

SB220 thru SB2100

Schottky Barrier Rectifiers Reverse Voltage 20 to 100V

Feature & Dimensions

- * Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- * Low power loss, high efficiency
- * For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- * Guarding for over voltage protection
- * High temperature soldering guaranteed:
260°C/10 seconds at terminals

Mechanical Data

Case: JEDEC DO-15, molded plastic over sky die

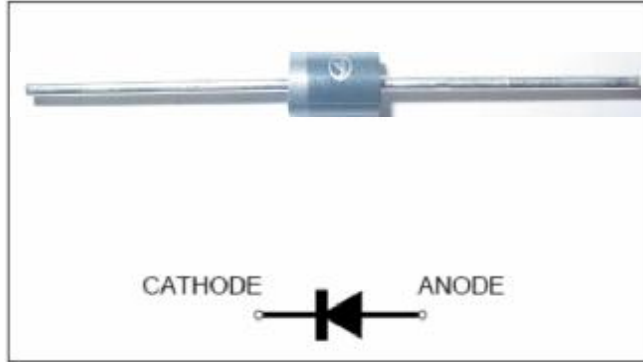
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.015 oz., 0.40 g

Handling precaution: None



We declare that the material of product compliance with ROHS requirements

1. Maximum & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter Symbol | symbol | SB220 | SB230 | SB240 | SB250 | SB260 | SB280 | SB290 | SB2100 | Unit |
|--|--------|-------------|-------|-------|-------|-------|-------|-------|--------|------|
| Maximum repetitive peak reverse voltage | VRRM | 20 | 30 | 40 | 50 | 60 | 80 | 90 | 100 | V |
| Maximum RSM voltage | VRSM | 14 | 21 | 28 | 35 | 42 | 56 | 63 | 70 | V |
| Maximum DC blocking voltage | VDC | 20 | 30 | 40 | 50 | 60 | 80 | 90 | 100 | V |
| Maximum average forward rectified current 0.375" (9.5mm) lead length (See fig. 1) | IF(AV) | 2.0 | | | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | IFSM | 60 | | | | | | | | A |
| Typical thermal resistance (Note 1) | RθJA | 50 | | | | | | | | °C/W |
| Operating temperature range | TJ | -55 to +150 | | | | | | | | °C |
| storage temperature range | TSTG | -55 to +175 | | | | | | | | °C |

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter Symbol | symbol | SB220 | SB230 | SB240 | SB250 | SB260 | SB280 | SB290 | SB2100 | Unit |
|---|----------------|-------|-------|-------|-------|-------|-------|-------|--------|------|
| Maximum instantaneous forward voltage at 2.0A | V _F | 0.50 | | | 0.70 | | 0.85 | | | V |
| Maximum DC reverse current TA = 25°C at rated DC blocking voltage TA = 100°C | IR | 0.5 | | | | | | | | mA |
| Typical junction capacitance at 4.0V, 1MHz | CJ | 20 | | | | | | | | |
| | | 170 | | | | | | | | PF |

NOTES:

1. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

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2. Characteristic Curves (TA = 25°C unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

