

FR101 thru FR107

1.Feature & Dimensions

- * Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- * High temperature metallurgically bonded construction
- * Diffused junction
- * Capable of meeting environmental standards of MIL-S-19500
- * 1.0 A operation at TA=55°C with no thermal runaway
- * For use in high frequency rectifier circuits
- * Fast switching for high efficiency
- * Typical IR less than 1.0μA
- * High temperature soldering guaranteed:
260°C/10 seconds
- * 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

2.Mechanical Data

- Case:** JEDEC DO-41, molded plastic body
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.012 oz., 0.3 g
Handling precaution: None

3.Electrical Characteristic

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

| Parameter Symbol | symbol | FR 101 | FR 102 | FR 103 | FR 104 | FR 105 | FR 105P | FR 106 | FR 107 | FR 107P | Unit |
|--|-----------------|-------------|--------|--------|--------|--------|---------|--------|--------|---------|------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 600 | 800 | 1000 | 1000 | V |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 420 | 560 | 700 | 700 | V |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 600 | 800 | 1000 | 1000 | V |
| Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A = 55^\circ\text{C}$ | $I_{F(AV)}$ | 1.0 | | | | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 30 | | | | | | | | | A |
| Maximum full load reverse current, full cycle average, 0.375" (9.5mm) lead lengths at $T_A = 55^\circ\text{C}$ | $I_{R(AV)}$ | 100 | | | | | | | | | μA |
| Typical thermal resistance (Note 2) | $R_{\theta JA}$ | 55 | | | | | | | | | °C/W |
| Operating junction and storage temperature range | T_J, T_{STG} | -50 to +150 | | | | | | | | | °C |

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

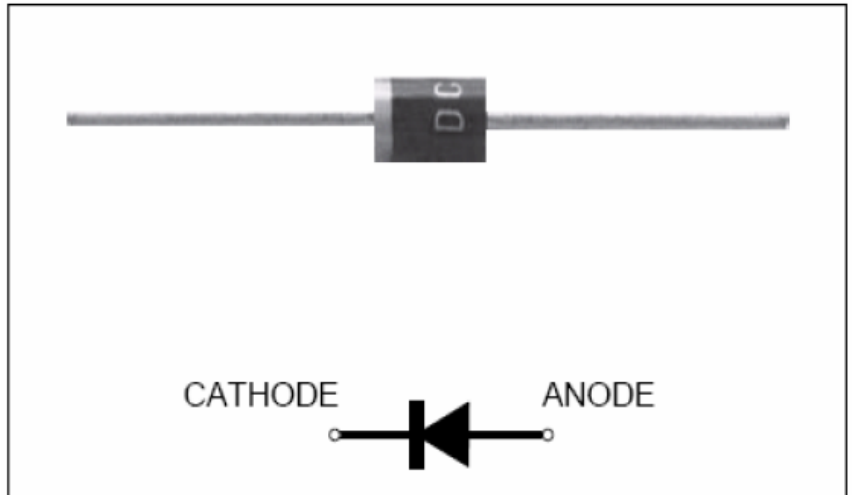
| Parameter Symbol | symbol | FR 101 | FR 102 | FR 103 | FR 104 | FR 105 | FR 105P | FR 106 | FR 107 | FR 107P | Unit |
|--|----------|------------|--------|--------|--------|--------|---------|--------|--------|---------|------|
| Maximum instantaneous forward voltage at 1.0A | V_F | 1.3 | | | | | | | | | V |
| Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 100^\circ\text{C}$ | I_R | 5.0 200 | | | | | | | | | μA |
| Typical reverse recovery time (Note 1) | t_{rr} | 150 | | | 250 | 150 | 500 | 250 | | | ns |
| Typical junction capacitance at 4.0V, 1MHz | C_J | 15 | | | | | | | | | PF |

NOTES:

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

Fast Switching Rectifiers

Reverse Voltage 50 to 1000V
Forward Current 1.0A



We declare that the material of product compliance with RoHS requirements.

