



Micro Commercial Components  
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# UF1A THRU UF1K

## Features

- For surface mounted applications
- Glass passivated junction
- Easy pick and place
- High Temp Soldering: 260°C for 10 Seconds At Terminals
- Superfast Recovery Times For High Efficiency

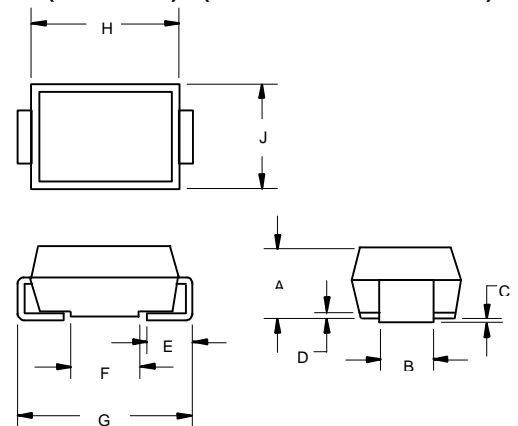
**1 Amp Surface Mount  
Super Fast  
Rectifier  
50 to 800 Volts**

## Maximum Ratings

- Operating Temperature: -50°C to +150°C
- Storage Temperature: -50°C to +150°C
- Maximum Thermal Resistance; 30°C/W Junction To Lead

| MCC Catalog Number | Device Marking | Maximum Reccurent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|--------------------|----------------|--|---------------------|-----------------------------|
| UF1A               | UF1A           | 50V                                    | 35V                 | 50V                         |
| UF1B               | UF1B           | 100V                                   | 70V                 | 100V                        |
| UF1D               | UF1D           | 200V                                   | 140V                | 200V                        |
| UF1G               | UF1G           | 400V                                   | 280V                | 400V                        |
| UF1J               | UF1J           | 600V                                   | 420V                | 600V                        |
| UF1K               | UF1K           | 800V                                   | 560V                | 800V                        |

## DO-214AA (SMBJ) (LEAD FRAME)

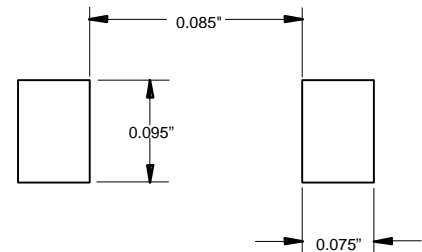


| DIM | DIMENSIONS |      |      |      | NOTE |
|-----|------------|------|------|------|------|
|     | INCHES     |      | MM   |      |      |
| A   | .083       | .096 | 2.11 | 2.44 |      |
| B   | .075       | .083 | 1.91 | 2.11 |      |
| C   | .002       | .008 | .05  | .20  |      |
| D   | ----       | .02  | ---- | .51  |      |
| E   | .030       | .050 | .76  | 1.27 |      |
| F   | .065       | .091 | 1.65 | 2.32 |      |
| G   | .200       | .220 | 5.08 | 5.59 |      |
| H   | .160       | .185 | 4.06 | 4.70 |      |
| J   | .130       | .155 | 3.30 | 3.94 |      |

## Electrical Characteristics @ 25°C Unless Otherwise Specified

|   |             |                                       |  |
|---|-------------|---------------------------------------|--|
| Average Forward Current                                 | $I_{F(AV)}$ | 1.0A                                  | $T_L = 100^\circ\text{C}$                                    |
| Peak Forward Surge Current                              | $I_{FSM}$   | 30A                                   | 8.3ms, half sine   |
| Maximum Instantaneous Forward Voltage                   | $V_F$       | 1.0V<br>1.4V<br>1.7V                  | $I_{FM} = 1.0\text{A};$<br>$T_J = 25^\circ\text{C}^*$        |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | $I_R$       | 10 $\mu\text{A}$<br>100 $\mu\text{A}$ | $T_A = 25^\circ\text{C}$<br>$T_A = 125^\circ\text{C}$        |
| Maximum Reverse Recovery Time                           | $T_{rr}$    | 50ns<br>100ns                         | $I_F=0.5\text{A}, I_R=1.0\text{A},$<br>$I_{rr}=0.25\text{A}$ |
| Typical Junction Capacitance                            | $C_J$       | 17pF                                  | Measured at 1.0MHz, $V_R=4.0\text{V}$                        |

