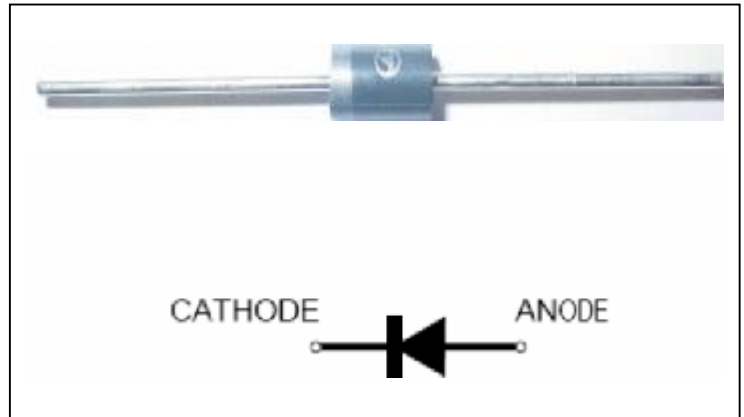


SF51G thru SF58G

Glass Passivated Junction Ultra Fast Rectifiers
Reverse Voltage 50 to 600V Forward Current 5.0A

FEATURES

- * Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- * High temperature metallurgically bonded construction
- * Glass passivated chip
- * Capable of meeting environmental standards of MIL-S-19500
- * For use in high frequency rectifier circuits
- * Fast switching for high efficiency
- * High temperature soldering guaranteed: 260°C/10 seconds
- * 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension



We declare that the material of product compliance with ROHS requirements

Mechanical Data

- Case:** JEDEC DO-201AD, molded plastic
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.038 oz., 1.03 g
Handling precaution: None

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

| Parameter Symbol | symbol | SF51G | SF52G | SF53G | SF54G | SF55G | SF56G | SF57G | SF58G | Unit |
|--|----------------|-------------|-------|-------|-------|-------|-------|-------|-------|------|
| Marking spec | | SF51G | SF52G | SF53G | SF54G | SF55G | SF56G | SF57G | SF58G | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | V |
| Maximum RSM voltage | V_{RSM} | 35 | 70 | 105 | 140 | 210 | 280 | 350 | 420 | V |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | V |
| Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A = 55^\circ\text{C}$ | $I_{F(AV)}$ | 5.0 | | | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 150 | | | | | | | | A |
| Maximum DC blocking voltage temperature | T_A | 150 | | | | | | | | °C |
| Typical thermal resistance (Note 2) | $R\theta_{JA}$ | 20 | | | | | | | | °C/W |
| Operating junction temperature range | T_J | -50 to +150 | | | | | | | | °C |
| Storage temperature range | T_{STG} | -50 to +150 | | | | | | | | °C |

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

| Parameter Symbol | symbol | SF51G | SF52G | SF53G | SF54G | SF55G | SF56G | SF57G | SF58G | Unit | |
|---|----------|-------|-------|-------|-------|-------|-------|-------|-------|------|---------------|
| Maximum instantaneous forward voltage at 5.0A | V_F | 0.95 | | | 1.25 | | | 1.7 | | V | |
| Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 125^\circ\text{C}$ | I_R | 10 | | | | 100 | | | | | μA |
| Typical reverse recovery time (Note 1) | t_{rr} | 35 | | | | | | | | | ns |
| Typical junction capacitance at 4.0V, 1MHz | C_J | 50 | | | | 30 | | | | | PF |

NOTES:

1. $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $IRR = 0.25\text{A}$
2. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