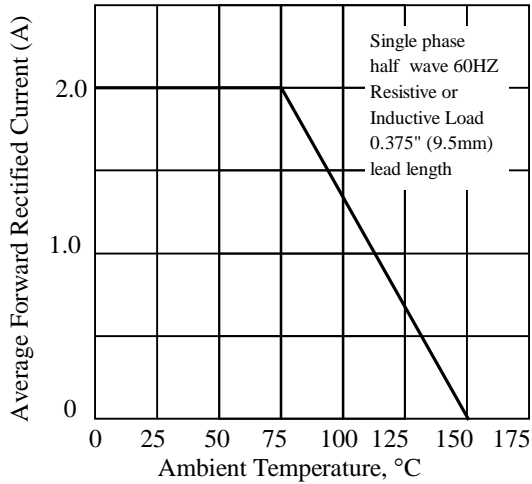


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

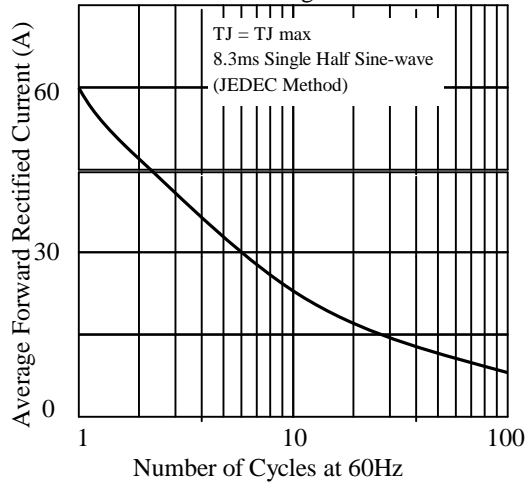


Fig 3. - Typical Instantaneous Forward Characteristics

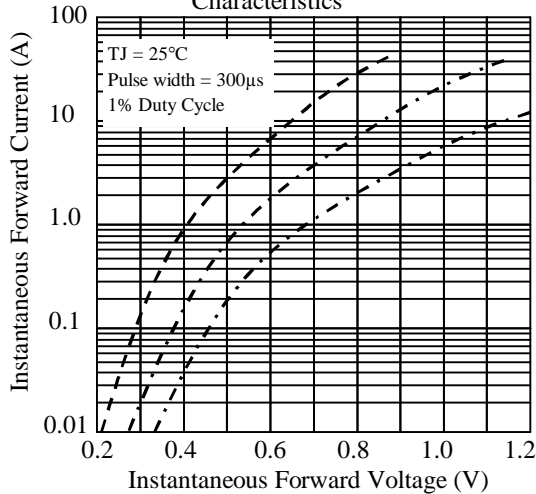


Fig 4. - Typical Reverse Characteristics

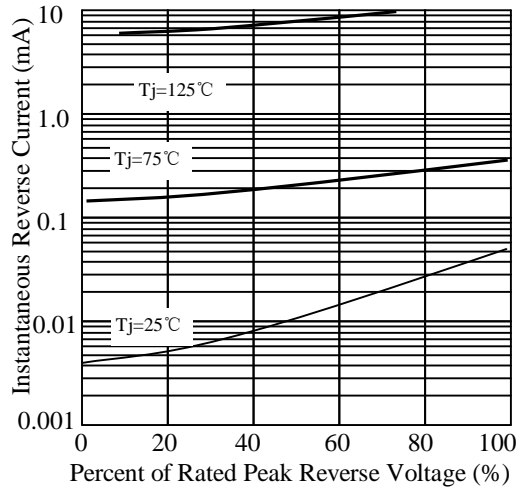


Fig 5. - typical transient thermal impedance

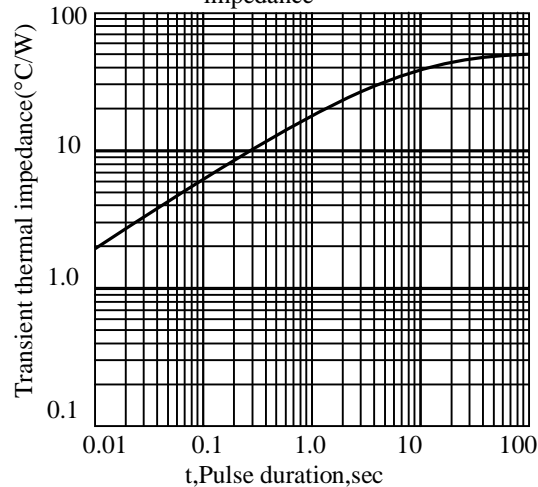
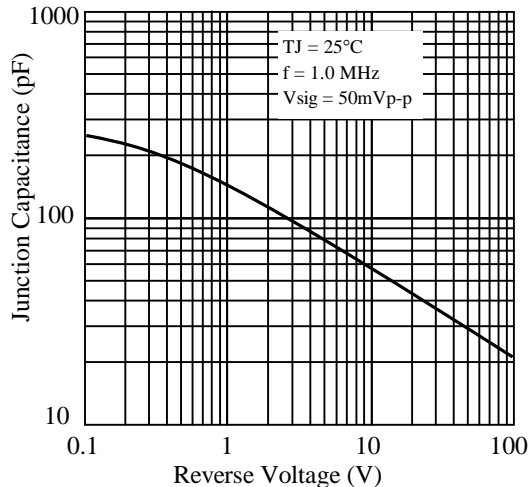
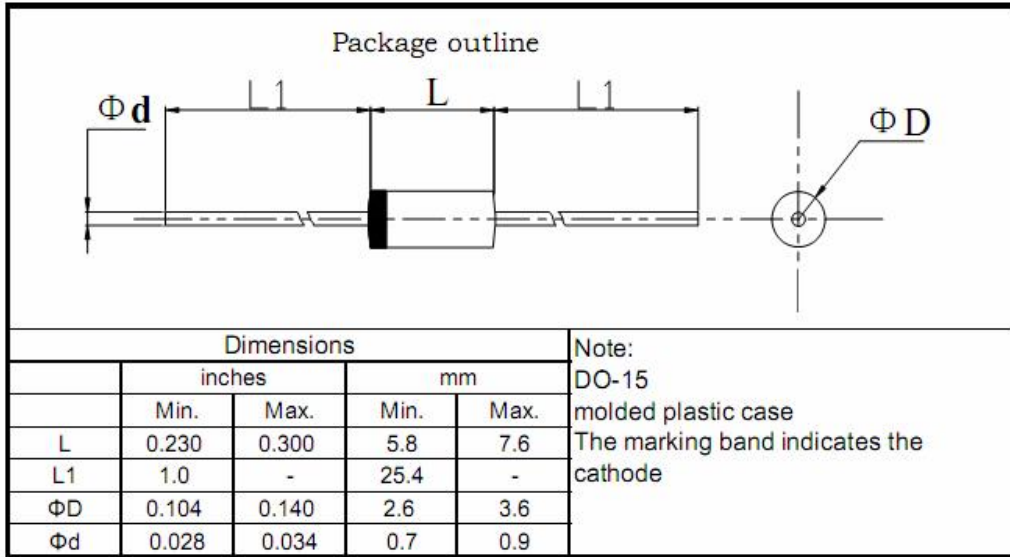


