

### ■ Features

- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guardring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Suffix "G" indicates Halogen-free part, ex. SBF1040CTG.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

### ■ Mechanical data

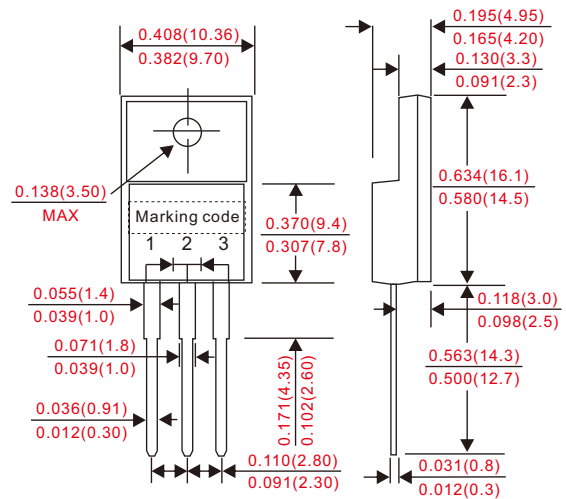
- Epoxy : UL94-V0 rated flame retardant.
- Case : JEDEC ITO-220AB molded plastic body.
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026.
- Polarity: As marked.
- Mounting Position : Any.
- Weight : Approximated 2.25 gram.

### ■ 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%.

### ■ Outline

ITO-220AB



| Parameter                  | Conditions   | Symbol          | MIN. | TYP. | MAX. | UNIT |
|----------------------------|--|-----------------|------|------|------|------|
| Forward rectified current  | See Fig.1  | $I_o$           |      |      | 10   | A    |
| Forward surge current      | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | $I_{FSM}$       |      |      | 125  | A    |
| Reverse current            | $V_R = V_{RRM}$ $T_A = 25^\circ\text{C}$                             | $I_R$           |      |      | 0.5  | mA   |
|                            | $V_R = V_{RRM}$ $T_A = 100^\circ\text{C}$                            |                 |      |      | 20   |      |
| Diode junction capacitance | f=1MHz and applied 4V DC reverse voltage                             | $C_j$           |      | 250  |      | pF   |
| Thermal resistance         | Junction to ambient  | $R_{\theta JA}$ |      | 55   |      | °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 @5A, $T_A = 25^\circ\text{C}$ $V_F$ (V) | Operating temperature $T_J$ (°C) |
|-----------|--------------|--|--------------------------------|------------------------------------|--|----------------------------------|
| SBF1040CT | SBF1040CT    | 40   | 28                             | 40                                 | 0.55   | -55 ~ +150                       |
| SBF1045CT | SBF1045CT    | 45   | 31.5                           | 45                                 |  |                                  |
| SBF1060CT | SBF1060CT    | 60   | 42                             | 60                                 | 0.70   |                                  |
| SBF1065CT | SBF1065CT    | 65   | 45.5                           | 65                                 |  |                                  |

■ Rating and characteristic curves

Fig. 1 - Forward Current Derating Curve

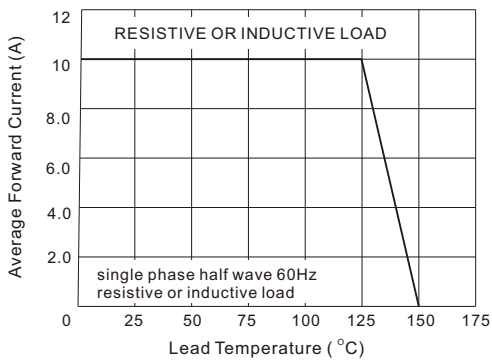


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

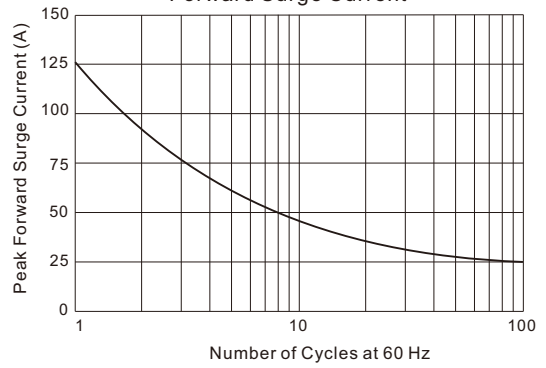


Fig. 3 - Instantaneous Forward Characteristics

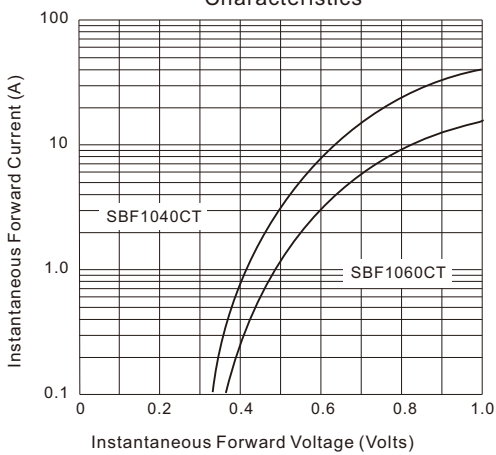
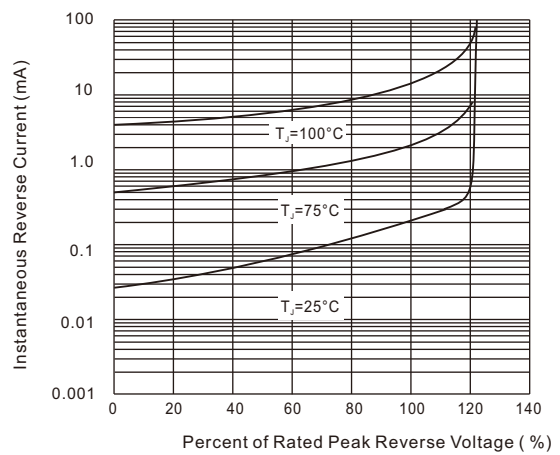


Fig. 4 - Reverse Characteristics



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