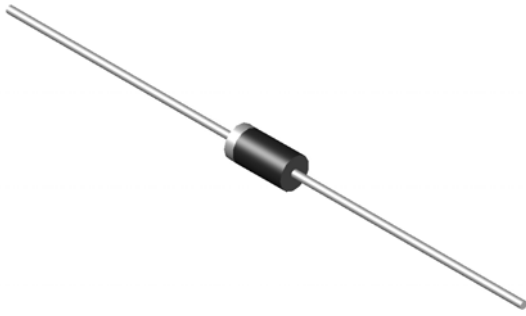


Super Fast Recovery Rectifier

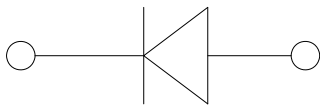


Features

- Ultrafast reverse recovery time
- Low leakage current
- Low switching losses, high efficiency
- High forward surge capability
- Glass passivated chip junction
- Solder dip 275 °C max. 7 s, per JESD 22-B106

Typical Applications

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer and telecommunication.



Mechanical Data

- **Package:** DO-204AC(DO-15)
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 the cathode end

■ Maximum Ratings (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | SF1600 |
|--|--------------------|------------------|------------|
| Device marking code | | | SF1600 |
| Maximum Repetitive Peak Reverse Voltage | V _{RRM} | V | 1600 |
| Maximum RMS Voltage | V _{RMS} | V | 1120 |
| Maximum DC blocking Voltage | V _{DC} | V | 1600 |
| Average Forward Current @60Hz sine wave, Resistance load, T _a =25°C | I _{F(AV)} | A | 1.0 |
| Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T _j =25°C | I _{FSM} | A | 30 |
| Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T _j =25°C | | | 60 |
| Current squared time @1ms≤t≤8.3ms T _j =25°C, Rating of per diode | I ² t | A ² s | 3.735 |
| Typical junction capacitance @Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C | C _j | pF | 14 |
| Storage Temperature | T _{stg} | °C | -55 ~ +150 |
| Junction Temperature | T _j | °C | -55 ~ +150 |

■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | SF1600 |
|---|-----------------|------|---|--------|
| Maximum instantaneous forward voltage drop per diode | V _F | V | I _F M=1.0A | 3.4 |
| Maximum DC reverse current at rated DC blocking voltage per diode | I _R | μA | T _j =25°C | 2.5 |
| | | | T _j =125°C | 100 |
| Maximum reverse recovery time | t _{rr} | ns | I _F =0.5A, I _R =1.0A, I _r =0.25A | 75 |



SF1600

■ Thermal Characteristics (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | SF1600 |
|----------------------------|-------------------|------|--------|
| Typical Thermal Resistance | R _{θJ-A} | °C/W | 60 |

■ Ordering Information (Example)

| PREFERRED P/N | PACKAGE CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|------------------|----------------------|-------------------------|----------------------------|---------------|
| SF1600 | D1 | Approximate 0.39 | 3000 | 3000 | 30000 | Tape |
| SF1600 | C1 | Approximate 0.39 | 500 | 500 | 25000 | Bulk |

■ Characteristics(Typical)

