



# US5A THRU US5M

5.0 AMP SURFACE MOUNT HIGH EFFICIENCY 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: 0.21 grams

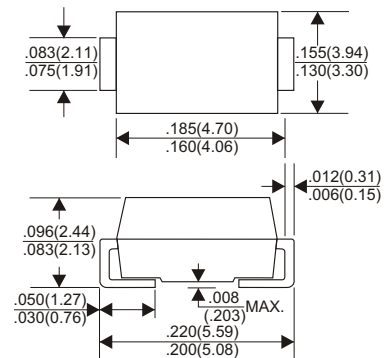
## VOLTAGE RANGE

50 to 1000 Volts

## CURRENT

5.0 Ampere

### DO-214AA(SMB)



## 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%.

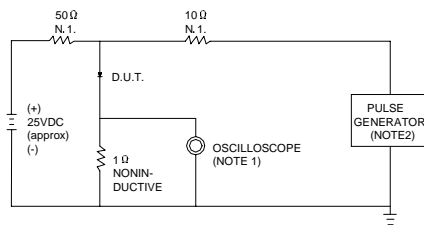
TYPE NUMBER	US5A	US5B	US5D	US5E	US5G	US5J	US5K	US5M	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	200	300	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	210	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	300	400	600	800	1000	V
Maximum Average Forward Rectified Current at Ta=55°C	5.0								A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	120								A
Maximum Instantaneous Forward Voltage at 5.0A	1.0		1.3		1.7				V
Maximum DC Reverse Current at Rated DC Blocking Voltage	10				200				μA
Maximum Reverse Recovery Time (Note 1)	50				75				nS
Typical Junction Capacitance (Note 2)	15								pF
Operating and Storage Temperature Range Tj, Tstg	-65 — +150								°C

### NOTES:

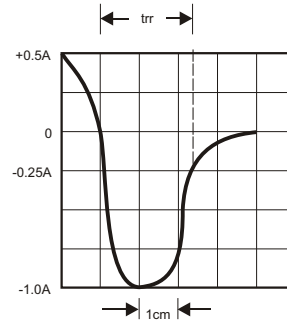
- Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
- Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## RATING AND CHARACTERISTIC CURVES (US5A THRU US5M)

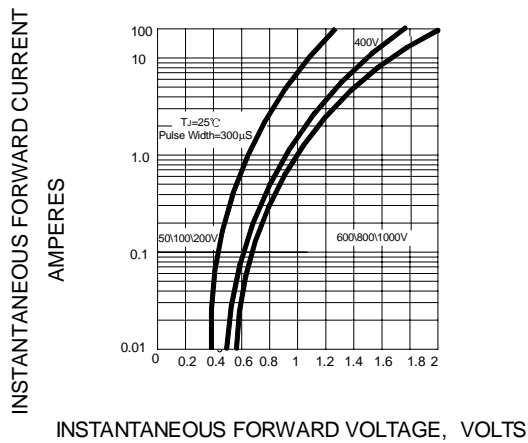
**FIG.1 – TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



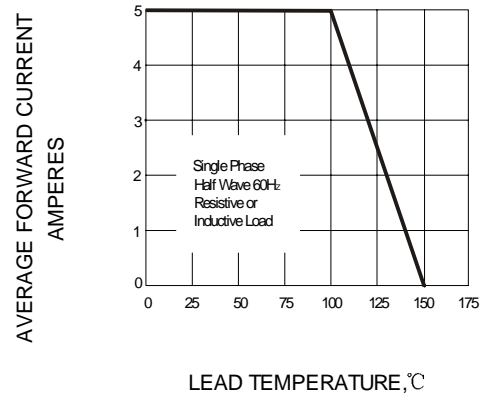
NOTES: 1. RISE TIME = 7ns MAX. INPUT IMPEDANCE = 1MΩ .22pF.  
2. RISE TIME = 10ns MAX. SOURCE IMPEDANCE = 50 Ω.



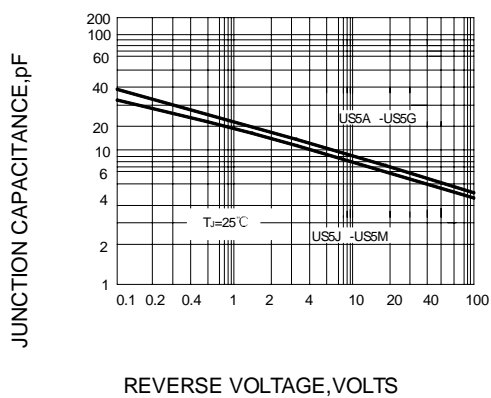
**FIG.2 – TYPICAL FORWARD CHARACTERISTIC**



**FIG.3 – FORWARD DERATING CURVE**



**FIG.4 – TYPICAL JUNCTION CAPACITANCE**



**FIG.5 – PEAK FORWARD SURGE CURRENT**