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

Fig. 1 - Forward Current Derating Curve

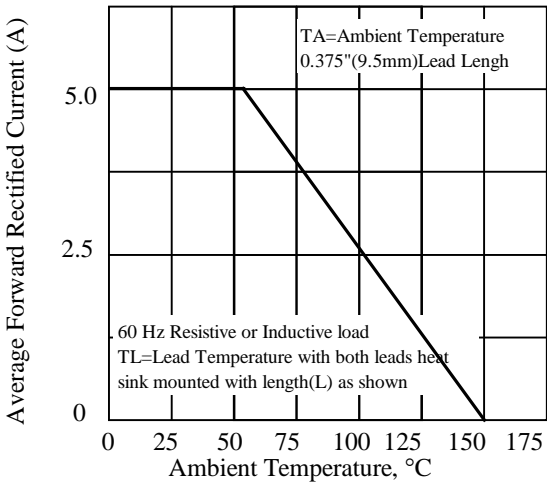


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

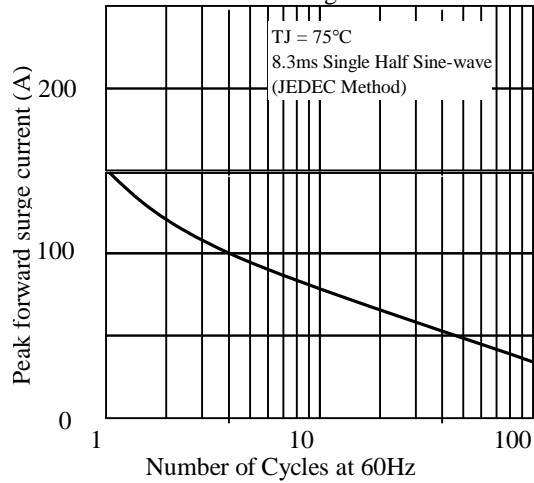


Fig. 3 - Typical Instantaneous Forward Characteristics

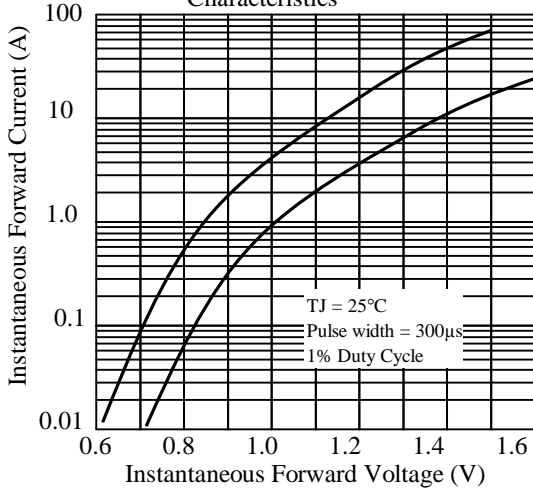


Fig. 4 - Typical Reverse Characteristics

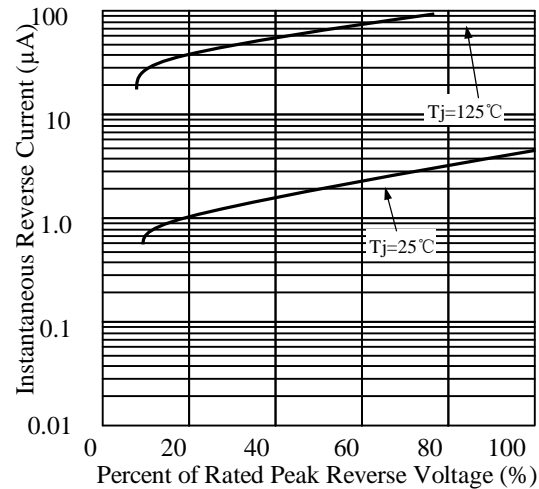


Fig. 5 - typical transient thermal impedance

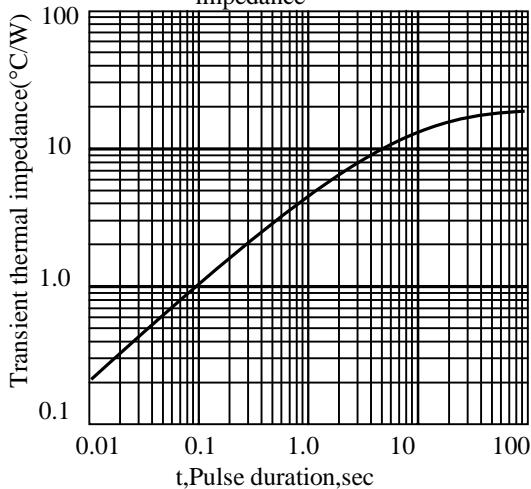
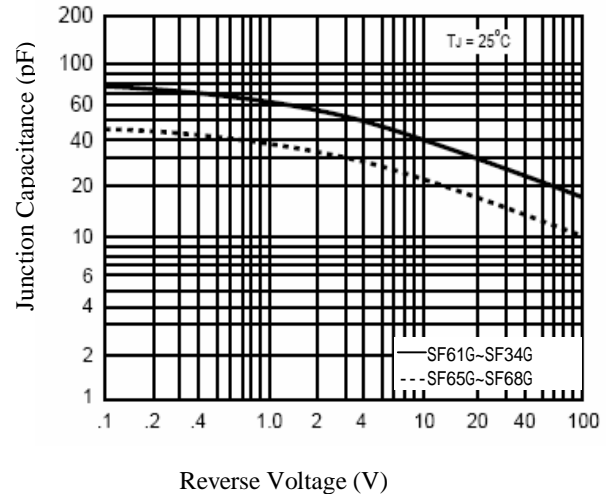
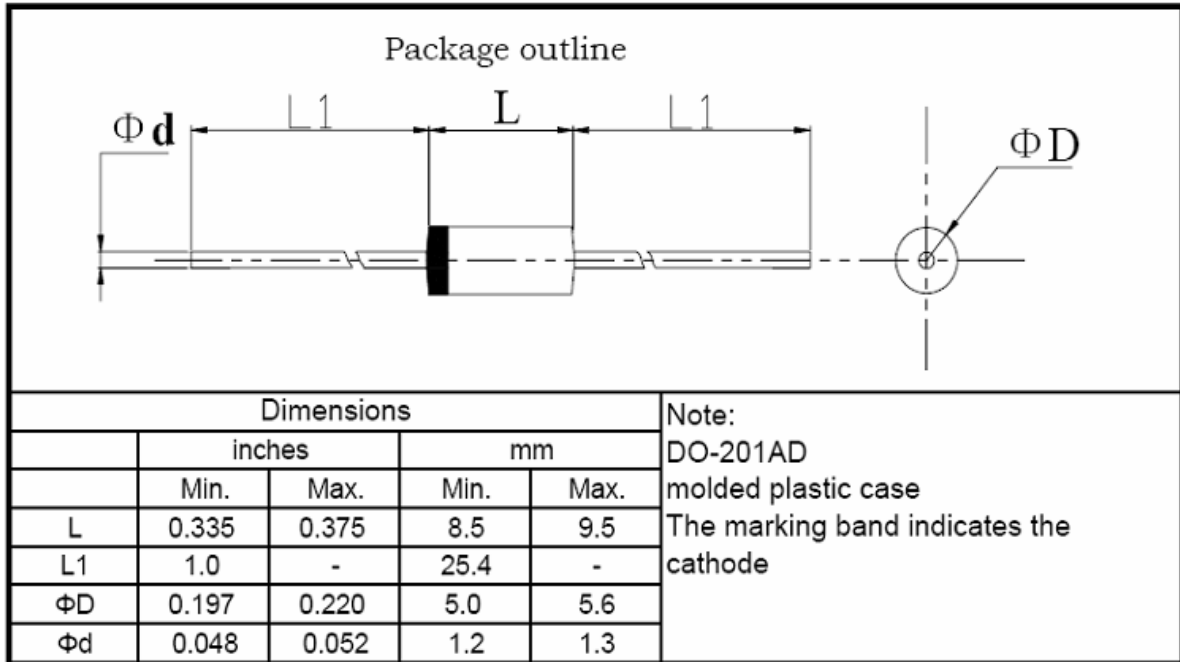


