

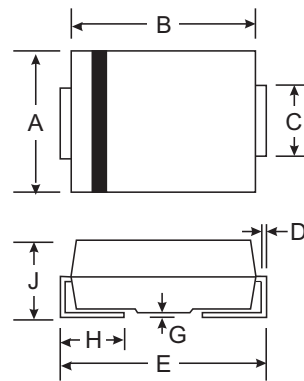
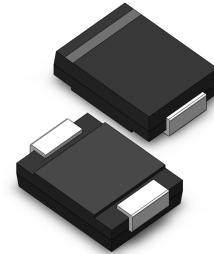
**VOLTAGE RANGE: 50-1000V**  
**CURRENT: 8.0 A**

### Features

- Glass Passivated Die Construction
- Fast Recovery Time for High Efficiency  
Low Forward Voltage Drop and High Current Capability
- Ideally Suited for Automatic Assembly
- Plastic Material: UL Flammability
- Classification Rating 94V-0

### Mechanical Data

- Case: SMC(DO-214AB), Molded Plastic
- Terminals: Solder Plated Terminal -  
Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.21 grams (approx.)



| SMC/DO-214AB         |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 5.59 | 6.22 |
| B                    | 6.60 | 7.11 |
| C                    | 2.75 | 3.18 |
| D                    | 0.15 | 0.31 |
| E                    | 7.75 | 8.13 |
| G                    | 0.10 | 0.20 |
| H                    | 0.76 | 1.52 |
| J                    | 2.00 | 2.62 |
| All Dimensions in mm |      |      |

### Maximum Ratings and Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

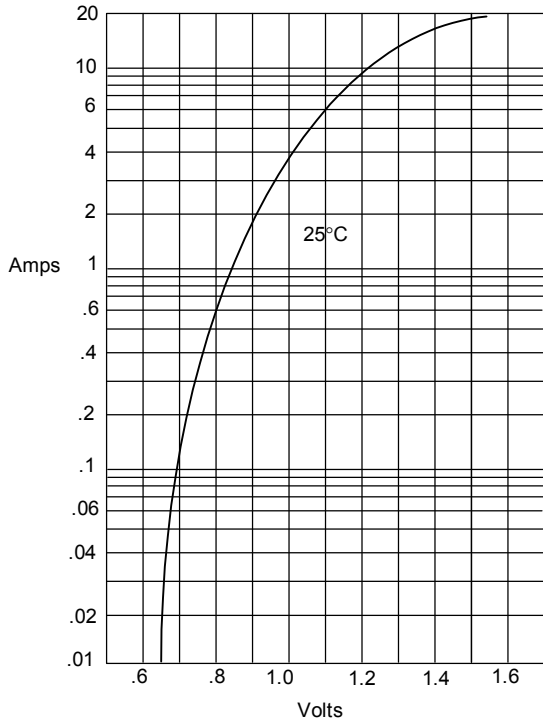
Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Characteristic  | Symbol                            | FR8A        | FR8B | FR8D | FR8G | FR8J | FR8K | FR8M | Unit |
|---|-----------------------------------|-------------|------|------|------|------|------|------|------|
| Peak Repetitive Reverse Voltage   | V <sub>RRM</sub>                  | 50          | 100  | 200  | 400  | 600  | 800  | 1000 | V    |
| Working Peak Reverse Voltage  | V <sub>RWM</sub>                  |             |      |      |      |      |      |      |      |
| DC Blocking Voltage   | V <sub>R</sub>                    |             |      |      |      |      |      |      |      |
| RMS Reverse Voltage   | V <sub>R(RMS)</sub>               | 35          | 70   | 140  | 280  | 420  | 560  | 700  | V    |
| Average Rectified Output Current @ T <sub>T</sub> = 75°C  | I <sub>O</sub>                    | 8.0         |      |      |      |      |      |      | A    |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave Superimposed on Rated Load<br>(JEDEC Method) | I <sub>FSM</sub>                  | 300         |      |      |      |      |      |      | A    |
| Forward Voltage @ I <sub>F</sub> = 8.0A   | V <sub>FM</sub>                   | 1.3         |      |      |      |      |      |      | V    |
| Peak Reverse Current @ T <sub>A</sub> = 25°C<br>at Rated DC Blocking Voltage @ T <sub>A</sub> = 100°C                 | I <sub>RM</sub>                   | 10<br>50    |      |      |      |      |      |      | μA   |
| Maximum Recovery Time (Note 3)  | t <sub>rr</sub>                   | 150         |      |      |      | 250  | 500  |      | ns   |
| Typical Junction Capacitance (Note 2)   | C <sub>j</sub>                    | 2.2         |      |      |      |      |      |      | pF   |
| Typical Thermal Resistance Junction to Terminal (Note 1)  | R <sub>θJT</sub>                  | 12          |      |      |      |      |      |      | K/W  |
| Operating and Storage Temperature Range   | T <sub>j</sub> , T <sub>STG</sub> | -65 to +150 |      |      |      |      |      |      | °C   |