Fig 6. - Typical Junction Capacitance



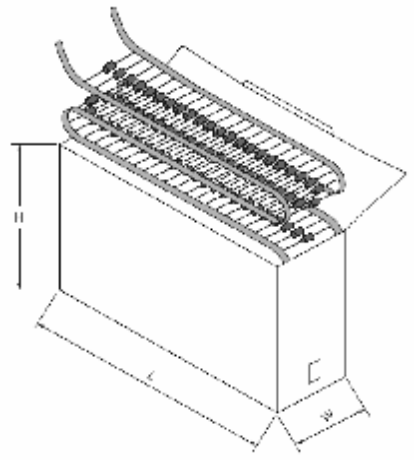
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3. dimension:



| | |
|---------------------------------|---------------|
| 标题： 塑封生产线轴向产品包装规范 | 文件编号： WI-250 |
| | 第 4 版 第 0 次修改 |
| | 第 1 页 |

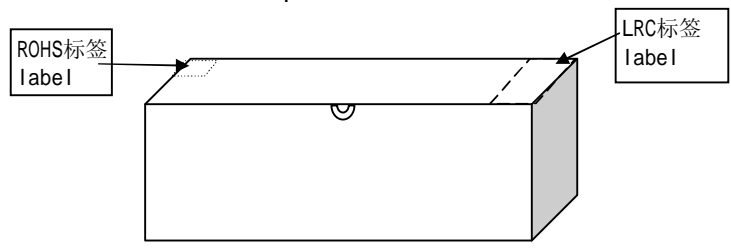
- 1 弹带盒装 ammo and box
- 1.1. 弹带盒规格 ammo spec.



单位：mm

| | L | W | H |
|-----|-------|------|------|
| T52 | 262±2 | 76±2 | 90±2 |
| T42 | 262±2 | 64±2 | 90±2 |
| T26 | 250±3 | 45±3 | 95±3 |

- 1.2 弹带内盒要求 inner box spec.



| | |
|-----------------------------|---------------|
| 标题: 塑封生产线轴向产品包装规范 | 文件编号: WI-250 |
| | 第 4 版 第 0 次修改 |
| | 第 2 页 |

1.4 标签要求 label spec.

1.4.1 LRC标签 LRC label

成型 FORMING ***** ← 成型规格 forming spec.

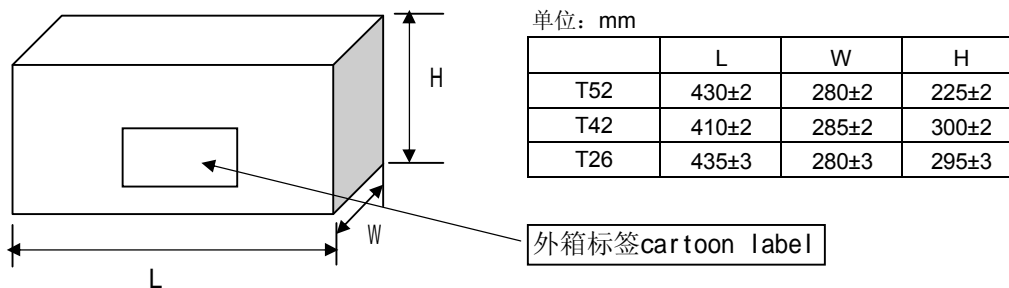
型号 TYPE ***** ← LRC产品型号 type

| | | |
|--------------------------------|-------|-----------------------------------|
| 重复峰压 (V) PRV (V) | **** | ← 产品重复峰压值 peak repetitive voltage |
| 额定电流 (A) I _o (A) | ** | ← 产品额定电流值 average output current |
| 数量 (只) QTY (pcs) | **** | ← 产品数量 quantity |
| 检验员 CHECKER | 02 | |
| 日期: DATE: | ***** | ← 产品生产日期 date |

1.4.2 环保标签 environmental protection label



2. 外箱规格 carton spec.

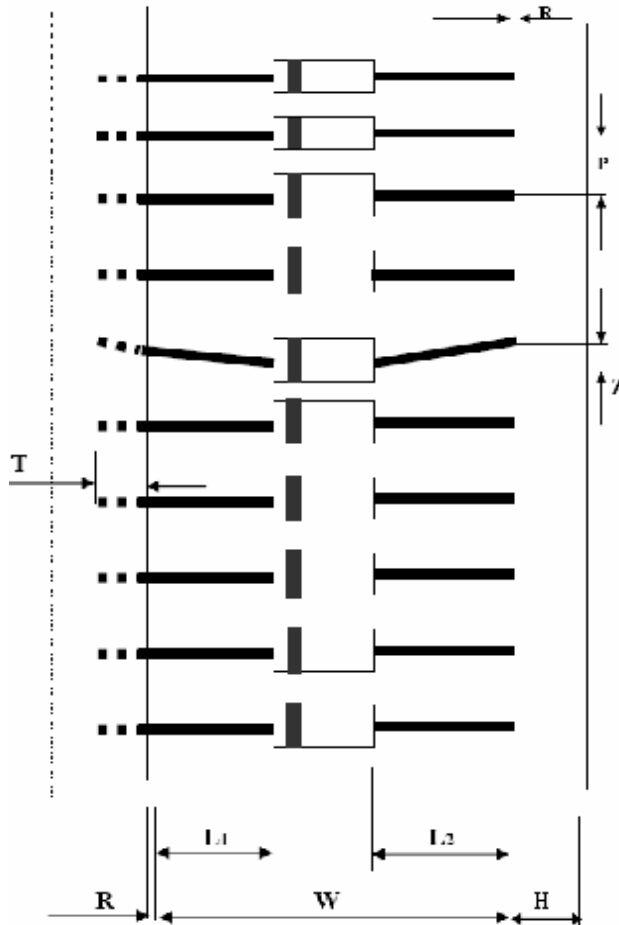


3 按以上包装方式, 编带数量和外包装箱产品数量: typing and carton spec.

| | 塑封外型 | | | |
|----------------------------------|---------------------|-------|----------------------|----------|
| | A-405 & DO-41 & R-1 | R-3 | DO-15 | DO-201AD |
| 每根编带数量 quantity/ammo | 3K | 1.8K | 2K(T52) 1.8K(T26) | 0.8K |
| 外箱数量 (T52编带) quantity/cartoon | 30K | 18K | 20K | 8.0K |
| 外箱数量 (T26编带) quantity/cartoon | 60K | 36K | 36K | - |
| 外箱数量 (T42编带) quantity/cartoon | 54K | 32.4K | 36K | - |

| | |
|-----------------------------|---------------|
| 标题： 塑封生产线轴向产品包装规范 | 文件编号：WI-250 |
| | 第 4 版 第 0 次修改 |
| | 第 3 页 |

4 编带规格 brede spec



| 尺寸代号 | 编带尺寸 typing dimension | | | | | |
|-------|-----------------------|--------------|--------------|--------------|--------------|--------------|
| | 26/tape | 35/tape | 40/tape | 42/tape | 52/tape | 52/tape# |
| W | 26 0.0/+1.6 | 35 -1.0/+0.5 | 40 -1.0/+0.5 | 42 -1.0/+1.0 | 52 -1.0/+2.0 | 52 -1.0/+2.0 |
| P | 5±0.5 | 5±0.5 | 5±0.5 | 5±0.5 | 5±0.5 | 10±0.5 |
| L1-L2 | <1.0 | <1.0 | <1.0 | <1.0 | <1.2 | <1.2 |
| H | 6±1.0 | 6±1.0 | 6±1.0 | 6±1.0 | 6±1.0 | 6±1.0 |
| Z | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| R | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| T | >3.5 | >3.5 | >3.5 | >3.5 | >3.5 | >3.5 |

注：52编带# 为DO-201AD编带规格 "52编带#" just for D0-201AD

1. 红白编带厚度为0.05mm；两种胶带各自之间无明显色差；编带要求均为胶带。
The typing thickness is 0.05mm and color is obvious difference
2. 两端引带20~40cm. Typing lead over 20~40cm
3. 红色编带一端为二极管“负极”；白色编带一端为二极管“正极”。
red color is cathode ,white color is anode
4. 无卤 green epoxy compound (无卤产品才贴HF only)

Green

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4. Update Record

| 版次 | 更新记录 | 更新作者 | 更新日期 |
|----|-----------|------|------------|
| 1 | 第一版 | 余波 | 2010.5-26 |
| 2 | 调整结温为150度 | 周杰 | 2010.09.26 |

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