

■ Features

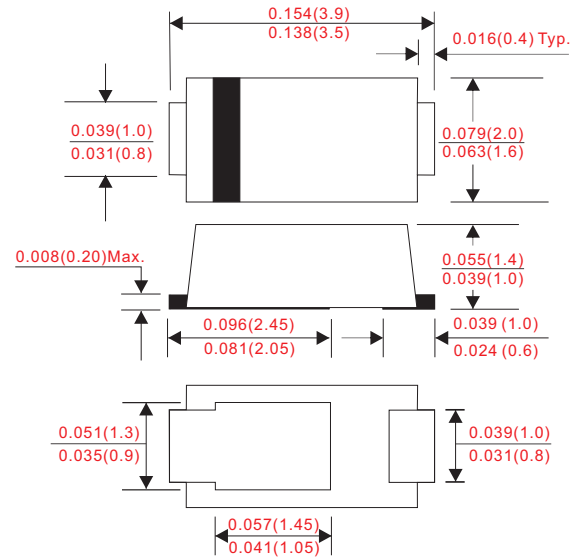
- Low profile surface mounted application in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Suffix "G" indicates Halogen-free part, ex. B220WG-ST.
- 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



■ 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 | | | 2.0 | A |
| Forward surge current | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | I_{FSM} | | | 50 | A |
| Reverse current | $V_R = V_{RRM}$ $T_A = 25^\circ\text{C}$ | I_R | | | 0.1 | mA |
| | $V_R = V_{RRM}$ $T_A = 100^\circ\text{C}$ | | | | 20 | |
| Diode junction capacitance | f=1MHz and applied 4V DC reverse voltage | C_J | | 160 | | pF |
| Thermal resistance | Junction to ambient | R_{BJA} | | 85 | | °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 @2A, $T_A = 25^\circ\text{C}$ V_F (V) | Operating temperature T_J (°C) |
|-----------|--------------|--|--------------------------------|------------------------------------|--|----------------------------------|
| B220W-ST | 22 | 20 | 14 | 20 | 0.45 | -55 ~ +150 |
| B240W-ST | 24 | 40 | 28 | 40 | 0.50 | |
| B260W-ST | 26 | 60 | 42 | 60 | 0.70 | |
| B2100W-ST | 210 | 100 | 70 | 100 | 0.81 | -55 ~ +175 |
| B2150W-ST | 215 | 150 | 105 | 150 | 0.87 | |
| B2200W-ST | 220 | 200 | 140 | 200 | 0.90 | |