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

Fig. 1 - Forward Current Derating Curve

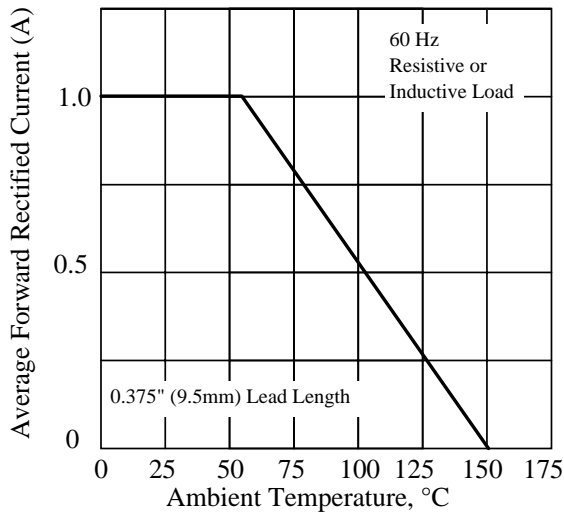


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

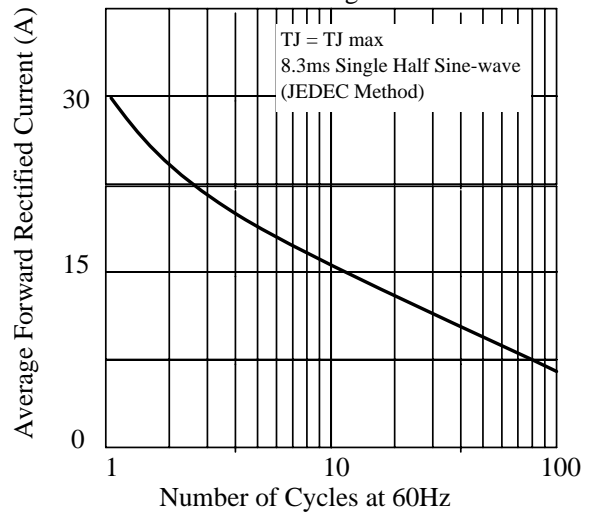


Fig 3. - Typical Instantaneous Forward Characteristics

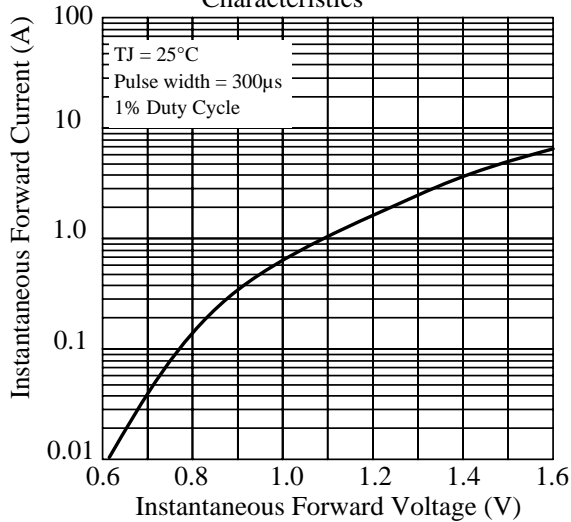


Fig 4. - Typical Reverse Characteristics

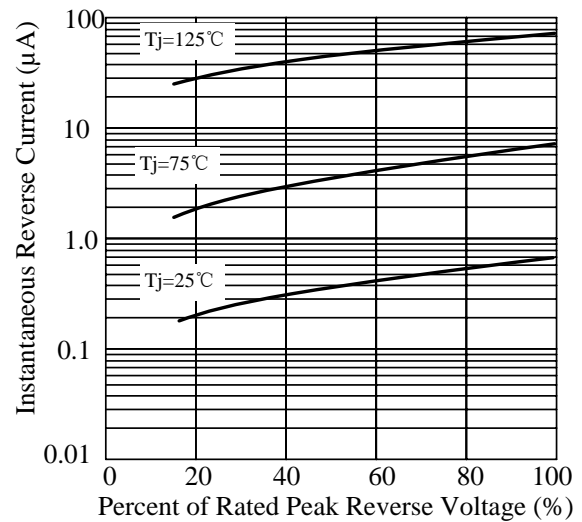


Fig 5. - typical transient thermal impedance

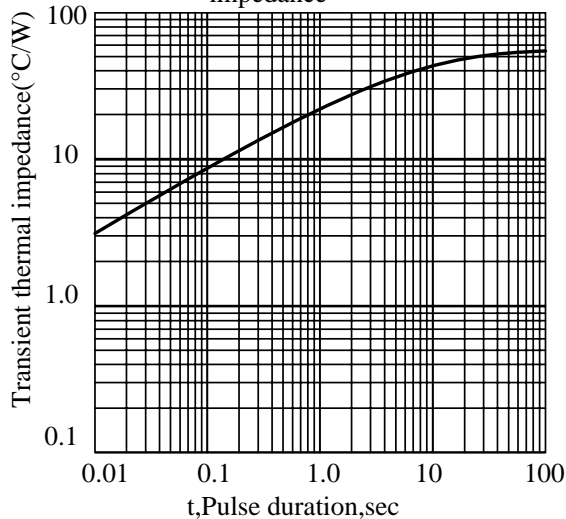
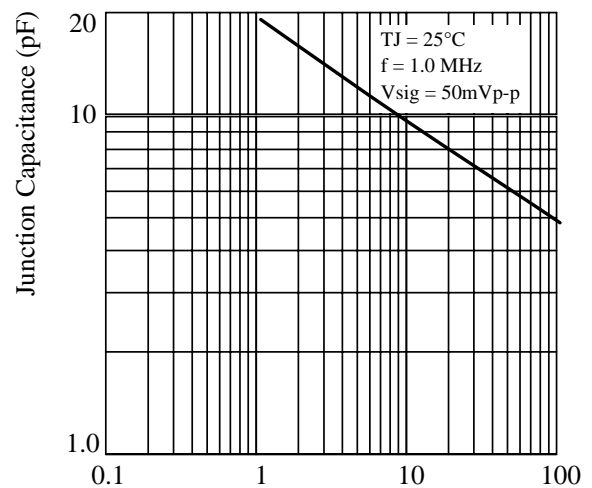


Fig 6. - Typical Junction Capacitance

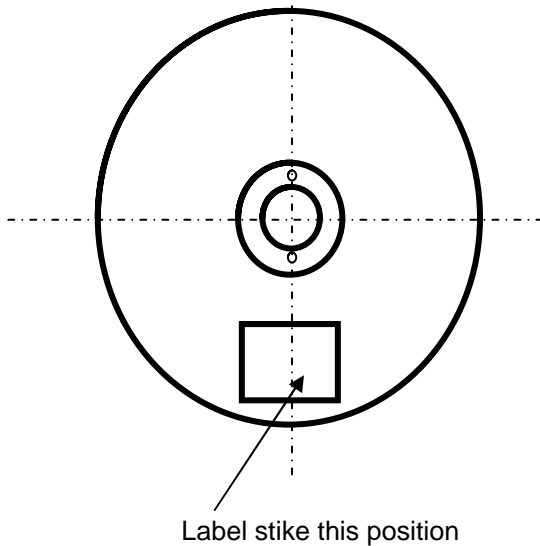


5.Package Dimensions in inches and (millimeters)


Packing Of Plastic-Sealed Axial Lead Diodes

