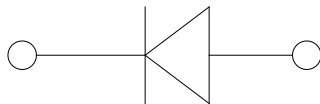
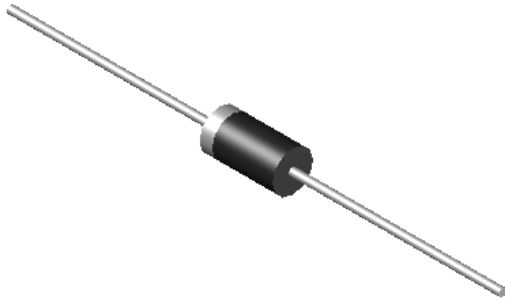




## Fast Recovery Rectifier



## Features

- High efficiency
- High current capability
- High reliability
- High surge current capability
- Low power loss
- Solder dip 275 °C max. 7 s, per JESD 22-B106

## Mechanical Data

- **Package:** DO-201AD(DO-27)  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Color band denotes cathode end

■Maximum Ratings (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                                                                                 | SYMBOL             | UNIT | FR301     | FR302 | FR303 | FR304  | FR305 | FR306 | FR307 |
|-------------------------------------------------------------------------------------------|--------------------|------|-----------|-------|-------|--------|-------|-------|-------|
| Device marking code                                                                       |                    |      | FR301     | FR302 | FR303 | FR304G | FR305 | FR306 | FR307 |
| Repetitive Peak Reverse Voltage                                                           | V <sub>RRM</sub>   | V    | 50        | 100   | 200   | 400    | 600   | 800   | 1000  |
| Average Forward Current @60Hz sine wave, Resistance load, T <sub>a</sub> =50°C            | I <sub>F(AV)</sub> | A    | 3.0       |       |       |        |       |       |       |
| Forward Surge Current(Non-repetitive) @60Hz Half-sine wave, 1 cycle, T <sub>a</sub> =25°C | I <sub>FSM</sub>   | A    | 125       |       |       |        |       |       |       |
| Storage Temperature                                                                       | T <sub>stg</sub>   | °C   | -55 ~+150 |       |       |        |       |       |       |
| Junction Temperature                                                                      | T <sub>j</sub>     | °C   | -55~+125  |       |       |        |       |       |       |

■Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                                                         | SYMBOL            | UNIT | TEST CONDITIONS                                                   | FR301 | FR302 | FR303 | FR304 | FR305 | FR306 | FR307 |
|-------------------------------------------------------------------|-------------------|------|-------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|
| Maximum instantaneous forward voltage drop per diode              | V <sub>FM</sub>   | V    | I <sub>FM</sub> =3.0A                                             | 1.3   |       |       |       |       |       |       |
| Maximum DC reverse current at rated DC blocking voltage per diode | I <sub>RRM1</sub> | μA   | T <sub>a</sub> =25°C                                              | 2.5   |       |       |       |       |       |       |
|                                                                   | I <sub>RRM2</sub> |      | T <sub>a</sub> =100°C                                             | 100   |       |       |       |       |       |       |
| Reverse Recovery time                                             | t <sub>tr</sub>   | ns   | I <sub>F</sub> =0.5A I <sub>R</sub> =1A<br>I <sub>RR</sub> =0.25A | 150   |       |       |       | 250   | 500   |       |
| Typical junction capacitance                                      | C <sub>j</sub>    | pF   | Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C.        | 55    |       |       |       |       |       |       |

■Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                   | SYMBOL            | UNIT | FR301 | FR302 | FR303 | FR304 | FR305 | FR306 | FR307 |
|-----------------------------|-------------------|------|-------|-------|-------|-------|-------|-------|-------|
| Thermal Resistance(Typical) | R <sub>θJ-A</sub> | °C/W | 20    |       |       |       |       |       |       |



## FR301 THRU FR307

### ■ Ordering Information (Example)

| PREFERRED P/N | PACKAGE CODE | UNIT WEIGHT(g)   | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|------------------|----------------------|-------------------------|----------------------------|---------------|
| FR301~FR307   | D1           | Approximate 1.05 | 1250                 | 1250                    | 12500                      | Tape          |
| FR301~FR307   | C1           | Approximate 1.05 | 250                  | 250                     | 12500                      | Bulk          |

