



# US1A THRU US1M

1.0 AMP SURFACE MOUNT FAST RECOVERY RECTIFIERS



## FEATURES

- \* Ideal for surface mount applications
- \* Easy pick and place
- \* Built-in strain relief
- \* Fast switching speed

## MECHANICAL DATA

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Metallurgically bonded construction
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 0.063 grams

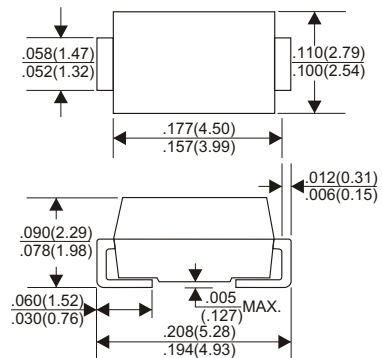
## VOLTAGE RANGE

50 to 1000 Volts

## CURRENT

1.0 Ampere

### DO-214AC(SMA)



Dimensions in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

| TYPE NUMBER                                                                                        | US1A       | US1B | US1D | US1G | US1J | US1K | US1M | UNITS |
|----------------------------------------------------------------------------------------------------|------------|------|------|------|------|------|------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                             | 50         | 100  | 200  | 400  | 600  | 800  | 1000 | V     |
| Maximum RMS Voltage                                                                                | 35         | 70   | 140  | 280  | 420  | 560  | 700  | V     |
| Maximum DC Blocking Voltage                                                                        | 50         | 100  | 200  | 400  | 600  | 800  | 1000 | V     |
| Maximum Average Forward Rectified Current                                                          |            |      |      |      |      |      |      |       |
| .375"(9.5mm) Lead Length at Ta=55°C                                                                | 1.0        |      |      |      |      |      |      | A     |
| Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | 30         |      |      |      |      |      |      | A     |
| Maximum Instantaneous Forward Voltage at 1.0A                                                      | 1.0        |      |      | 1.3  | 1.7  |      |      | V     |
| Maximum DC Reverse Current Ta=25°C                                                                 | 5.0        |      |      |      |      |      |      | μA    |
| at Rated DC Blocking Voltage Ta=100°C                                                              | 100        |      |      |      |      |      |      | μA    |
| Maximum Reverse Recovery Time (Note 1)                                                             | 50         |      |      |      | 75   |      |      | nS    |
| Typical Junction Capacitance (Note 2)                                                              | 15         |      |      |      |      |      |      | pF    |
| Operating and Storage Temperature Range Tj, Tstg                                                   | -50 — +150 |      |      |      |      |      |      | °C    |

### NOTES:

1. Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## RATING AND CHARACTERISTIC CURVES (US1A THRU US1M)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

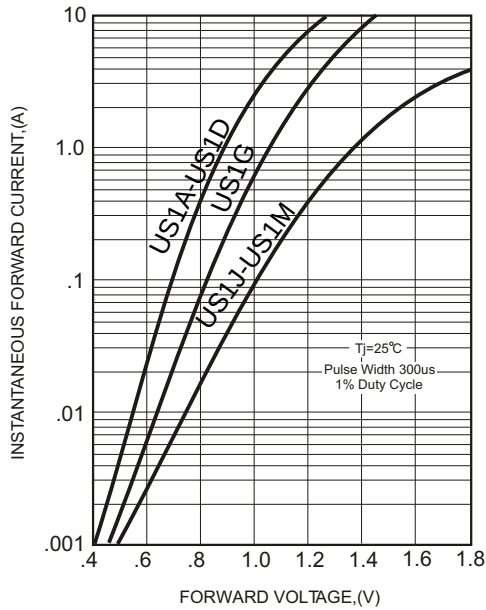


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

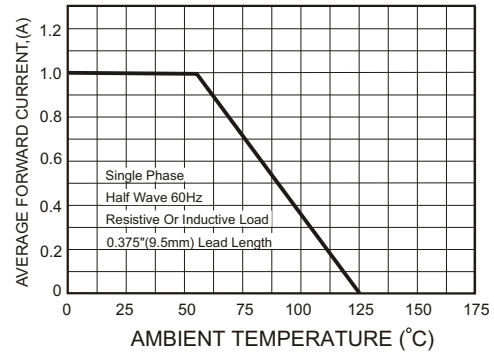
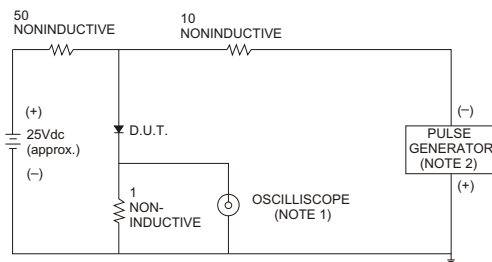


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm. 22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.

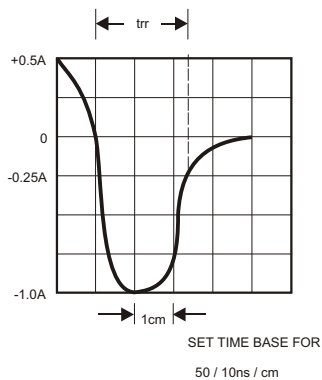


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

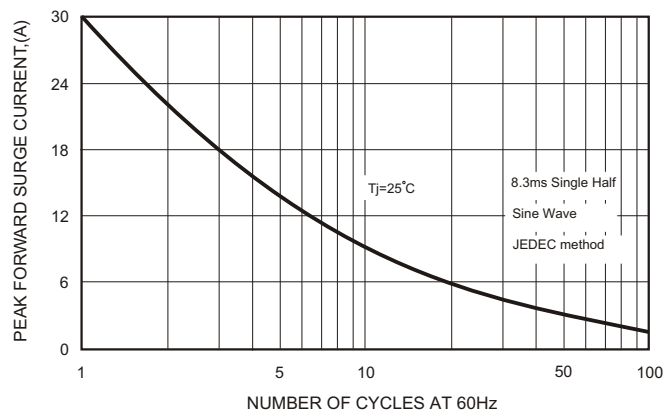


FIG.5-TYPICAL JUNCTION CAPACITANCE