1. 卷盘/Reel Packing (52mm)

A: 卷盘规格/Reel spec.

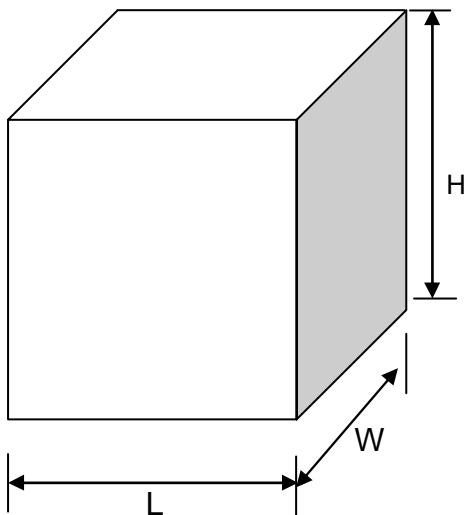


Unit:mm



| Item | Symbol | Dimension |
|-----------|--------|-----------|
| Dimeter | A | 76.4±0.1 |
| | B | 82.5±0.2 |
| | C | 330±0.5 |
| Width | W | 72±0.2 |
| Thickness | W1 | 3±0.2 |

B: 外箱规格/Outer Box Specification



| Item | Symbol | Dimension |
|------|--------|-----------|
| Size | L | 350±2 |
| | W | 350±2 |
| | H | 340±4 |

按以上包装方式: (As per the above spec)

| | 外型/Outside | | |
|-------------------|---------------|-------|----------|
| | DO-41 & A-405 | DO-15 | DO-201AD |
| Q'ty/Taping | 5K | 4K | 1.4K |
| Q'ty/Packing Case | 20K | 16K | 5.6K |

2. 弹带盒装/Ammo Packing

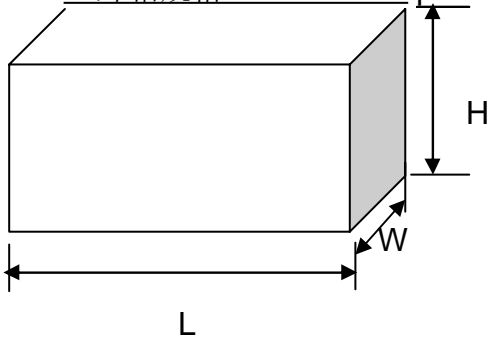
Unit:mm

A: 弹带盒规格/Ammo Box Spec.



