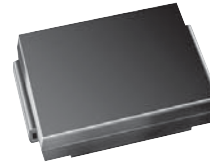


## Surface Mount Ultrafast Plastic Rectifier

### Major Ratings and Characteristics

|             |              |
|-------------|--------------|
| $I_{F(AV)}$ | 3.0 A        |
| $V_{RRM}$   | 400 V, 600 V |
| $I_{FSM}$   | 125 A        |
| $t_{rr}$    | 50 ns        |
| $V_F$       | 1.05 V       |
| $T_j$ max.  | 175 °C       |



DO-214AB (SMC)

### Features

- Glass passivated chip junction
- Ideal for automated placement
- Ultrafast reverse recovery time
- Low switching losses, high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020C
- Solder Dip 260 °C, 40 seconds



### Mechanical Data

**Case:** DO-214AB (SMC)

Epoxy meets UL 94V-0 Flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade, HE3 suffix for high reliability grade (AEC Q101 qualified)

**Polarity:** Color band denotes cathode end

### Typical Applications

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer, automotive and Telecommunication

### Maximum Ratings

$T_A = 25$  °C unless otherwise specified

| Parameter   | Symbol         | MURS340       | MURS360 | Unit |
|---|----------------|---------------|---------|------|
| Device Marking Codes  |                | MG            | MJ      |      |
| Maximum repetitive peak reverse voltage   | $V_{RRM}$      | 400           | 600     | V    |
| Working peak reverse voltage  | $V_{RWM}$      | 400           | 600     | V    |
| Maximum DC blocking voltage   | $V_{DC}$       | 400           | 600     | V    |
| Maximum average forward rectified current at: $T_L = 130$ °C<br>(See figure 1) $T_L = 115$ °C | $I_{F(AV)}$    | 3.0<br>4.0    |         | A    |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load            | $I_{FSM}$      | 125           |         | A    |
| Operating junction and storage temperature range  | $T_J, T_{STG}$ | - 65 to + 175 |         | °C   |

## Electrical Characteristics

$T_A = 25\text{ }^\circ\text{C}$  unless otherwise specified#

| Parameter   | Test condition  | Symbol   | MURS340 | MURS360 | Unit          |
|---|---|----------|---------|---------|---------------|
| Maximum instantaneous forward voltage <sup>(1)</sup>                              | $I_F = 3.0\text{ A}, T_J = 25\text{ }^\circ\text{C}$  | $V_F$    | 1.25    | 1.28    | V             |
|   | $I_F = 4.0\text{ A}, T_J = 25\text{ }^\circ\text{C}$  |          |         |         |               |
|   | $I_F = 3.0\text{ A}, T_J = 150\text{ }^\circ\text{C}$   |          |         |         |               |
| Maximum instantaneous reverse current at rated DC blocking voltage <sup>(1)</sup> | $T_J = 25\text{ }^\circ\text{C}$  | $I_R$    | 10      | 250     | $\mu\text{A}$ |
|   | $T_J = 150\text{ }^\circ\text{C}$   |          |         |         |               |
| Maximum reverse recovery time   | at $I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, I_{rr} = 0.25\text{ A}$                               | $t_{rr}$ | 50      |         | ns            |
| Maximum reverse recovery time   | at $I_F = 1.0\text{ A}, di/dt = 50\text{ A}/\mu\text{s}, V_R = 30\text{ V}, I_{rr} = 10\% I_{RM}$ | $t_{rr}$ | 75      |         | ns            |
| Maximum forward recovery time   | $I_F = 1.0\text{ A}, di/dt = 100\text{ A}/\mu\text{s}, \text{Rec. to } 1.0\text{ V}$              | $t_{fr}$ | 25      |         | ns            |

Notes:

(1) Pulse test:  $t_p = 300\text{ }\mu\text{s}$ , duty cycle  $\leq 2\%$

## Thermal Characteristics

$T_A = 25\text{ }^\circ\text{C}$  unless otherwise specified

| Parameter                                      | Symbol          | MURS340 | MURS360 | Unit                      |
|--|-----------------|---------|---------|---------------------------|
| Typical thermal resistance junction to ambient | $R_{\theta JL}$ | 11      |         | $^\circ\text{C}/\text{W}$ |