Fig. 6 - Typical Junction Capacitance



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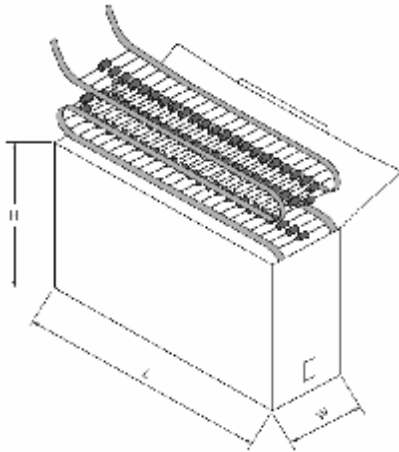
3. dimension:



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

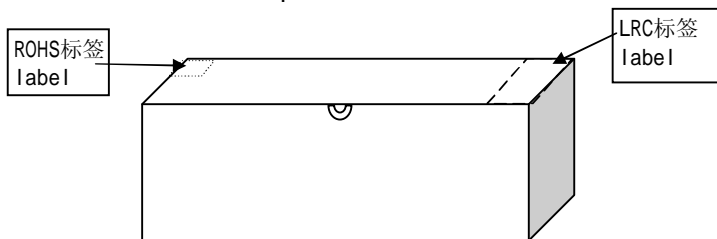
1.1. 弹带盒规格 ammo spec.



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.

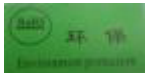
1.4.1 LRC标签 LRC label

成型 FORMING ***** ← 成型规格 forming spec.

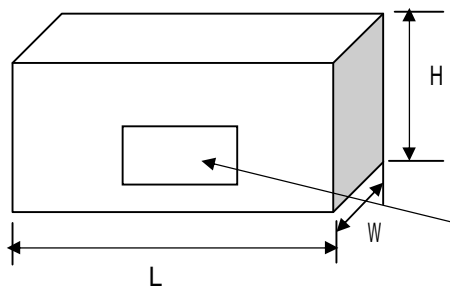
型号 TYPE ***** ← LRC产品型号 type

| | | |
|--------------------------------|-------|-----------------------------------|
| 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.



单位: mm

| | L | W | H |
|-----|-------|-------|-------|
| T52 | 430±2 | 280±2 | 225±2 |
| T42 | 410±2 | 285±2 | 300±2 |
| T26 | 435±3 | 280±3 | 295±3 |

外箱标签 carton label

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 | <1.0 | <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

SF51G thru SF58G

4. Update Record

| 版次 | 更新记录 | 更新作者 | 更新日期 |
|----|---------|------|-----------|
| 1 | 第一版 | 周杰 | 2010-6-22 |
| 2 | 增加包装规范 | 周杰 | 2011-6-30 |
| 3 | 增加SF57G | 周杰 | 2012-2-13 |