FIG.1: I_o-T_a Curve

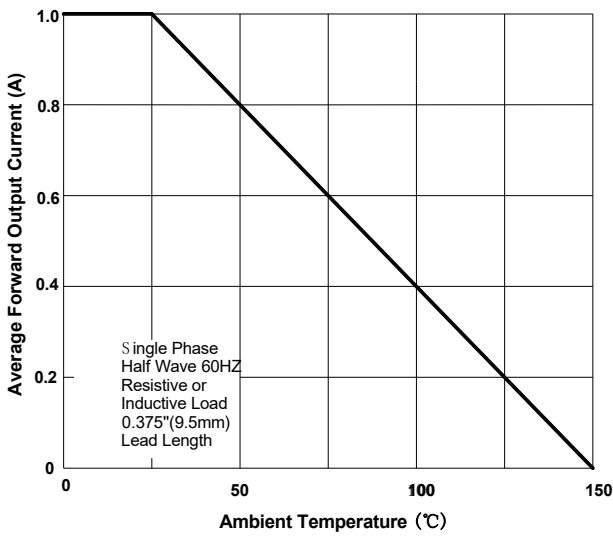


FIG.2: Forward Surge Current Capability

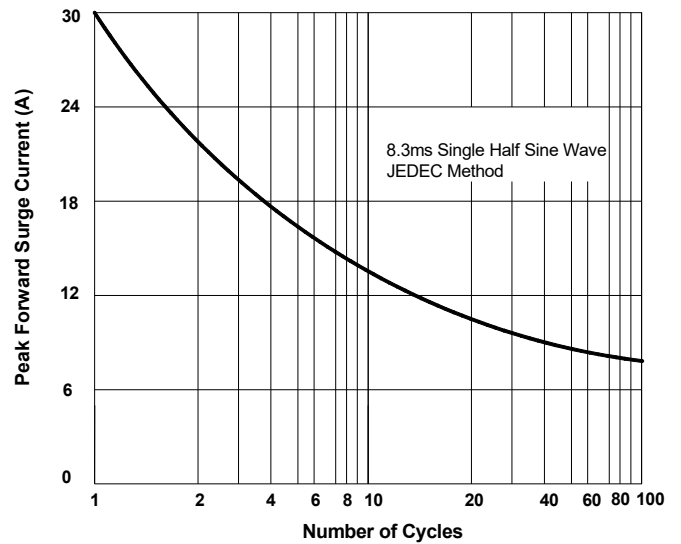


FIG.3: Forward Voltage

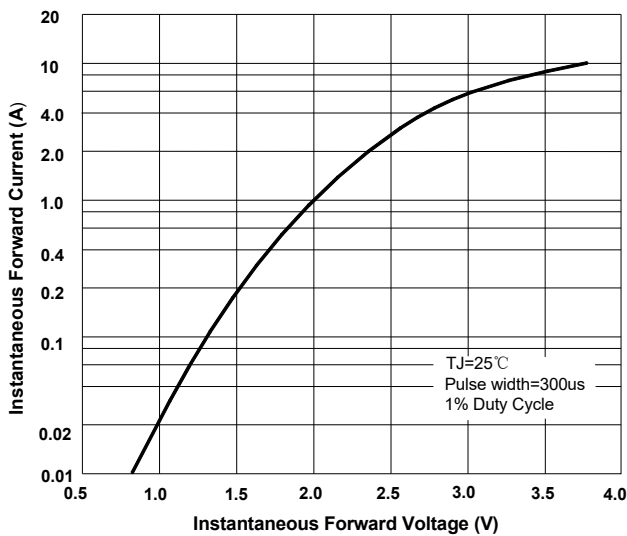


FIG.4: Typical Reverse Characteristics

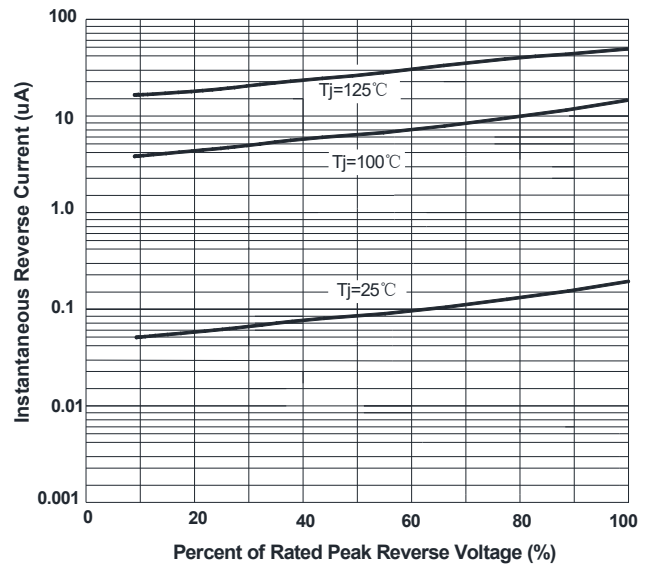
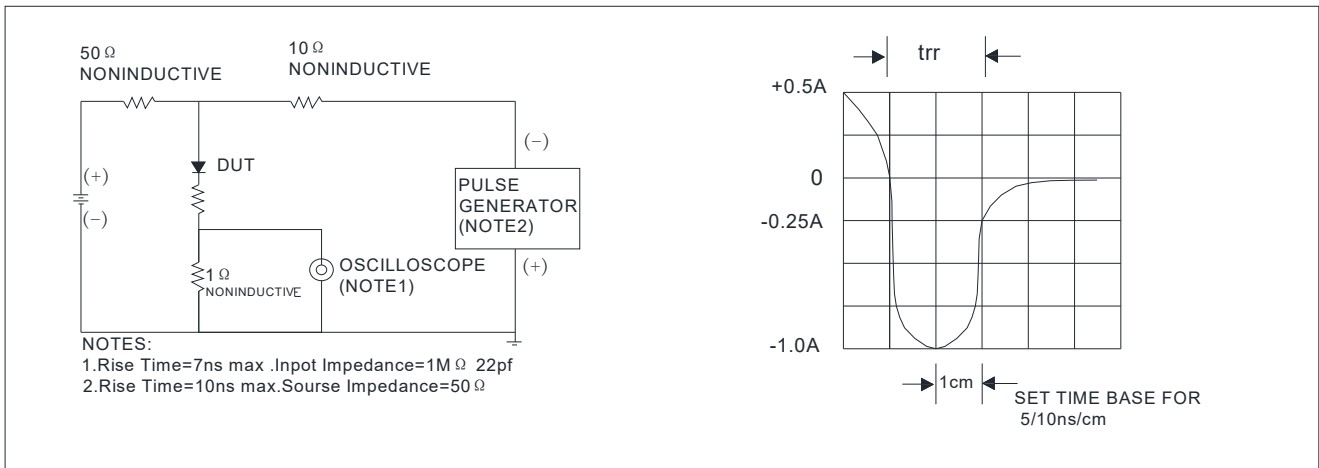
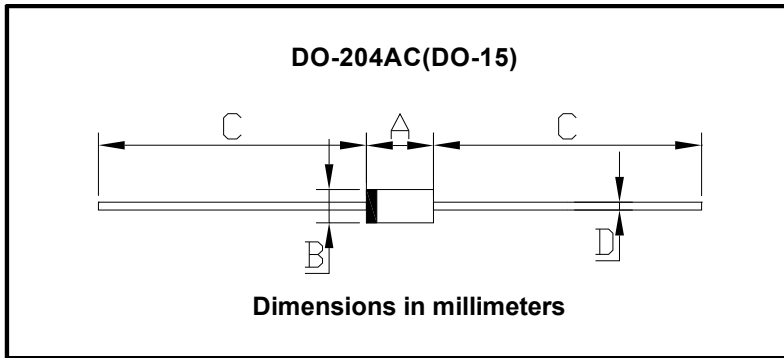


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■ Outline Dimensions



| DO-204AC(DO-15) | | |
|-----------------|------|------|
| Dim | Min | Max |
| A | 5.80 | 7.60 |
| B | 2.60 | 3.60 |
| C | 25.4 | / |
| D | 0.70 | 0.90 |



SF1600

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