■ Rating and characteristic curves

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

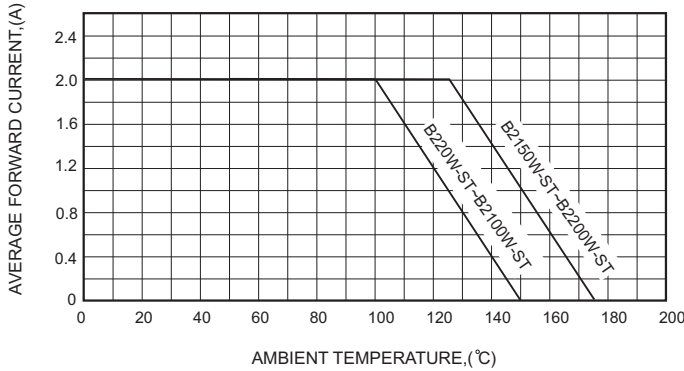


FIG.2-TYPICAL FORWARD CHARACTERISTICS

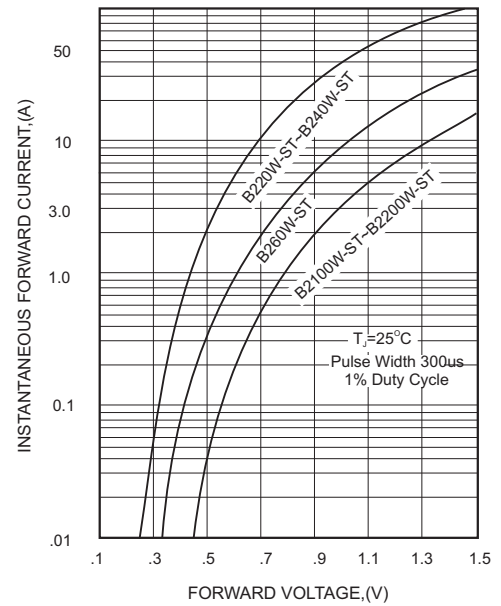


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

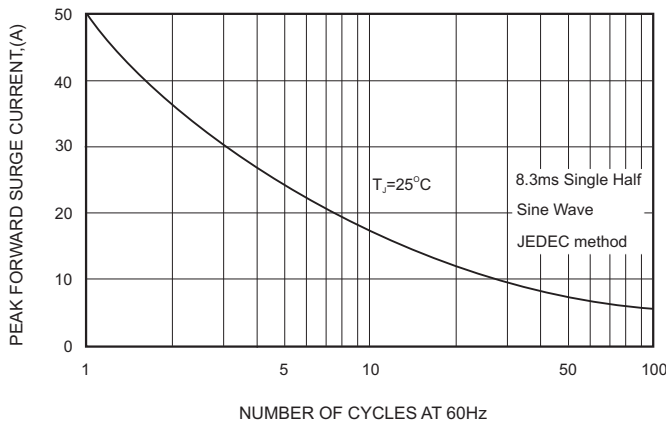


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

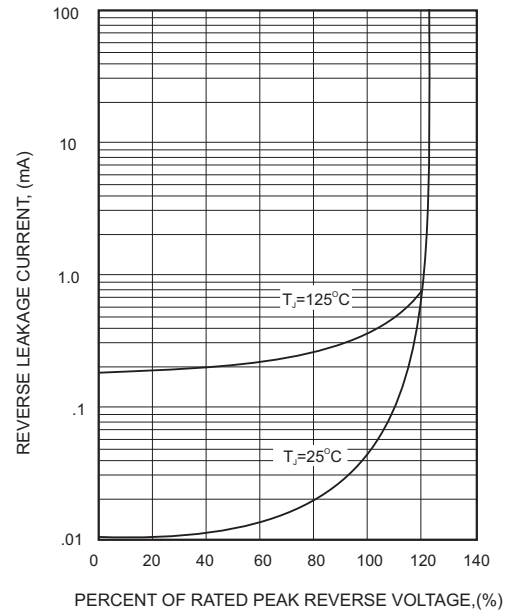
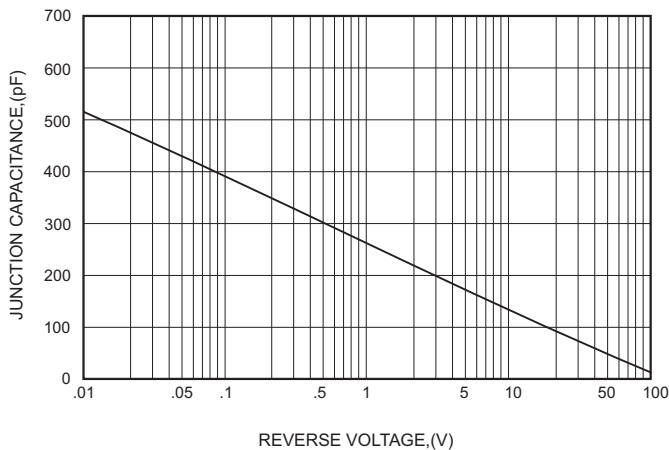
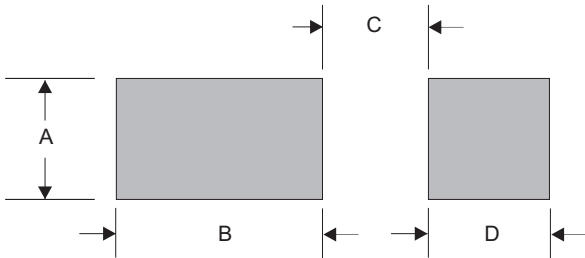


FIG.4-TYPICAL JUNCTION CAPACITANCE



■ 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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