## Ratings and Characteristics Curves

( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

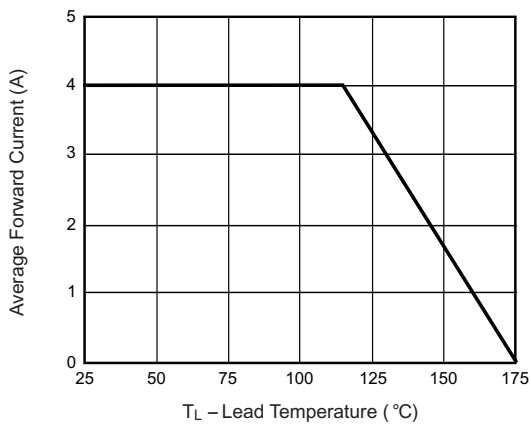


Figure 1. Forward Current Derating Curve

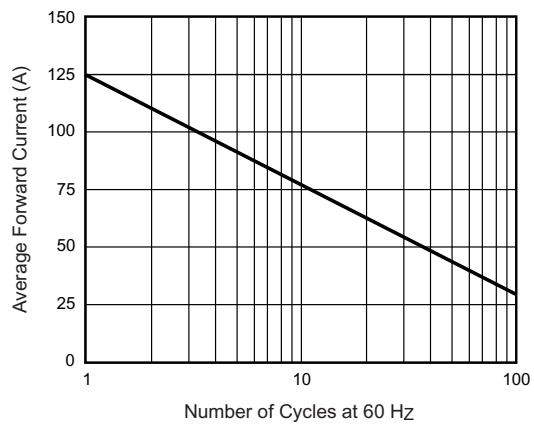


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

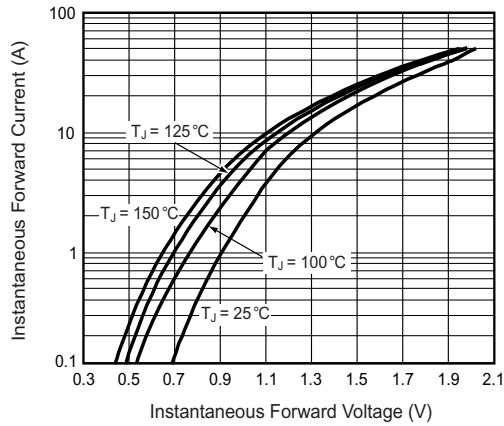


Figure 3. Typical Instantaneous Forward Characteristics

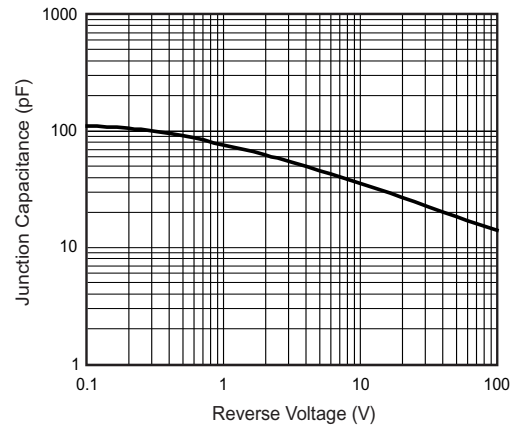


Figure 5. Typical Junction Capacitance

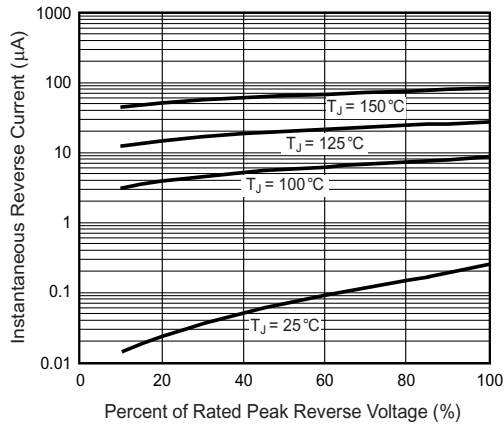


Figure 4. Typical Reverse Characteristics

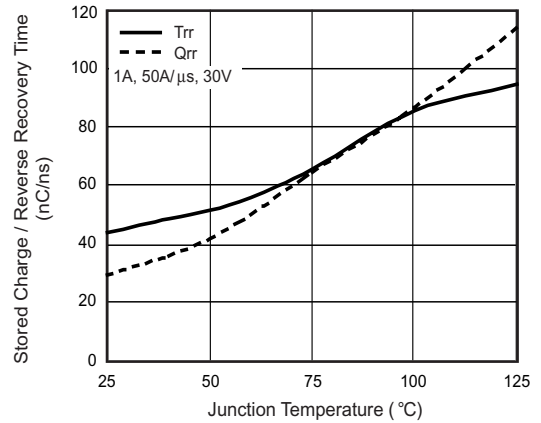
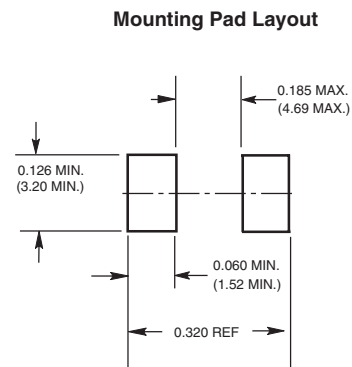
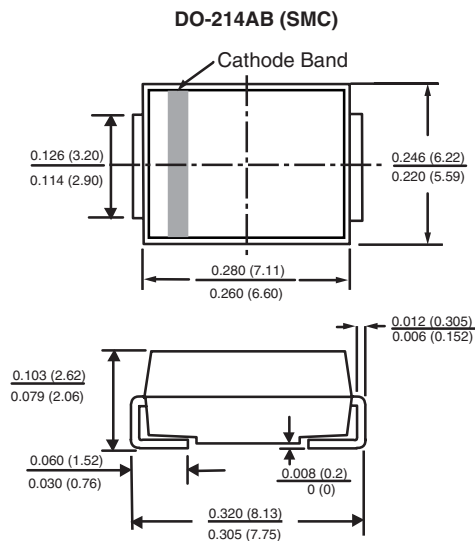


Figure 6. Typical Reverse Switching Characteristics

## Package outline dimensions in inches (millimeters)





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