### ■ Characteristics (Typical)

FIG.1:  $I_o$ - $T_a$  Curve

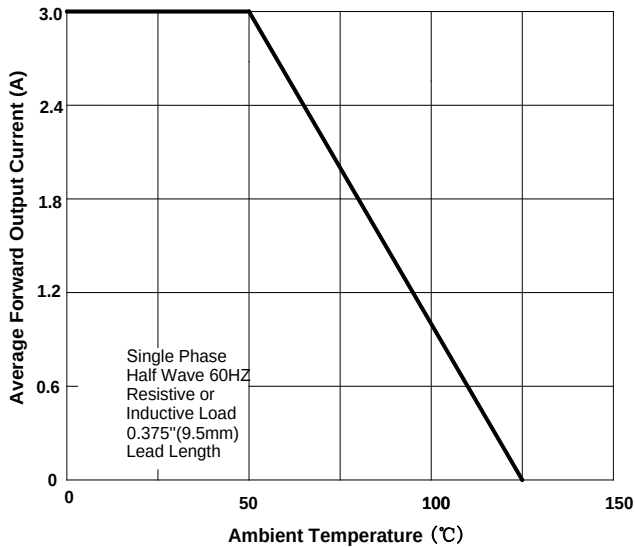


FIG.2: Forward Surge Current Capability

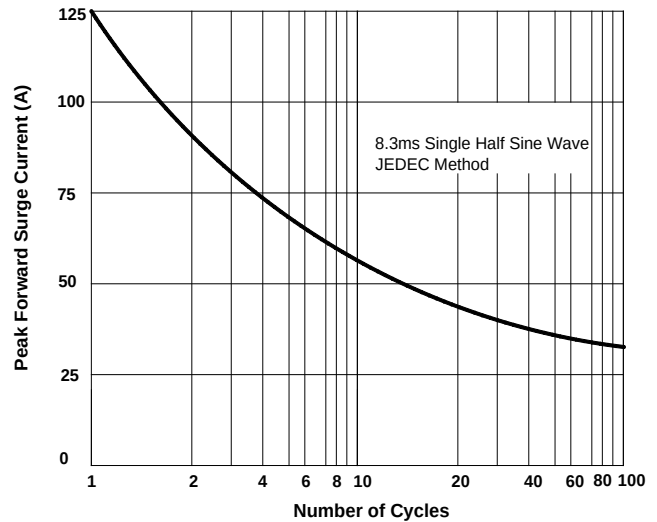


FIG.3: Forward Voltage

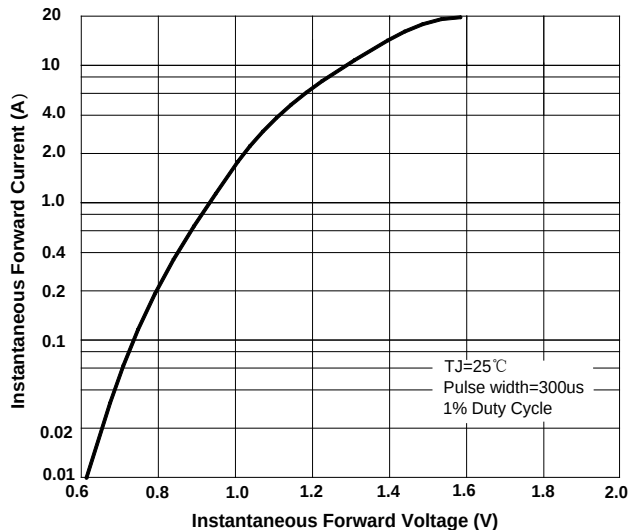
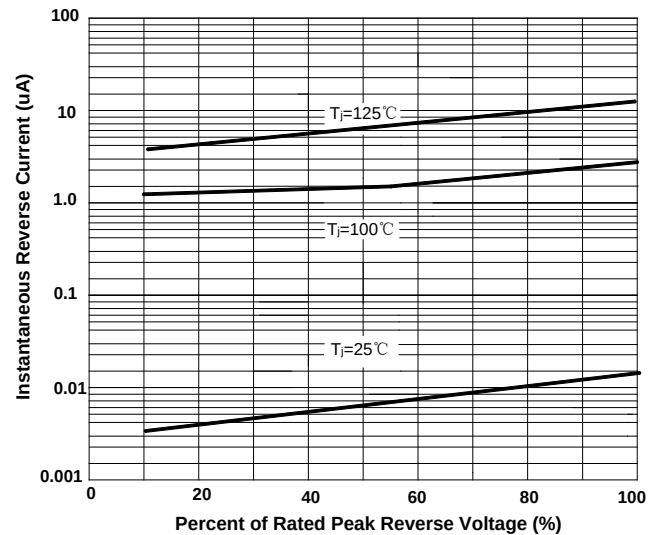


