

Super Fast Recovery Rectifier

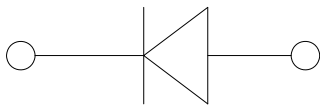


Features

- 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-204AL(DO-41)
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 | SF11G | SF12G | SF13G | SF14G | SF15G | SF16G | SF17G | SF18G |
|------------------------------------------------------------------------------------------|--------------------|------|-----------|-------|-------|-------|-------|-------|-------|-------|
| Device marking code | | | SF11G | SF12G | SF13G | SF14G | SF15G | SF16G | SF17G | SF18G |
| Repetitive Peak Reverse Voltage | VRRM | V | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 |
| Average Forward Current @60Hz sine wave, Resistance load, T _a =60°C | I _{F(AV)} | A | 1.0 | | | | | | | |
| Surge(Non-repetitive)Forward Current @ 60Hz Half-sine wave,1 cycle, T _a =25°C | I _{FSM} | A | 30 | | | | | | | |
| 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 | SF11G | SF12G | SF13G | SF14G | SF15G | SF16G | SF17G | SF18G |
|-------------------------------------------------------------------|----------------|------|-------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Maximum instantaneous forward voltage drop per diode | V _F | V | I _{FM} =1.0A | 0.95 | | | 1.3 | | 1.7 | | |
| Maximum DC reverse current at rated DC blocking voltage per diode | I _R | μA | T _a =25°C | 5 | | | | | | | |
| | | | T _a =125°C | 150 | | | | | | | |
| Reverse Recovery time | t _r | ns | I _F =0.5A I _R =1A I _{RR} =0.25A | 35 | | | | | | | |
| Typical junction capacitance | C _j | pF | Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C. | 40 | | | | 25 | | | |



SF11G THRU SF18G

■ Thermal Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | SF11G | SF12G | SF13G | SF14G | SF15G | SF16G | SF17G | SF18G |
|--------------------|----------------|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Thermal Resistance | R θ J-A | $^\circ\text{C}/\text{W}$ | 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 |
|---------------|--------------|------------------|----------------------|-------------------------|----------------------------|---------------|
| SF11G~SF18G | D1 | Approximate 0.30 | 5000 | 5000 | 50000 | Tape |
| SF11G~SF18G | C1 | Approximate 0.30 | 1000 | 1000 | 50000 | Bulk |

■ Characteristics(Typical)

