

SB302-E thru SB3010-E

Schottky Barrier Rectifiers

Reverse Voltage 20 to 100V Forward Current 3.0A

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
- * IEC61000-4-2 ESD Air Contact $\geq \pm 15KV$

Mechanical Data

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

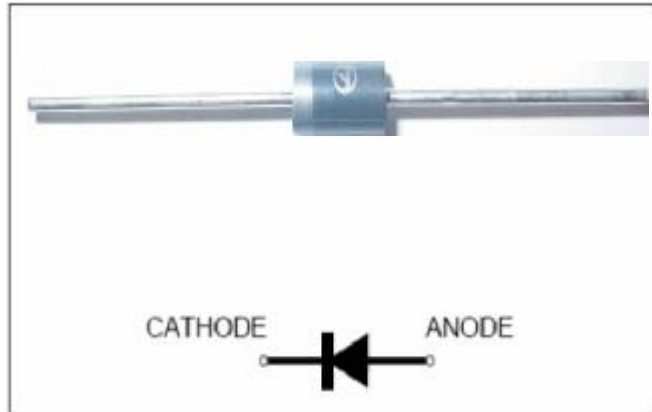
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

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 | SB302 -E | SB303 -E | SB304 -E | SB305 -E | SB306 -E | SB308 -E | SB3010 -E | Unit | |
|--|----------------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|------|------|
| device marking code | | SB302 ESD | SB303 ESD | SB304 ESD | SB305 ESD | SB306 ESD | SB308 ESD | SB3010 ESD | | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | V | |
| Maximum RMS voltage | V_{RMS} | 14 | 21 | 28 | 35 | 42 | 56 | 70 | V | |
| Maximum DC blocking voltage | V_{DC} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | V | |
| Maximum average forward rectified current 0.375" (9.5mm) lead length (See fig. 1) | I_F (AV) | 3.0 | | | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 80 | | | | | | | | A |
| thermal resistance, junction to ambient | $R_{\theta JA}$ | 35 | | | | | | | | °C/W |
| thermal resistance, junction to case | $R_{\theta JC}$ | 5 | | | | | | | | °C/W |
| Operating junction and storage temperature range | T_J , T_{STG} | -40 to +150 | | | | | | | | °C |

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

| Parameter Symbol | symbol | SB302 -E | SB303 -E | SB304 -E | SB305 -E | SB306 -E | SB308 -E | SB3010 -E | Unit | |
|---|--------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|------|----|
| Maximum instantaneous forward voltage at 3.0A | V_F | 0.50 | | | 0.70 | | 0.84 | | V | |
| Maximum DC reverse current $T_j = 25^\circ C$ at rated DC blocking voltage $T_j = 125^\circ C$ | I_R | 0.5 | | | | | 10 | | | mA |
| Typical junction capacitance at 4.0V, 1MHz | C_J | 170 | | | | | | | | PF |

