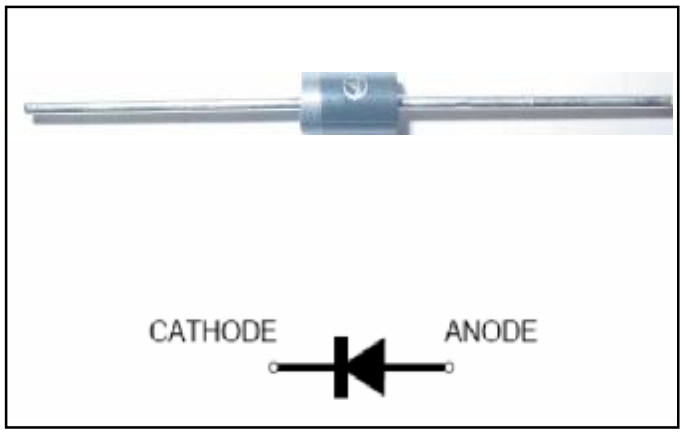
# SB1220 thru SB12100

**Schottky Barrier Rectifiers**

**Reverse Voltage 35 to 100V Forward Current 12A**

## 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




We declare that the material of product compliance with ROHS requirements

## Mechanical Data

Case : JEDEC R-6, molded plastic over sky die
Terminals : Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity : Color band denotes cathode end
Weight : 0.042oz., 1.19 g
Mounting position : Any
Handling precautin : None

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

| Parameter symbol | Symbol | SB1235 | SB1245 | SB1250 | SB1260 | SB1280 | SB12100 | Unit |
|---|---|---|---|---|---|---|---|---|
| Device marking code | | SB1235 | SB1245 | SB1250 | SB1260 | SB1280 | SB12100 | |
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 35 | 45 | 50 | 60 | 80 | 100 | V |
| Maximum RSM voltage | $V_{RSM}$ | 35 | 45 | 50 | 60 | 80 | 100 | V |
| Maximum DC blocking voltage | $V_{DC}$ | 35 | 45 | 50 | 60 | 80 | 100 | V |
| Maximum average forward rectified current 0.375" (9.5mm) lead length (See fig. 1) | IF(AV) | 12.0 | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM1}$ | 175 | | | | | | A |
| Thermal resistance, junction to ambient | RθJA | 40 | | | | | | °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 | SB1235 | SB1245 | SB1250 | SB1260 | SB1280 | SB12100 | Unit |
|---|---|---|---|---|---|---|---|---|
| Maximum instantaneous forward voltage at 12.0A | VF | 0.55 | | 0.60 | 0.70 | 0.90 | | V |
| Maximum DC reverse current TC = 25°C | Ir | 200 | | | | | | uA |
| Maximum DC reverse current TC = 100°C | Ir | 1000 | | | | | | uA |
| Typical junction capacitance at 4.0V, 1MHz | CJ | 500 | | | 380 | | | 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