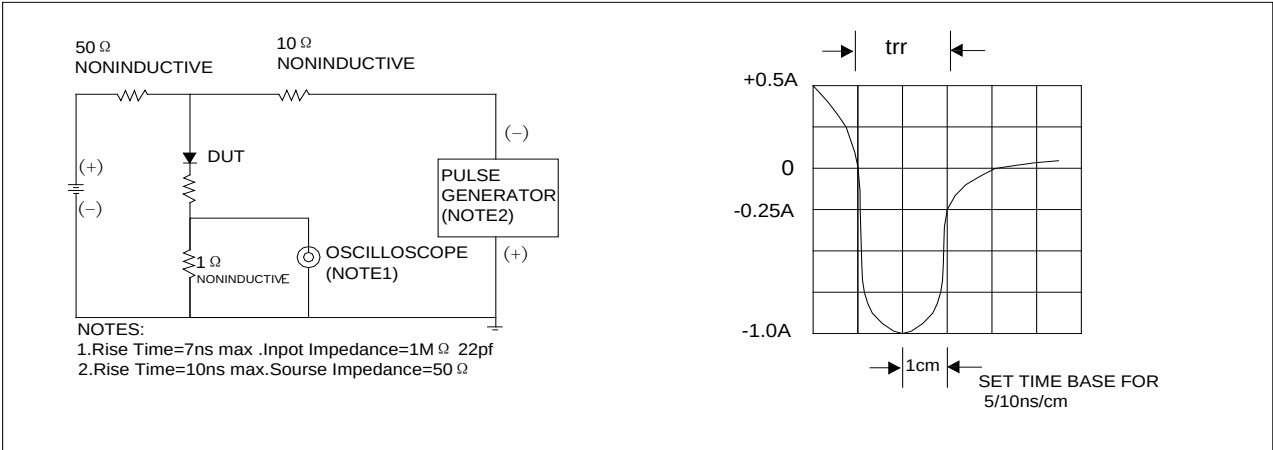
FIG.4: Typical Reverse Characteristics



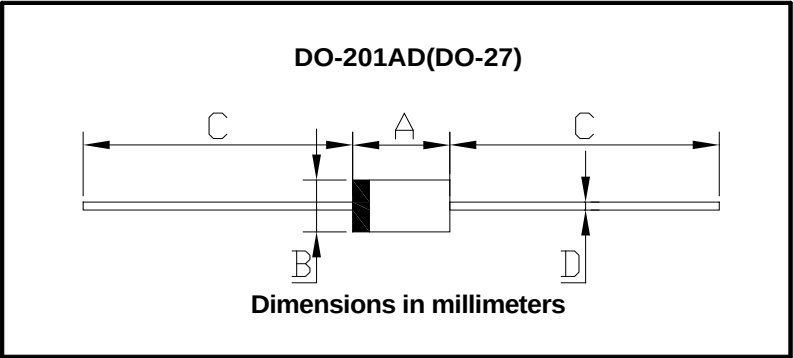


# FR301 THRU FR307

FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



## ■ Outline Dimensions



| DO-201AD(DO-27) |      |      |
|-----------------|------|------|
| Dim             | Min  | Max  |
| A               | 8.50 | 9.50 |
| B               | 5.00 | 5.60 |
| C               | 25.4 | /    |
| D               | 1.20 | 1.30 |



### Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.