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

Fig. 1 - Forward Current Derating Curve

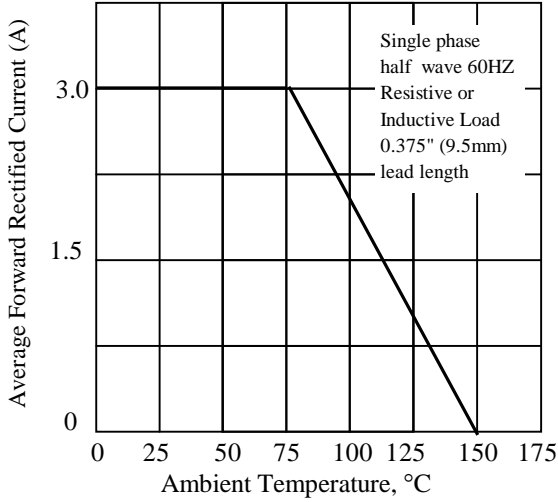


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

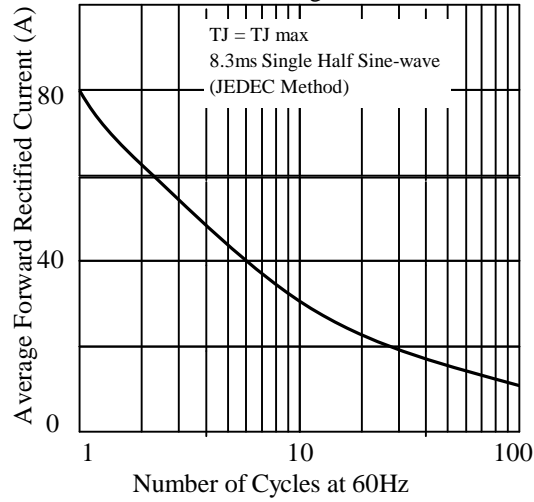


Fig 3. - Typical Instantaneous Forward Characteristics

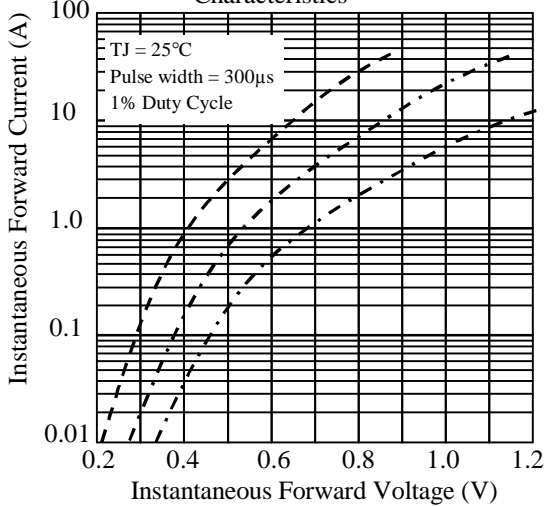


Fig 4. - Typical Reverse Characteristics

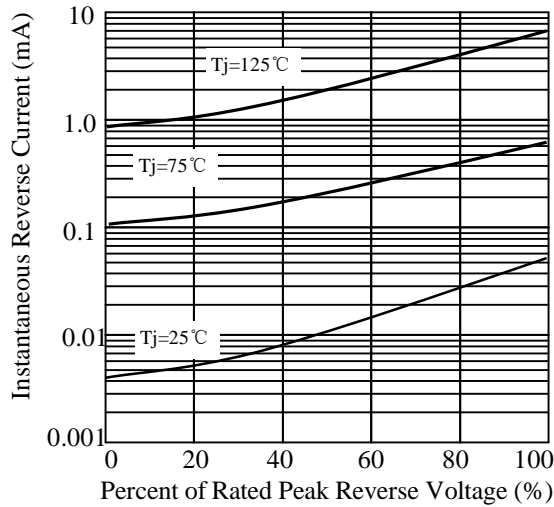


Fig 5. - typical transient thermal impedance

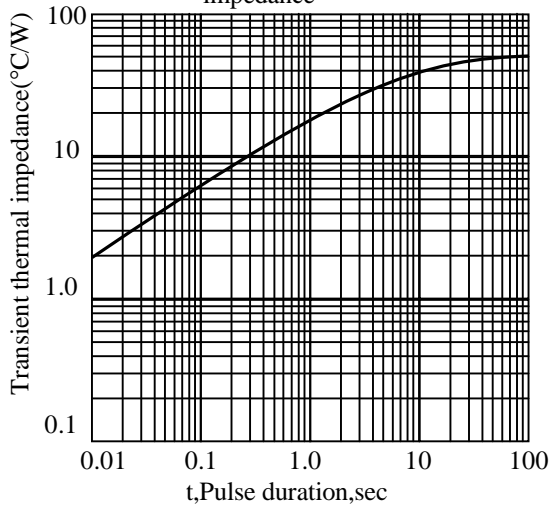
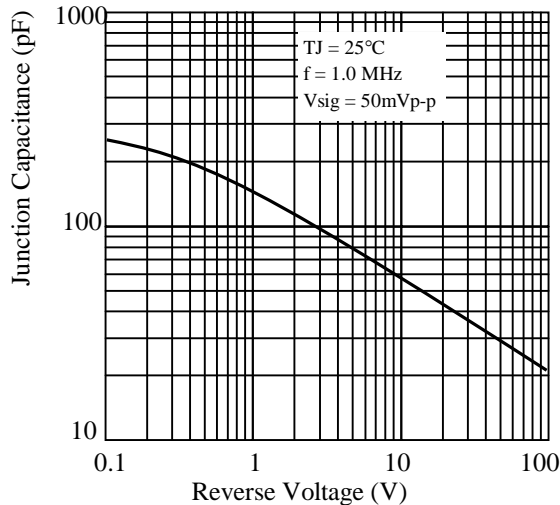
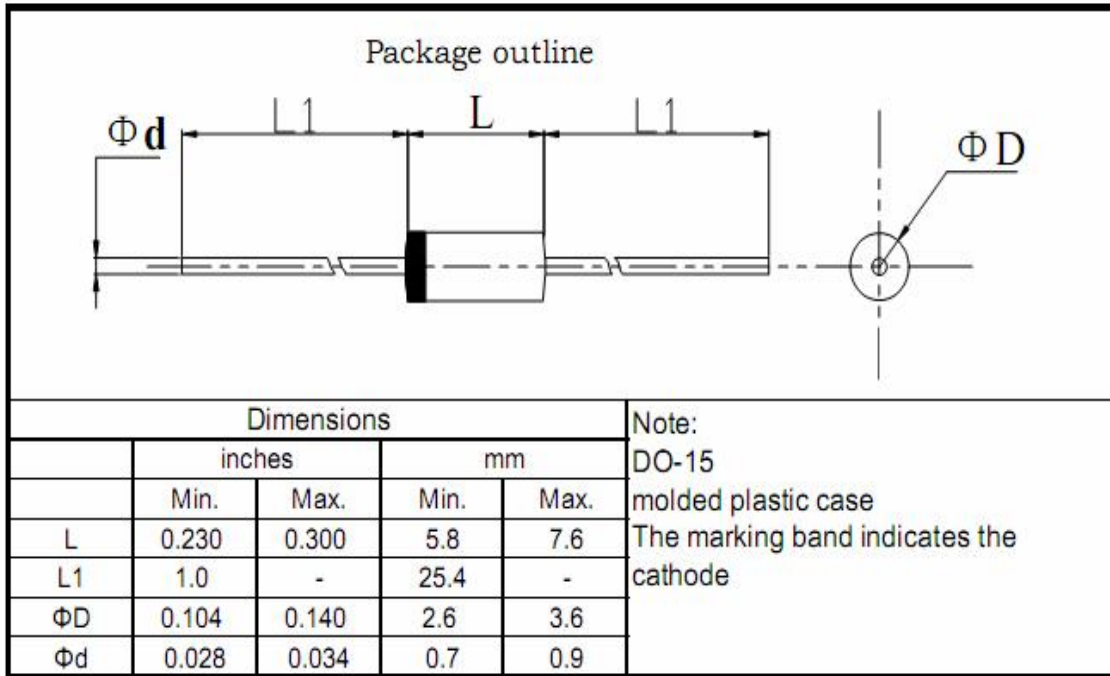