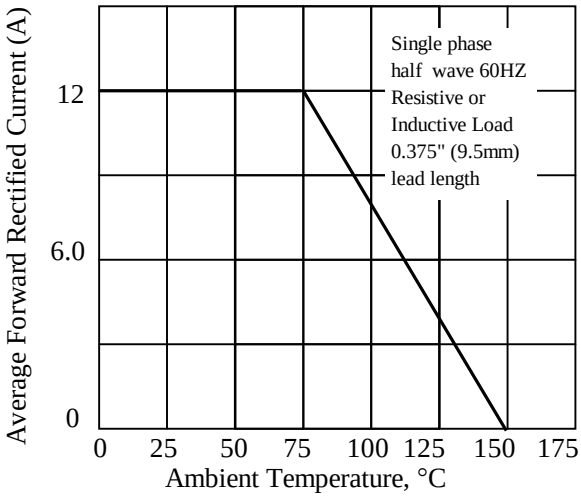



Fig. 2 – Maximum Non-repetitive Peak Forward Surge Current

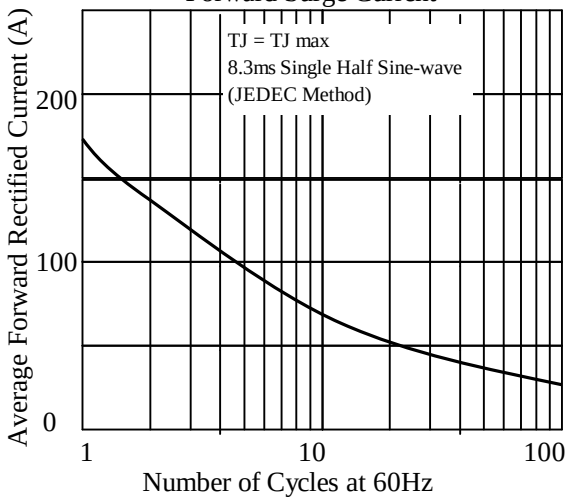



Fig 3. – Typical Instantaneous Forward Characteristics

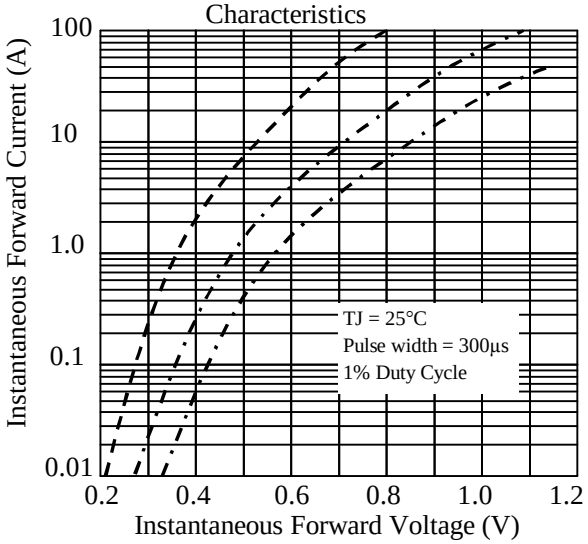



Fig 4. – Typical Reverse Characteristics

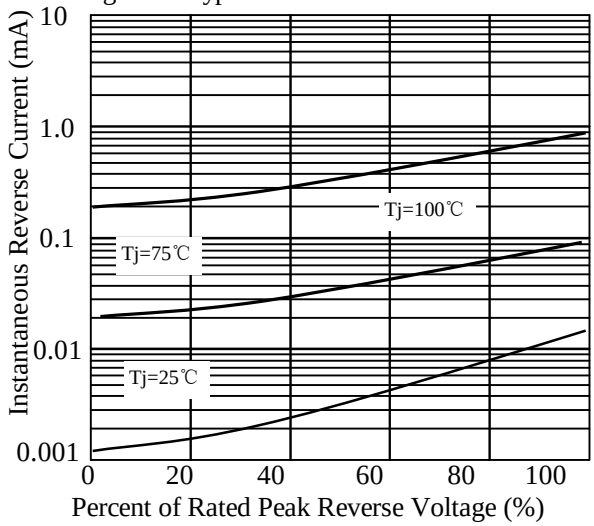



Fig 5. – typical transient thermal impedance

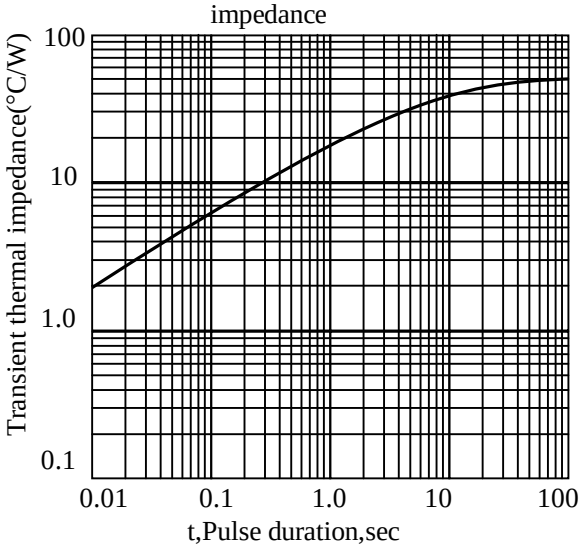
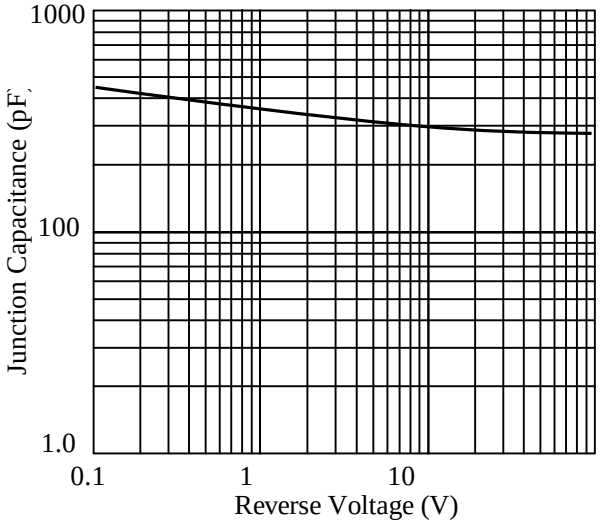



