

■ 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. SBF2040CTG.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

■ Mechanical data

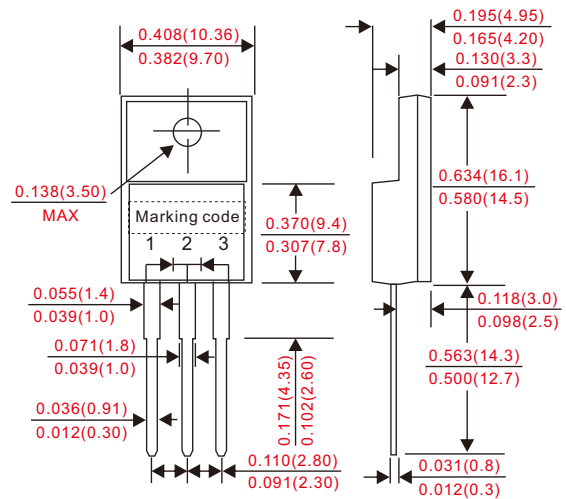
- Epoxy : UL94-V0 rated flame retardant.
- Case : JEDEC ITO-220AB molded plastic body.
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026.
- Polarity: As marked.
- Mounting Position : Any.
- Weight : Approximated 2.25 gram.

■ 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 | | | 20 | A |
| Forward surge current | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | I_{FSM} | | | 150 | 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 @10A, $T_A = 25^\circ\text{C}$ V_F (V) | Operating temperature T_J (°C) |
|-----------|--------------|--|--------------------------------|------------------------------------|---|----------------------------------|
| SBF2040CT | SBF2040CT | 40 | 28 | 40 | 0.55 | -55 ~ +150 |
| SBF2045CT | SBF2045CT | 45 | 31.5 | 45 | | |
| SBF2060CT | SBF2060CT | 60 | 42 | 60 | 0.70 | |
| SBF2065CT | SBF2065CT | 65 | 45.5 | 65 | | |

■ Rating and characteristic curves

Fig. 1 - Forward Current Derating Curve

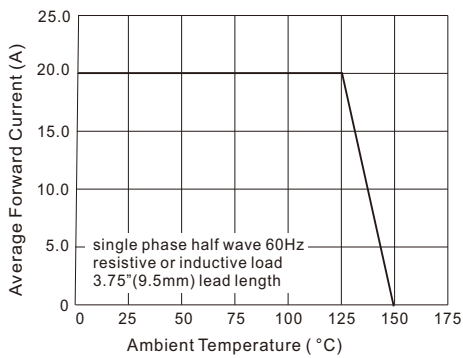


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

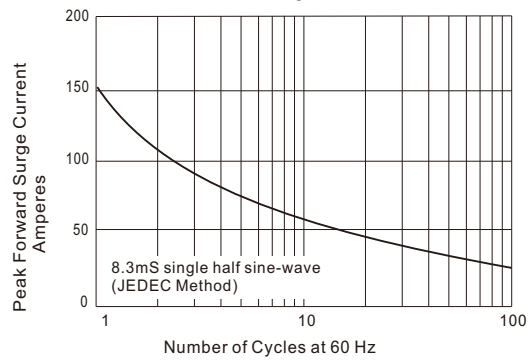


Fig. 3 - Instantaneous Forward Characteristics

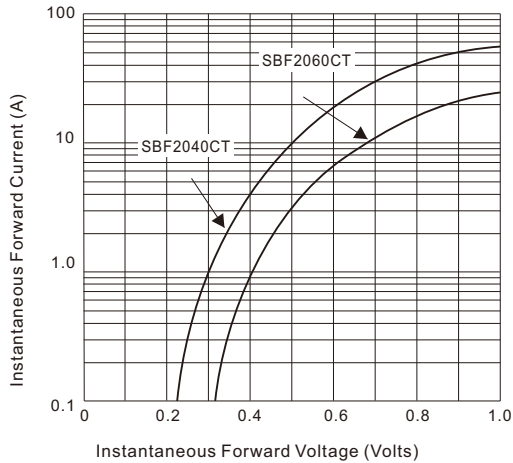
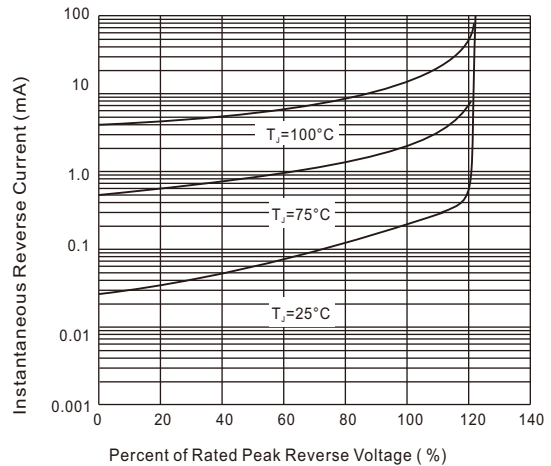


Fig. 4 - Reverse Characteristics



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