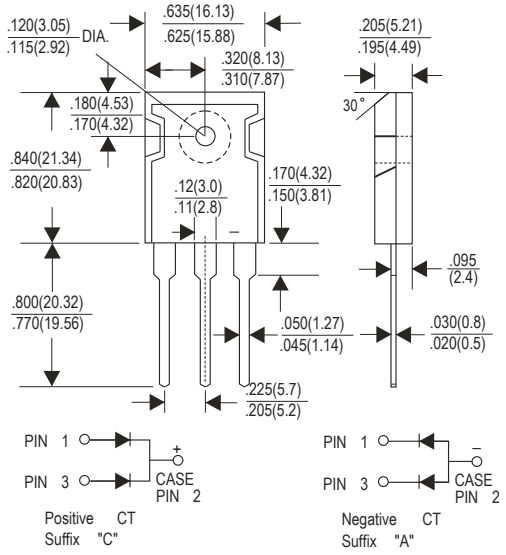
# SBR4030 THRU SBR4060

CURRENT 40.0Amperes
VOLTAGE 30 to 60 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, 0.17" (4.3mm) from case

TO-3P




Dimensions in inches and (millimeters)

## Mechanical Data

- Case : JEDEC TO-3P 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 : 0.20 ounce, 5.6 grams

## 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 | SBR4030 | SBR4035 | SBR4040 | SBR4045 | SBR4050 | SBR4060 | Units |
|---|---|---|---|---|---|---|---|---|---|
| Maximum repetitive peak reverse voltage | | $V_{RRM}$ | 30 | 35 | 40 | 45 | 50 | 60 | Volts |
| Maximum RMS voltage | | $V_{RMS}$ | 21 | 24 | 28 | 32 | 35 | 42 | Volts |
| Maximum DC blocking voltage | | $V_{DC}$ | 30 | 35 | 40 | 45 | 50 | 60 | Volts |
| Maximum average forward rectified current at $T_C$=100℃ $V_{R(equiv.)}$<0.2$V_{R(DC)}$ | | $I_{(AV)}$ | 40.0 | | | | | | Amps |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | | $I_{FSM}$ | 400.0 | | | | | | Amps |
| Maximum instantaneous forward voltage at 20A (Note 1) | | $V_F$ | 0.55 | | | | 0.65 | | Volts |
| Maximum instantaneous reverse current at rated DC blocking voltage (Note1) | $T_A$=25℃ | $I_R$ | 10.0 | | | | | | mA |
| | $T_A$=125℃ | | 100 | | | | 150 | | |
| Typical thermal resistance (Note 2) | | $R\Theta_{JC}$ | 1.4 | | | | | | ℃/W |
| Operating junction temperature range | | $T_J$ | -65 to +125 | | | | | | ℃ |
| 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 SBR4030 THRU SBR4060

FIG.1-FORWARD CURRENT DERATING CURVE

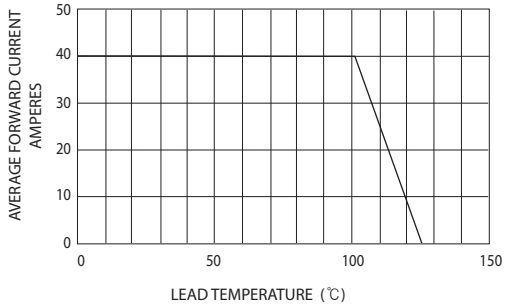


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

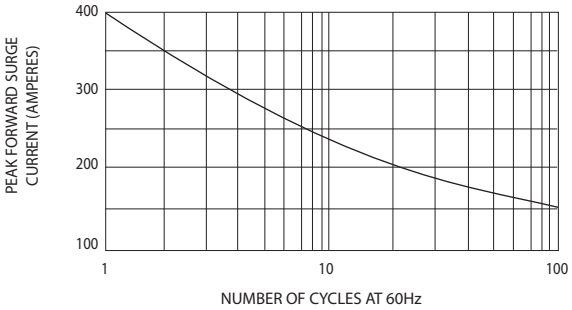


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

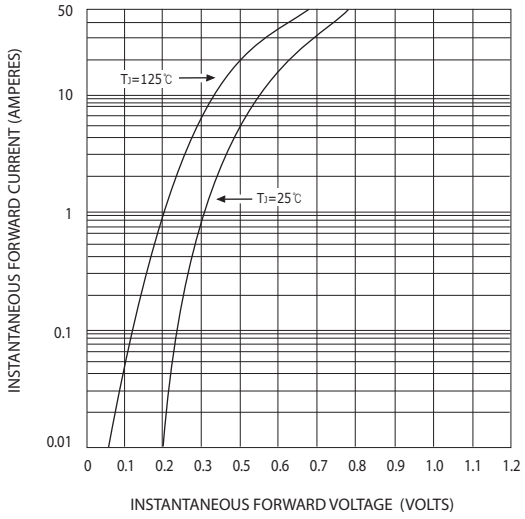


FIG.4-TYPICAL REVERSE CHARACTERISTICS

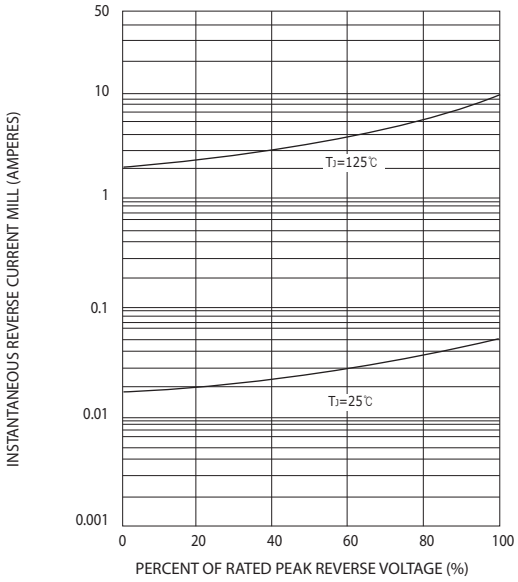


FIG.5-TYPICAL JUNCTION CAPACITANCE

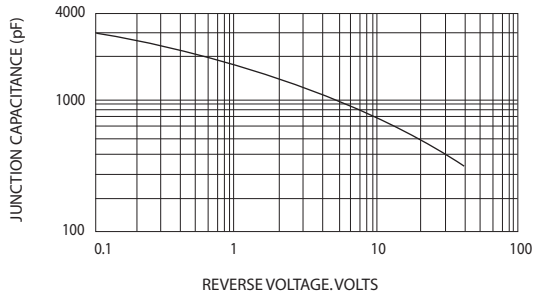


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE