



**DC COMPONENTS CO., LTD.**

RECTIFIER SPECIALISTS

UF1A  
THRU  
UF1K

**TECHNICAL SPECIFICATIONS OF SURFACE MOUNT ULTRA FAST RECTIFIER**

VOLTAGE RANGE - 50 to 800 Volts

CURRENT - 1.0 Amperes

**FEATURES**

- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Glass passivated junction

**MECHANICAL DATA**

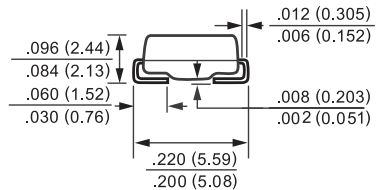
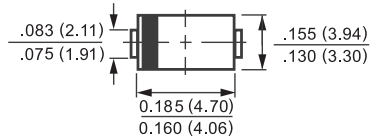
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- \* Polarity: As marked
- \* Mounting position: Any
- \* Weight: 0.093 gram

**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%.



SMB (DO-214AA)



Dimensions in inches and (millimeters)

|   | SYMBOL   | UF1A          | UF1B | UF1D | UF1G | UF1J | UF1K | UNITS |
|---|----------|---------------|------|------|------|------|------|-------|
| Maximum Recurrent Peak Reverse Voltage  | VRRM     | 50            | 100  | 200  | 400  | 600  | 800  | Volts |
| Maximum RMS Voltage   | VRMS     | 35            | 70   | 140  | 280  | 420  | 560  | Volts |
| Maximum DC Blocking Voltage   | Vbc      | 50            | 100  | 200  | 400  | 600  | 800  | Volts |
| Maximum Average Forward Rectified Current at TA = 75 °C   | IO       | 1.0           |      |      |      |      |      | Amps  |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | IFSM     | 30            |      |      |      |      |      | Amps  |
| Maximum Instantaneous Forward Voltage at 1.0A DC  | VF       | 1.0           |      | 1.4  |      | 1.7  |      | Volts |
| Maximum DC Reverse Current at Rated DC Blocking Voltage   | IR       | @ TA = 25 °C  |      |      |      |      |      | uAmps |
|   |          | @ TA = 100 °C |      |      |      |      |      |       |
| Maximum Reverse Recovery Time (Note 3)  | trr      | 50            |      |      |      | 100  |      | nSec  |
| Typical Thermal Resistance (Note 2)   | RθJL     | 12            |      |      |      |      |      | °C/W  |
| Typical Junction Capacitance (Note 1)   | CJ       | 30            |      |      |      |      |      | pF    |
| Operating and Storage Temperature Range   | TJ, TSTG | -65 to + 175  |      |      |      |      |      | °C    |

- NOTES : 1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
2. Thermal Resistance (Junction to Ambient), 0.2x0.2in<sup>2</sup> (5X5mm<sup>2</sup>)copper pads to each terminal.  
3. Test Conditions: IF=0.5A, IR=1.0A, IRR=0.25A.

# RATING AND CHARACTERISTIC CURVES ( UF1A THRU UF1K )

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

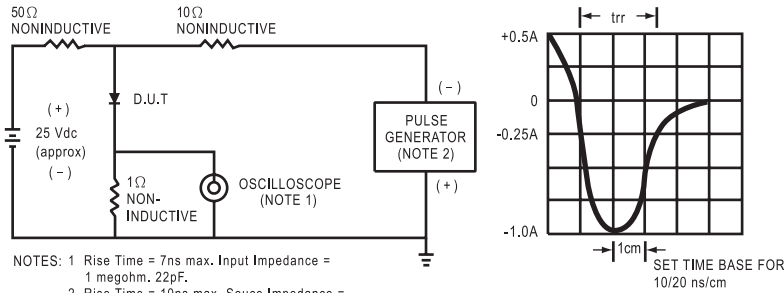


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

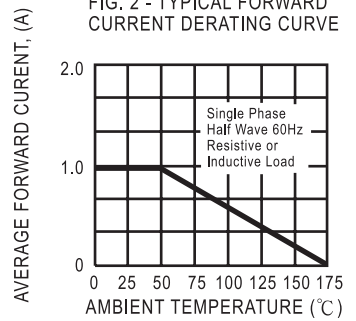


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

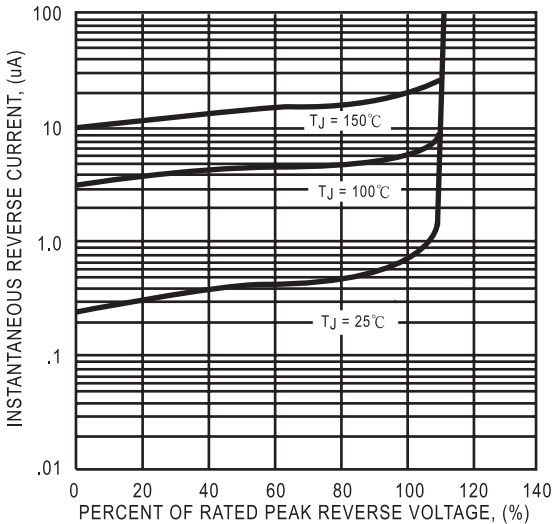


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

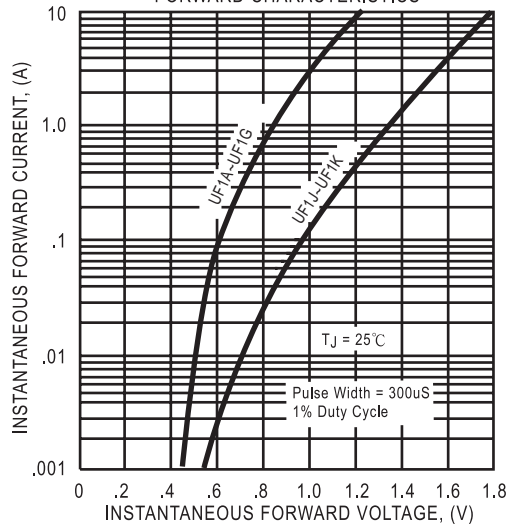


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

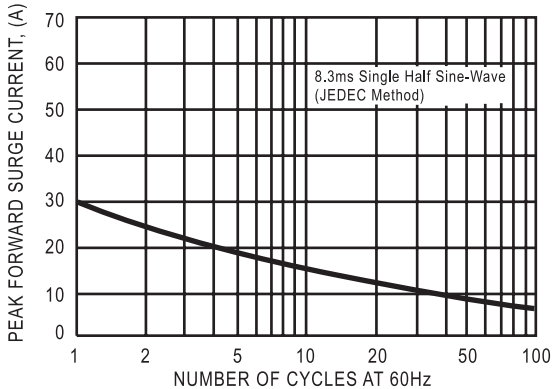
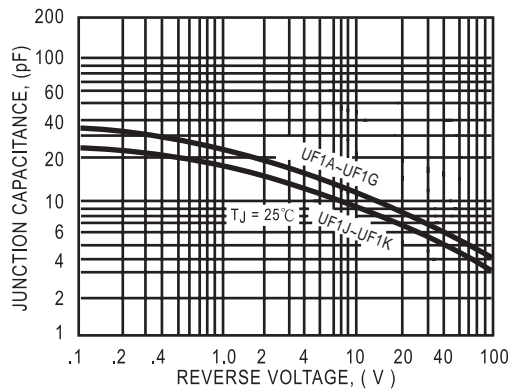


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



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