Fig 6. - Typical Junction Capacitance



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3. dimension:

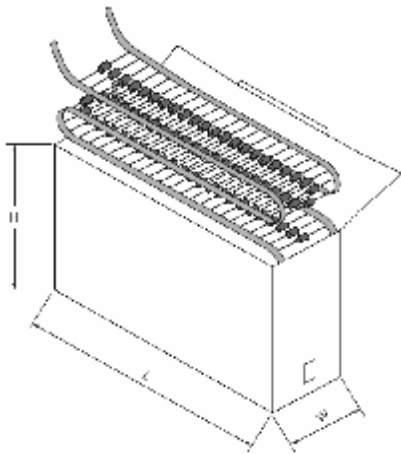


| | |
|-----|---------------|
| 标题: | 文件编号: WI-250 |
| | 第 4 版 第 0 次修改 |
| | 第 1 页 |

塑封生产线轴向产品包装规范

1 弹带盒装 ammo and box

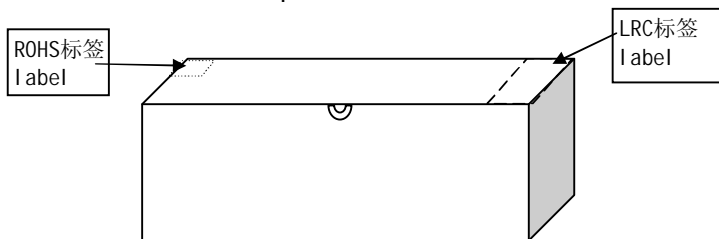
1.1. 弹带盒规格 ammo spec.



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 |
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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.

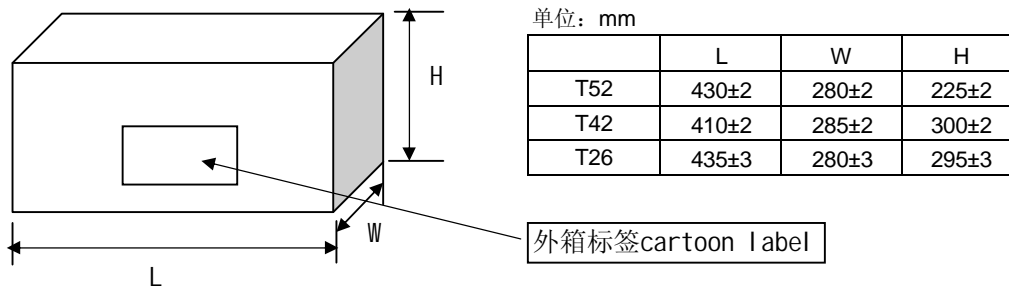
型号 TYPE ***** ← LRC产品型号 type

| | | |
|--------------------------------|-------|-----------------------------------|
| 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

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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 | <1.0 | <1.0 |
| 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

SB302-E thru SB3010-E

4. Update Record

| 版次 | 更新记录 | 更新作者 | 更新日期 |
|----|------|------|------------|
| 1 | 第一版 | 周杰 | 2012.08.01 |