

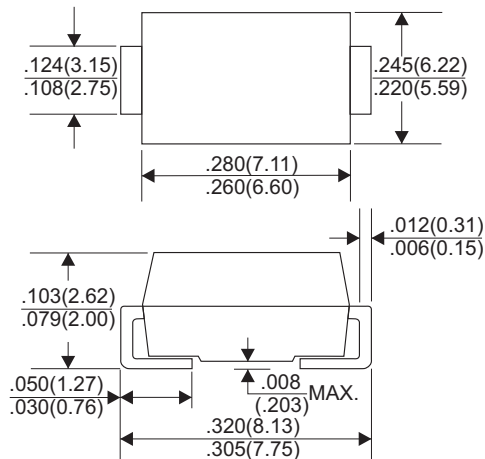


# US5AC THRU US5MC

## SURFACE MOUNT SUPER HIGH EFFICIENCY RECTIFIERS

Reverse Voltage - 50 to 1000 Volts Forward Current - 5.0 Ampere

### DO-214AB(SMC)



Dimensions in inches and (millimeters)

### FEATURES

- \* Glass passivate device
- \* Ideal for surface mounted applications
- \* Low reverse leakage
- \* Metallurgically bonded construction
- \* High temperature soldering guaranteed:  
250°C/10 seconds 0.375"(9.5mm)lead length,  
5 lbs.(2.3kg) tension

### MECHANICAL DATA

- \* Case: JEDEC SMAL molded plastic
- \* Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- \* Polarity: Color band denotes cathode end
- \* Mounting Position: Any

## 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   | US5AC      | US5BC | US5DC | US5GC | US5JC | US5KC | US5MC | 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<br>.375"(9.5mm) Lead Length at Ta=55°C                      | 5.0        |       |       |       |       |       |       | A     |
| Peak Forward Surge Current, 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | 200        |       |       |       |       |       |       | A     |
| Maximum Instantaneous Forward Voltage at 5.0A   | 1.0        |       |       | 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)   | 20         |       |       | 15    |       |       |       | pF    |
| Operating Temperature Range T <sub>J</sub>  | -65 — +125 |       |       |       |       |       |       | °C    |
| Storage Temperature Range T <sub>STG</sub>  | -65 — +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 (US5AC THRU US5MC)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

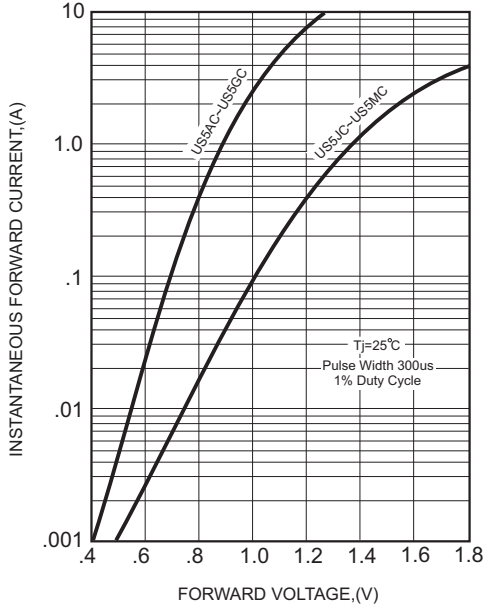


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

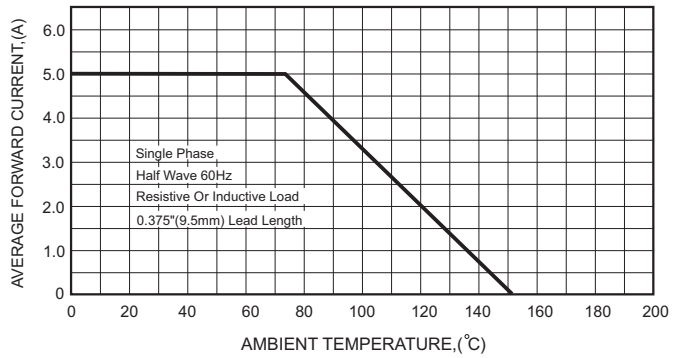
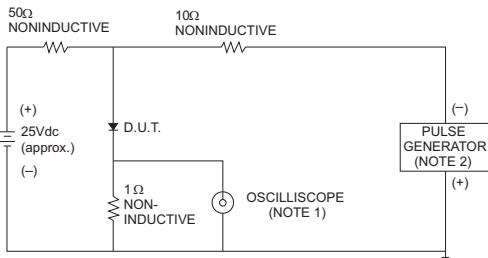


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm, 22pF.  
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

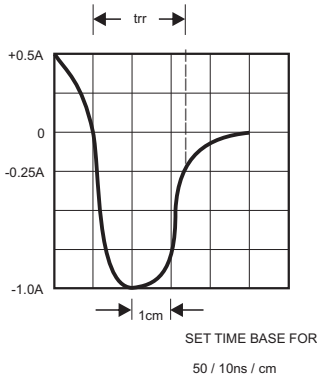


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

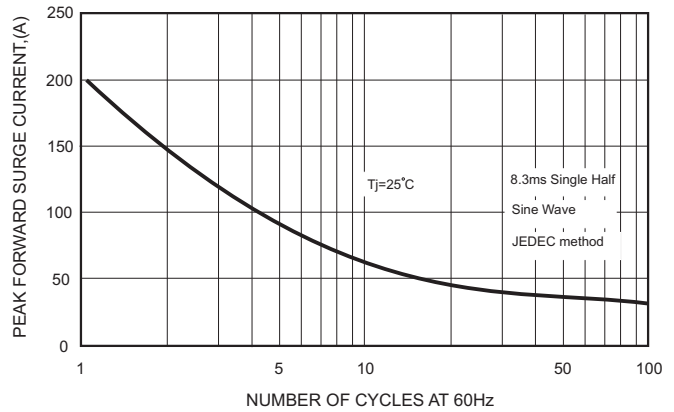


FIG.5-TYPICAL JUNCTION CAPACITANCE