Fig 6. – Typical Junction Capacitance



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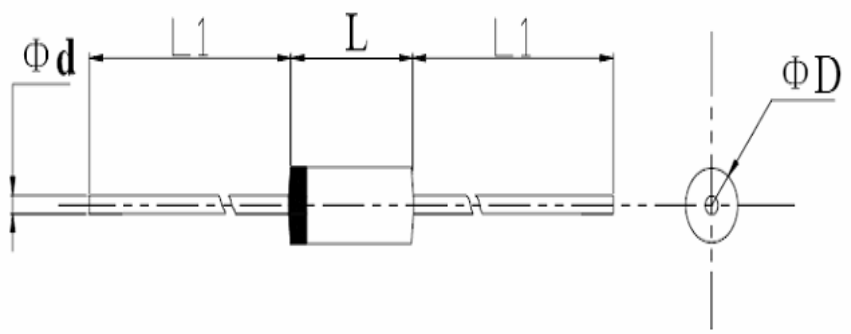
## 3. dimension:

Package outline

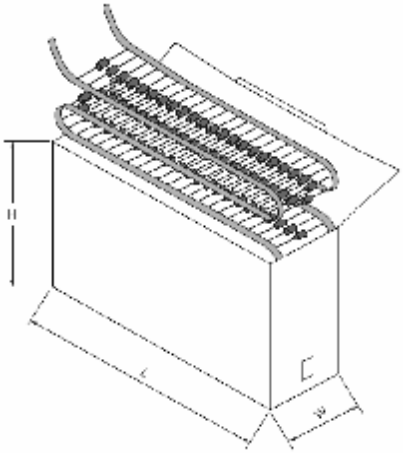



| Dimensions | | | | | Note: |
|---|---|---|---|---|---|
| | inches | | mm | | **R-6** |
| | Min. | Max. | Min. | Max. | molded plastic case |
| L | 0.335 | 0.375 | 8.5 | 9.5 | The marking band indicates the |
| L1 | 1.0 | - | 25.4 | - | cathode |
| ΦD | **0.335** | **0.375** | **8.5** | **9.5** | |
| Φd | 0.048 | 0.052 | 1.2 | 1.3 | |

| 标题：<br>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

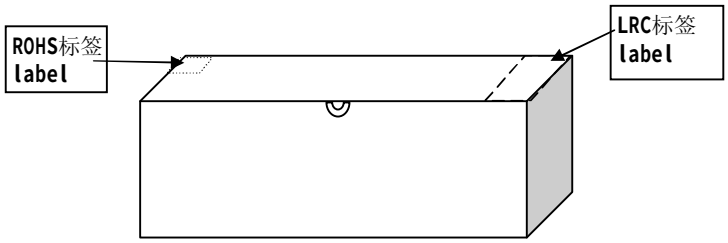
1.1. 弹带盒规格 ammo spec.



单位：mm

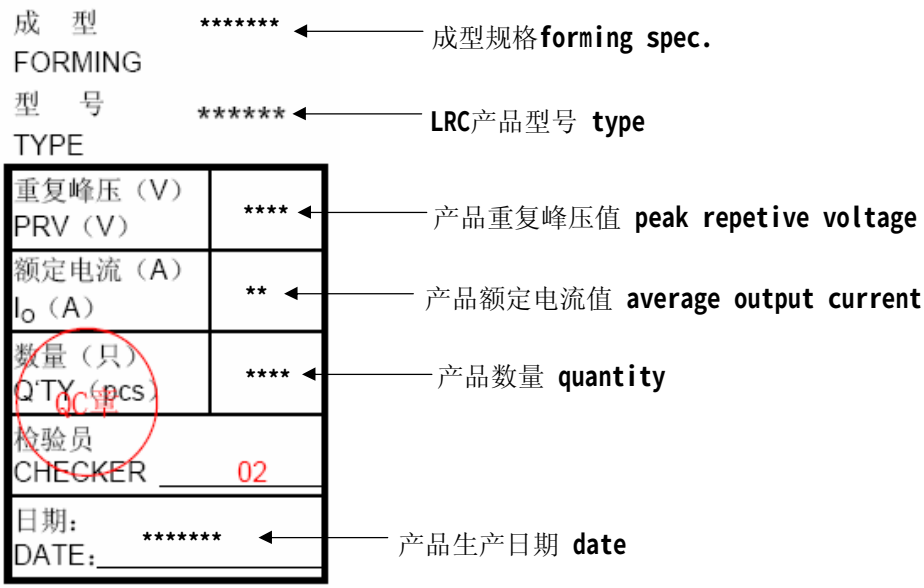
| | L | W | H |
|---|---|---|---|
| T52 | 262±2 | 76±2 | 90±2 |

1.2 弹带内盒要求 inner box spec.



