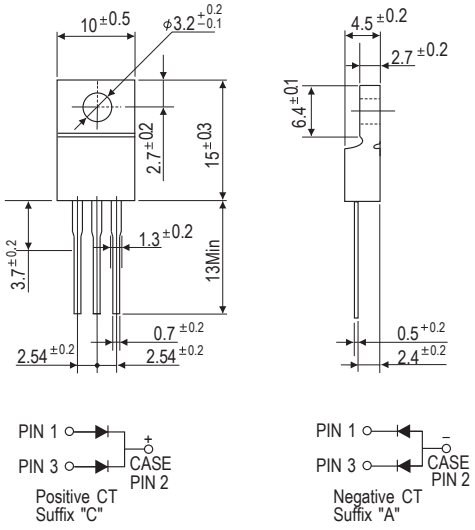
# SBP1020 THRU SBP10100

CURRENT 10.0Amperes
VOLTAGE 20 to 100 Volts

## Features

- Plastic Package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction, majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss, high efficiency
- High current capability, Low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Dual rectifier construction
- High temperature soldering guaranteed : 250℃/10 seconds, 0.25" (6.35mm) from case

ITO-220




Dimensions in inches and (millimeters)

## Mechanical Data

- Case : JEDEC ITO-220 molded plastic body
- Terminals : Lead solderable per MIL-STD-750, Method 2026
- Polarity : As marked. No suffix indicates Common Cathode, suffix "A" indicates Common Anode
- Mounting Position : Any
- Weight : 0.08 ounce, 2.24 gram

## Maximum Ratings and Electrical Characteristics

(Ratings at 25℃ ambient temperature unless otherwise specified, single phase, half wave, resistive or inductive load. For capacitive load, derate by 20%)

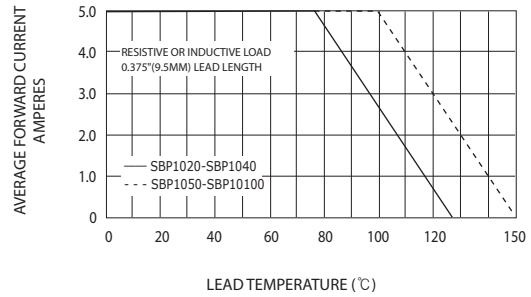
| | | Symbols | SBP 1020 | SBP 1030 | SBP 1040 | SBP 1050 | SBP 1060 | SBP 1080 | SBP 10100 | Units |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum repetitive peak reverse voltage | | $V_{RRM}$ | 20 | 30 | 40 | 50 | 60 | 80 | 100 | Volts |
| Maximum RMS voltage | | $V_{RMS}$ | 14 | 21 | 28 | 35 | 42 | 56 | 70 | Volts |
| Maximum DC blocking voltage | | $V_{DC}$ | 20 | 30 | 40 | 50 | 60 | 80 | 100 | Volts |
| Maximum average forward rectified current (see Fig. 1) | | $I_{(AV)}$ | 10.0 | | | | | | | Amps |
| Repetitive peak forward current(square wavr, 20KHZ) at Tc=105℃ | | $I_{FRM}$ | 20.0 | | | | | | | Amps |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | | $I_{FSM}$ | 150.0 | | | | | | | Amps |
| Maximum instantaneous forward voltage at 5.0A (Note 1) | | $V_F$ | 0.65 | | | 0.75 | | 0.80 | 0.85 | Volts |
| Maximum instantaneous reverse current at rated DC blocking voltage (Note1) | $T_A$=25℃ | $I_R$ | 1.0 | | | | | | | mA |
| | $T_A$=100℃ | | 50 | | | 25 | | | | |
| Typical thermal resistance (Note 2) | | $R\Theta_{JC}$ | 5.0 | | | | | | | ℃/W |
| Operating junction temperature range | | $T_J$ | -65 to +125 | | | -65 to +150 | | | | ℃ |
| Storage temperature range | | $T_{STG}$ | -65 to +150 | | | | | | | ℃ |

Notes:
(1) Pulse test: 300μS pulse width, 1% duty cycle
(2) Thermal resistance from junction to case

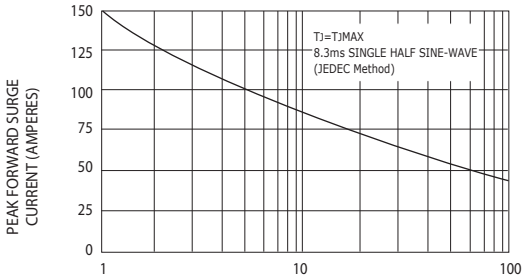
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# RATINGS AND CHARACTERISTIC CURVES SBP1020 THRU SBP10100

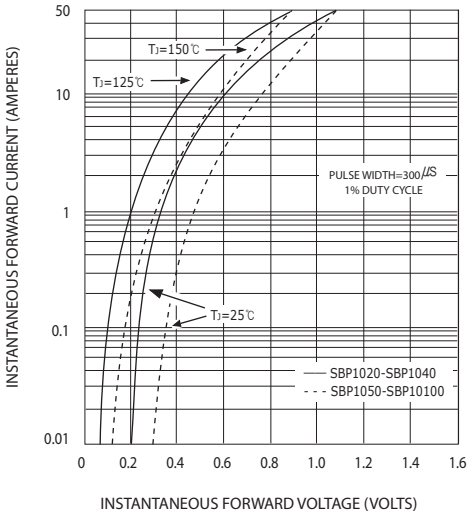
## FIG.1-FORWARD CURRENT DERATING CURVE



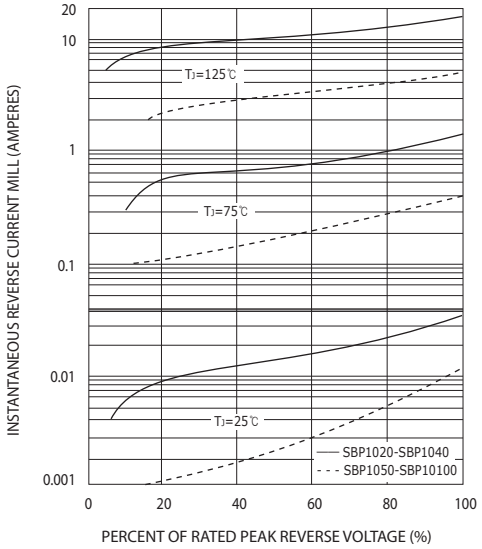

## FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



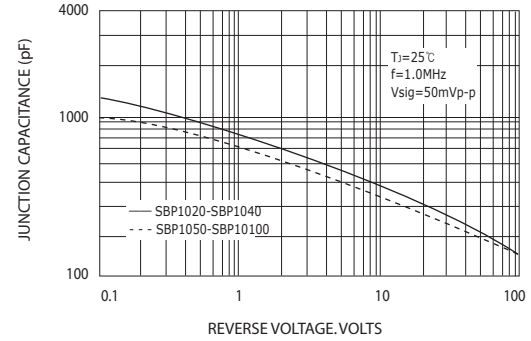

## FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS




## FIG.4-TYPICAL REVERSE CHARACTERISTICS




## FIG.5-TYPICAL JUNCTION CAPACITANCE




## FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