| Item | Symbol | Dimension | Notes |
|------------|--------|-----------|-----------|
| Box's Size | L | 260±2 | 52mm TYPE |
| | W | 76±2 | |
| | H | 100±4 | |
| | L | 250±3 | 26mm TYPE |
| | W | 45±3 | |
| | H | 95±5 | |

B: 外箱规格/Outer Box Specification



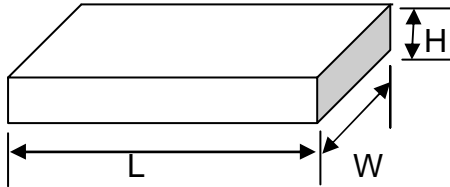
| Item | Symbol | Dimension | Notes |
|-------------|--------|-----------|-----------|
| Case's Size | L | 430±2 | 52mm TYPE |
| | W | 280±2 | |
| | H | 225±4 | |
| | L | 435±3 | 26mm TYPE |
| | W | 280±3 | |
| | H | 295±5 | |

按以上包装方式: (As per the above spec)

| | 外型/Outside | | |
|--------------------------------|---------------------|-------|----------|
| | A-405 & DO-41 & R-1 | DO-15 | DO-201AD |
| Q'ty/Taping | 3K | 2K | 0.8K |
| Q'ty/Packing Case 26mm/TYPE | 30K | 20K | 7.2K |
| Q'ty/Packing Case 52mm/TYPE | 60K | 40K | 14.4K |

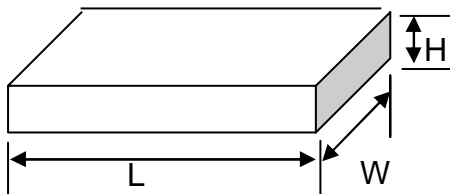
3. 散装/Bulk Packing

A. 包装盒尺寸/Box Dimension



(DO-41&DO-15)

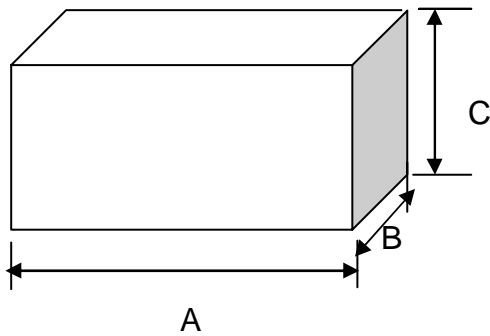
| Item | Symbol | Dimension |
|------------|--------|-----------|
| Box's Size | L | 200±2 |
| | W | 84±2 |
| | H | 21±2 |



(DO-201AD)

| Item | Symbol | Dimension |
|------------|--------|-----------|
| Box's Size | L | 200±2 |
| | W | 84±2 |
| | H | 29±2 |

B: 外箱规格/Outer Box Specification



| Item | Symbol | Dimension |
|-------------|--------|-----------|
| Case's Size | L | 465±2 |
| | W | 225±2 |
| | H | 260±4 |

按以上包装方式: (As per the above spec)

| | 外型/Outside | | |
|-------------------|-----------------|-------|----------|
| | DO-41&A-405&R-1 | DO-15 | DO-201AD |
| Q'ty/Taping | 1K | 0.5K | 0.3K |
| Q'ty/Packing Case | 50K | 25K | 12K |

4. 编带图形及规格/Taping Specification


Unit:mm

| 尺寸代号 | 编带尺寸/Tape Dimension | | |
|----------------|---------------------|--------------|--------------|
| Dimension Code | 26/tape | 52/tape | 52/tape# |
| W | 26 0.0/+1.6 | 52 -1.0/+2.0 | 52 -1.0/+2.0 |
| P | 5±0.5 | 5±0.5 | 10±0.5 |
| L1-L2 | <1.0 | <1.2 | <1.2 |
| H | 6±1.0 | 6±1.0 | 6±1.0 |
| Z | <1.2 | <1.2 | <1.2 |
| R | <1.0 | <1.0 | <1.0 |
| T | >3.2 | >3.2 | >3.2 |

注: 52编带# 为DO-201AD编带规格

Remark: 52 tape# is DO-201AD taping spec.