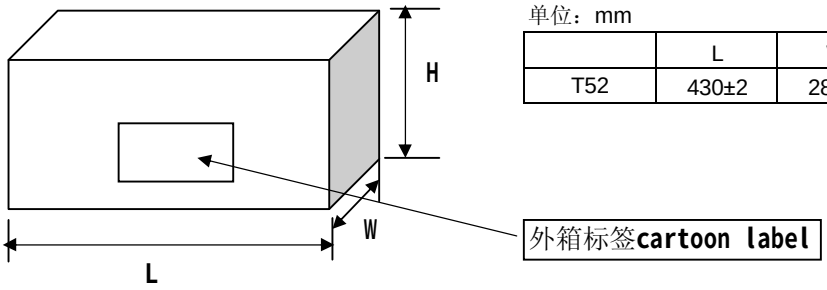
1.4 标签要求 label spec.

1.4.1 LRC标签 LRC label




1.4.2环保标签 environmental protection label

2.外箱规格 cartoon spec.



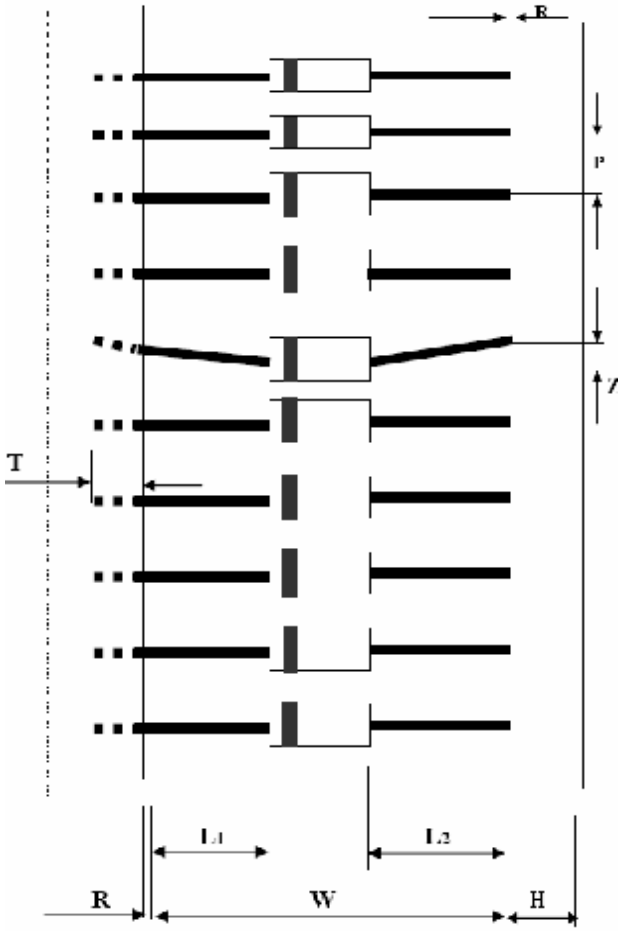

单位：mm

| | L | W | H |
|---|---|---|---|
| T52 | 430±2 | 280±2 | 225±2 |

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

| | 塑封外型 |
|---|---|
| | R-6 |
| 每根编带数量 quantity/ammo | 0.4K |
| 外箱数量（T52编带） quantity/cartoon | 4.0K |

4 编带规格 brede spec




| 尺寸代号 | 编带尺寸 typing dimension |
| --- | --- |
| | 52/tape# |
| W | 52 -1.0/+2.0 |
| P | 20±0.5 |
| L1-L2 | ＜1.2 |
| H | 6±1.0 |
| Z | ＜1.0 |
| R | ＜1.0 |
| T | ＞3.5 |

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 | 周杰 | 2010-6-23 |
| 2 | 调整存储温度 | 周杰 | 2010-9-28 |