- Notes:
1. Thermal resistance: junction to terminal, unit mounted on PC board with 5.0 mm<sup>2</sup> (0.013 mm thick) copper pad as heat sink.
  2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  3. Reverse recovery test conditions: I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.25A. See figure 5.



Figure 1  
Typical Forward Characteristics



Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve

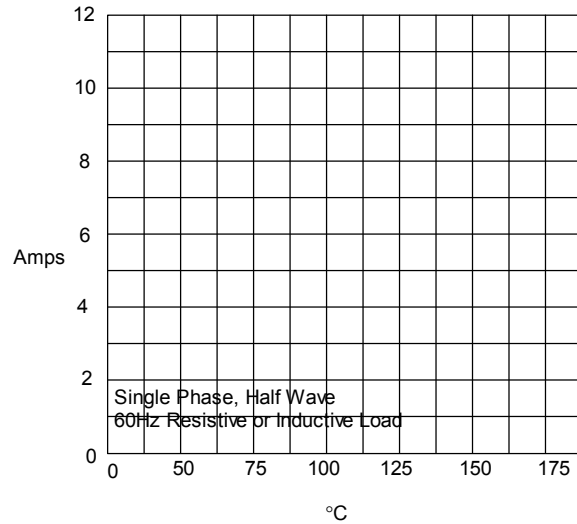
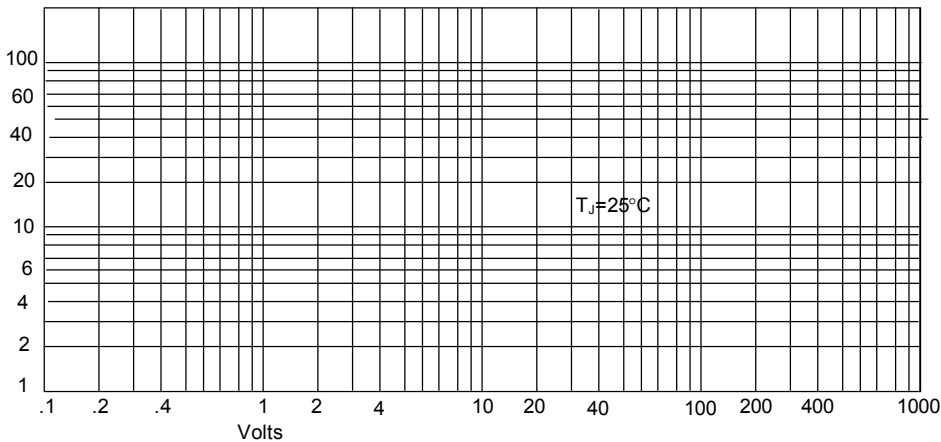
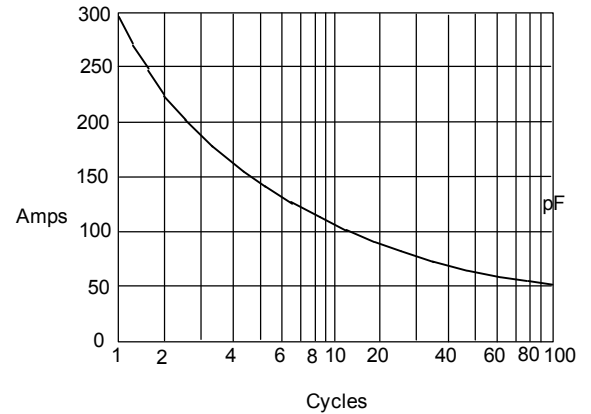


Figure 3  
Junction Capacitance



Junction Capacitance - pF versus  
Reverse Voltage - Volts

Figure 4  
Peak Forward Surge Current



Peak Forward Surge Current - Amperes versus  
Number Of Cycles At 60Hz - Cycles