## SUGGESTED SOLDER PAD LAYOUT



\*Pulse test: Pulse width 200  $\mu\text{sec}$ , Duty cycle 2%

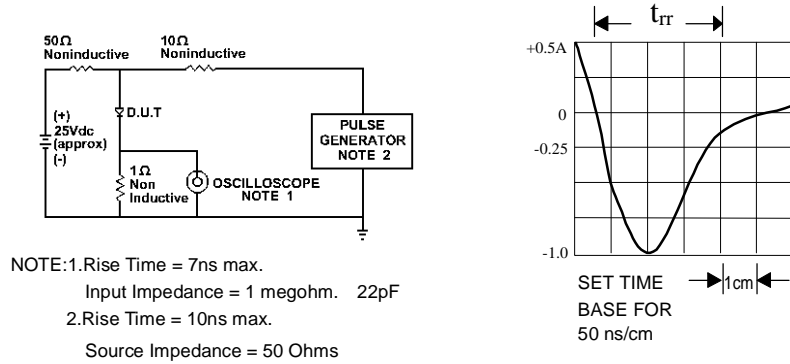


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

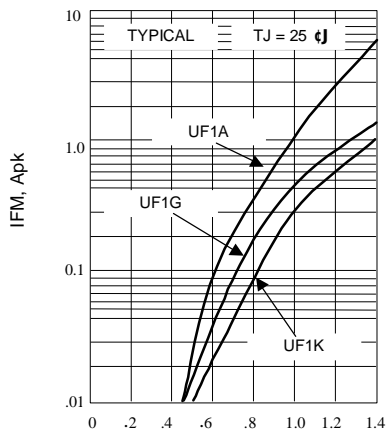


Fig. 2-FORWARD CHARACTERISTICS

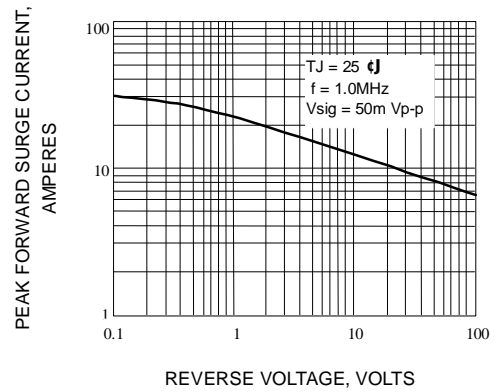


Fig. 3- TYPICAL JUNCTION CAPACITANCE

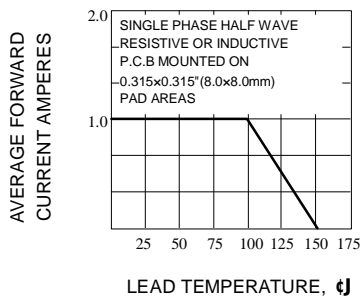


Fig. 4- FORWARD CURRENT DERATING CURVE

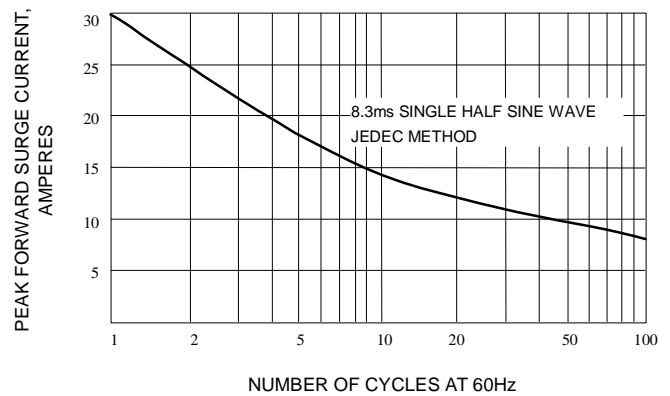


Fig. 5-PEAK FORWARD SURGE CURRENT