

GLASS PASSIVATED SUPER FAST RECTIFIER

VOLTAGE RANGE 50 to 200 Volts CURRENT 2.0 Amperes

FEATURES

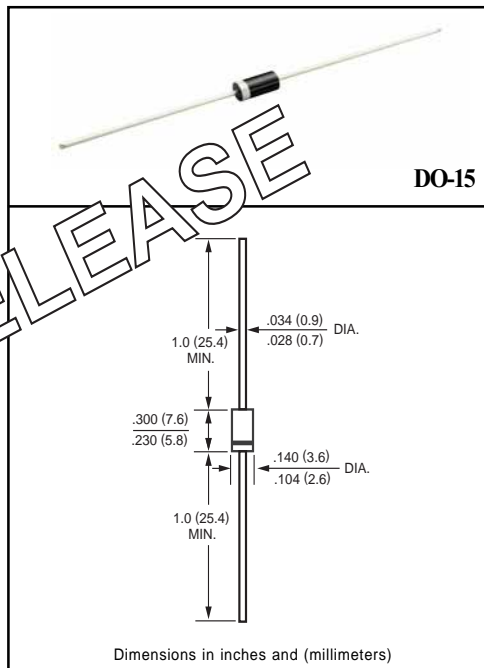
- * High reliability
- * Low leakage
- * Low forward voltage
- * High current capability
- * Super fast switching speed
- * High surge capability
- * Good for switching mode circuit

MECHANICAL DATA

- * Case: Molded plastic
- * Epoxy: Device has UL flammability classification 94V-0
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 0.38 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.



MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)

| RATINGS | SYMBOL | SF21 | SF22 | SF23 | SF24 | UNITS |
|--|----------|--------------|------|------|------|-------|
| Maximum Recurrent Peak Reverse Voltage | VRRM | 50 | 100 | 150 | 200 | Volts |
| Maximum RMS Volts | VRMS | 35 | 70 | 105 | 140 | Volts |
| Maximum DC Blocking Voltage | Vdc | 50 | 100 | 150 | 200 | Volts |
| Maximum Average Forward Current TA = 55°C | Io | 2.0 | | | | Amps |
| Peak Forward Surge Current IFM (surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | IFSM | 75 | | | | Amps |
| Typical Junction Capacitance (Note 2) | CJ | 15 | | | | pF |
| Operating and Storage Temperature Range | TJ, TSTG | -55 to + 150 | | | | °C |

ELECTRICAL CHARACTERISTICS (At TA = 25°C unless otherwise noted)

| CHARACTERISTICS | | SYMBOL | SF21 | SF22 | SF23 | SF24 | UNITS |
|--|------------------------|----------------|------|------|------|------|-------|
| Maximum Forward Voltage at 2.0A DC | | V _F | 0.90 | | | | Volts |
| Maximum DC Reverse Current | @T _A = 25°C | I _R | 10 | | | | uAmps |
| at Rated DC Blocking Voltage | @T _A =100°C | | 350 | | | | |
| Maximum Reverse Recovery Time (Note 1) | | trr | 20 | | | | nSec |

NOTES : 1. Test Conditions: IF=0.5A, IR=-1.0A, IRR=-0.25A.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

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RATING AND CHARACTERISTIC CURVES (USF21 THRU USF24)

FIG. 1 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

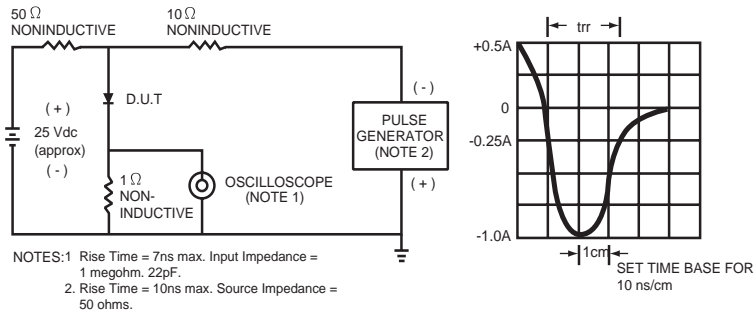


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

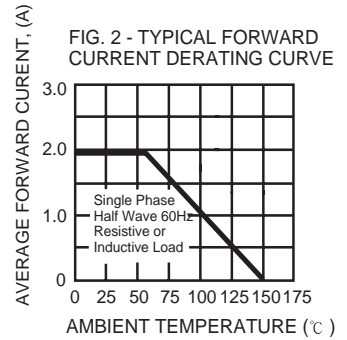


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

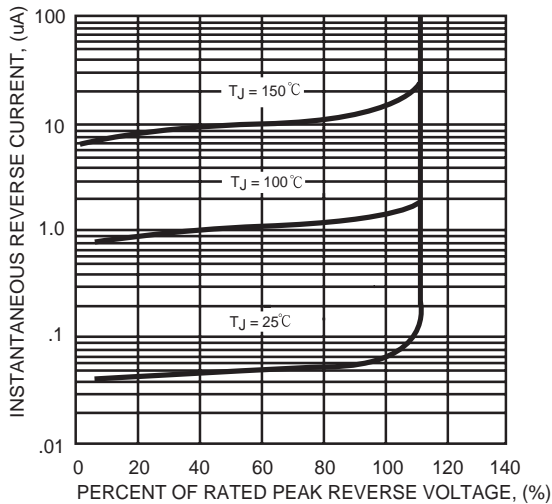


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

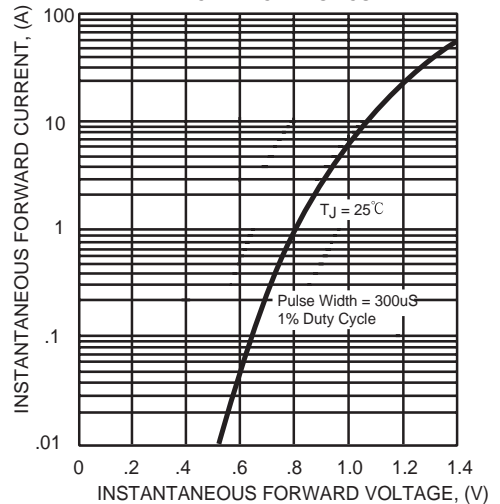


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

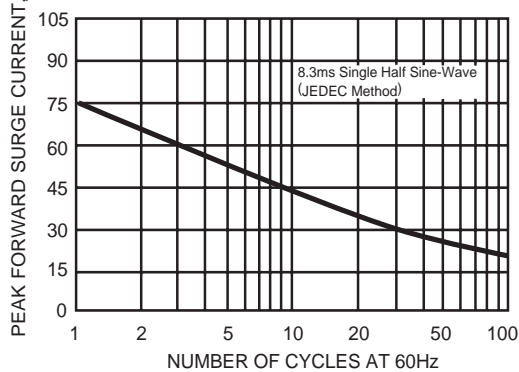


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

