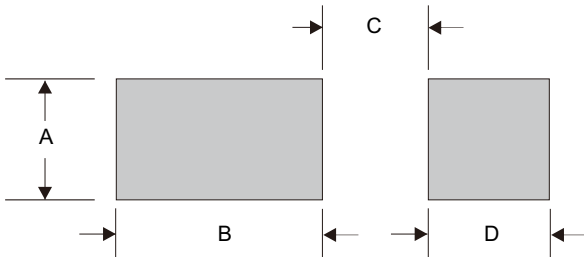


FIG.5 - TYPICAL REVERSE CHARACTERISTICS



■ 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)

- CITC reserves the right to make changes to this document and its products and specifications at any time without notice.
- Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.
- CITC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does CITC assume any liability for application assistance or customer product design.
- CITC does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.
- No license is granted by implication or otherwise under any intellectual property rights of CITC.
- CITC products are not authorized for use as critical components in life support devices or systems without express written approval of CITC.