

## ES3A THRU ES3G 3.0 AMP SURFACE MOUNT SUPER FAST RECTIFIERS



### FEATURES

- \* Ideal for surface mount applications
- \* Easy pick and place
- \* Built-in strain relief
- \* Super fast recovery time for high speed switching

### 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

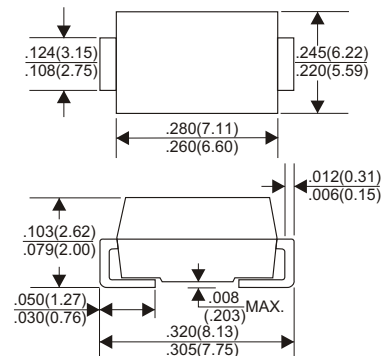
### VOLTAGE RANGE

50 to 400 Volts

### CURRENT

3.0 Ampere

### DO-214AB(SMC)



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   | ES3A       | ES3B | ES3C | ES3D | ES3E | ES3G | UNITS |
|---|------------|------|------|------|------|------|-------|
| Maximum Recurrent Peak Reverse Voltage  | 50         | 100  | 150  | 200  | 300  | 400  | V     |
| Maximum RMS Voltage   | 35         | 70   | 105  | 140  | 210  | 280  | V     |
| Maximum DC Blocking Voltage   | 50         | 100  | 150  | 200  | 300  | 400  | V     |
| Maximum Average Forward Rectified Current<br>at T <sub>L</sub> =100°C                                 | 3.0        |      |      |      |      |      | A     |
| Peak Forward Surge Current, 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | 100        |      |      |      |      |      | A     |
| Maximum Instantaneous Forward Voltage at 3.0A   | 0.95       |      |      | 1.25 |      |      | V     |
| Maximum DC Reverse Current<br>at Rated DC Blocking Voltage  | 10         |      |      | 500  |      |      | μA    |
| Maximum Reverse Recovery Time (Note 1)  | 35         |      |      |      |      |      | nS    |
| Typical Junction Capacitance (Note 2)   | 45         |      |      |      |      |      | pF    |
| Operating and Storage Temperature Range T <sub>J</sub> , T <sub>STG</sub>                             | -65 — +150 |      |      |      |      |      | °C    |

#### NOTES:

- Reverse Recovery Time test condition: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A
- Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## RATING AND CHARACTERISTIC CURVES (ES3A THRU ES3G)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

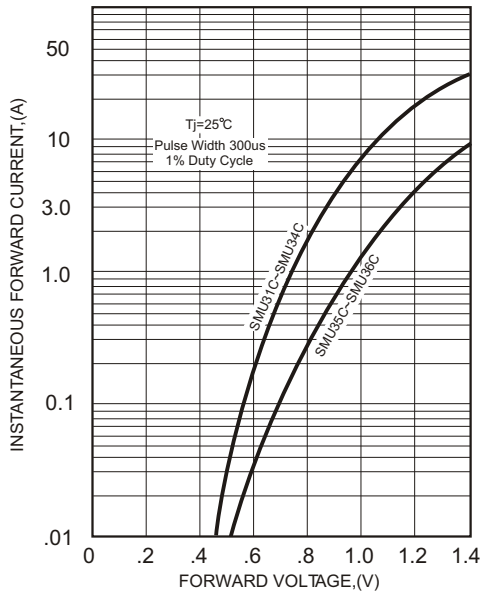


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

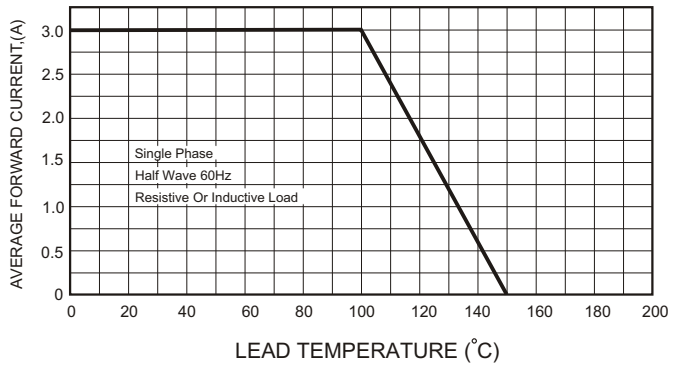


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

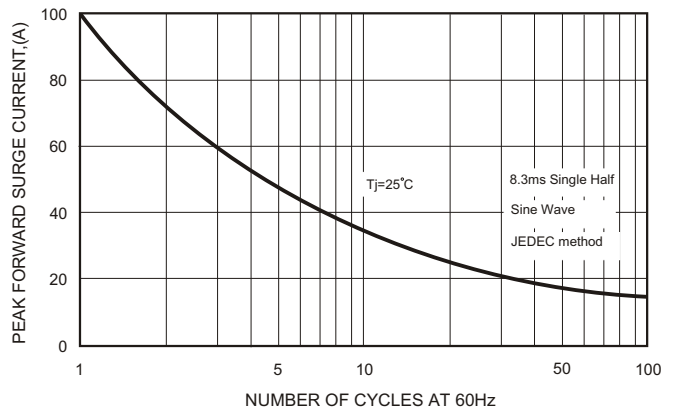
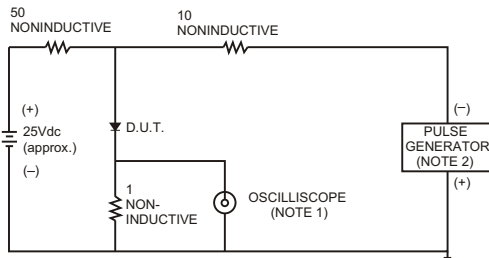


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



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

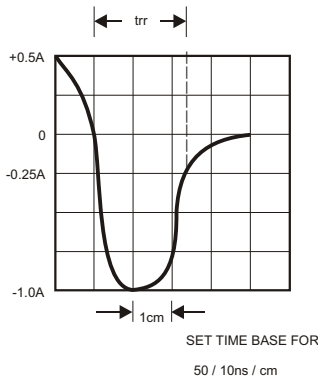


FIG.5-TYPICAL JUNCTION CAPACITANCE