FIG.1: I_o - T_a Curve

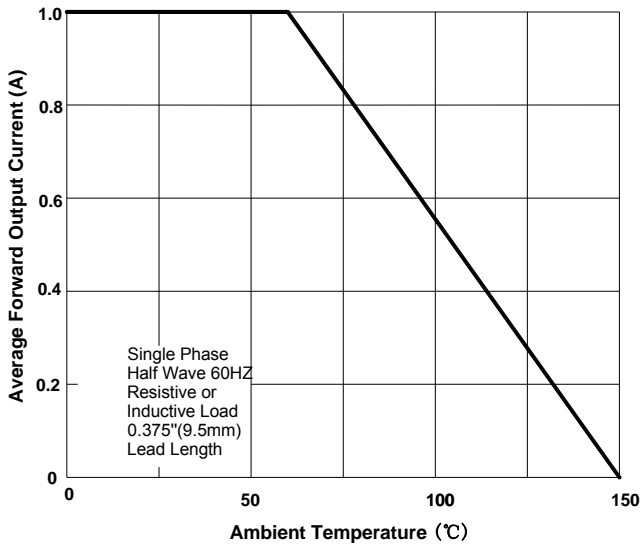


FIG.2: Surge Forward Current Capability

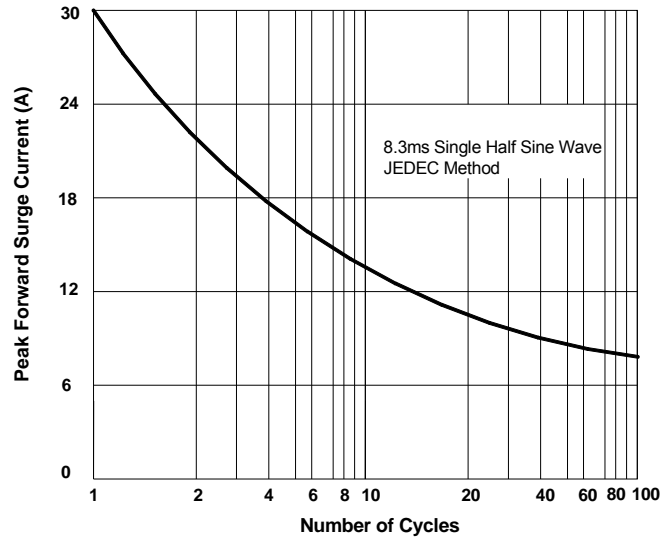


FIG.3: Forward Voltage

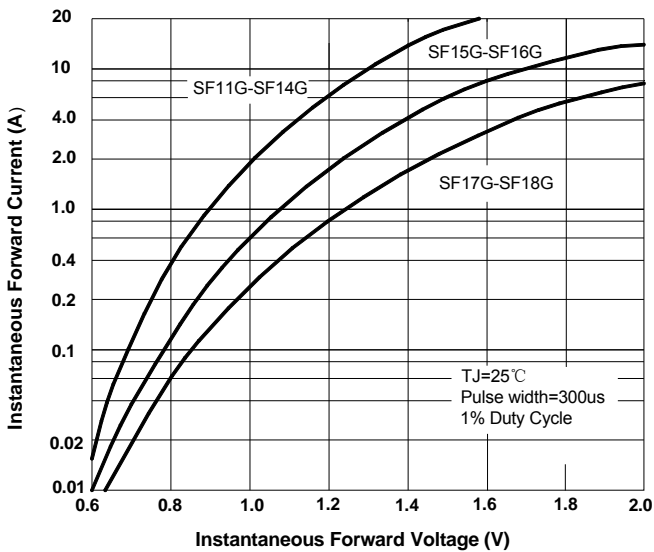
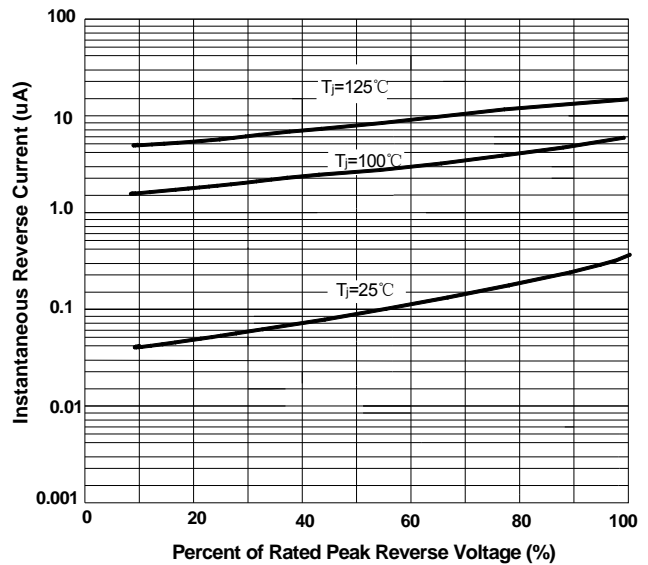


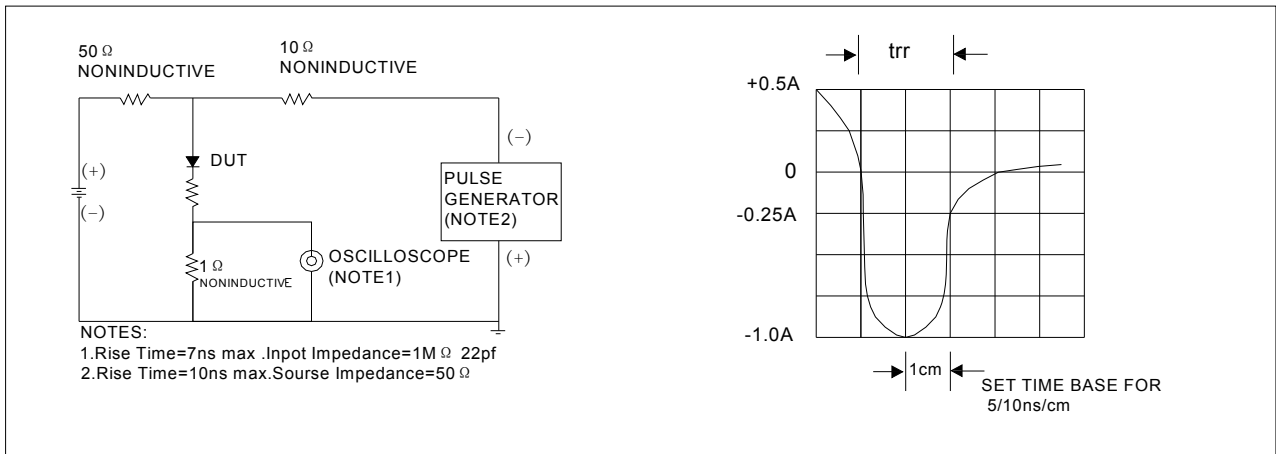
FIG.4: Typical Reverse Characteristics



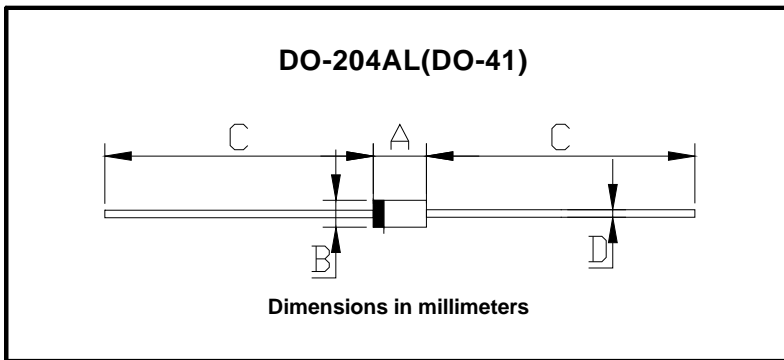


SF11G THRU SF18G

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



■ Outline Dimensions



| DO-204AL(DO-41) | | |
|-----------------|------|------|
| Dim | Min | Max |
| A | 4.22 | 5.21 |
| B | 2.03 | 2.72 |
| C | 25.4 | / |
| D | 0.69 | 0.86 |



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