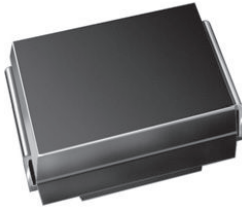




## Surface-Mount Ultrafast Plastic Rectifier



SMB (DO-214AA)



### FEATURES

- Glass passivated pellet chip junction
- Ideal for automated placement
- Ultrafast reverse recovery time
- Low switching losses, high efficiency
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT HALOGEN FREE

### TYPICAL APPLICATIONS

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

### LINKS TO ADDITIONAL RESOURCES



| PRIMARY CHARACTERISTICS |                |
|-------------------------|----------------|
| $I_{F(AV)}$             | 3.0 A          |
| $V_{RRM}$               | 400 V, 600 V   |
| $I_{FSM}$               | 35 A           |
| $t_{rr}$                | 50 ns          |
| $V_F$ at $I_F = 3.0$ A  | 1.20 V         |
| $T_J$ max.              | 175 °C         |
| Package                 | SMB (DO-214AA) |
| Circuit configuration   | Single         |

### MECHANICAL DATA

Case: SMB (DO-214AA)

Molding compound meets UL 94 V-0 flammability rating  
Base P/N-M3 - halogen-free, RoHS-compliant, and commercial grade

**Terminals:** matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

M3 suffix meets JESD 201 class 2 whisker test

**Polarity:** color band denotes cathode end

| MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted)                            |                |                   |          |      |
|--|----------------|-------------------|----------|------|
| PARAMETER  | SYMBOL         | MURS340S          | MURS360S | UNIT |
| Device marking codes   |                | 3GS               | 3JS      |      |
| Maximum repetitive peak reverse voltage  | $V_{RRM}$      | 400               | 600      | V    |
| Maximum average forward rectified current  | $T_M = 130$ °C | $I_{F(AV)}^{(1)}$ | 3.0      | A    |
|  | $T_A = 25$ °C  | $I_{F(AV)}^{(2)}$ | 1.5      |      |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load | $I_{FSM}$      | 35                |          | A    |
| Operating junction and storage temperature range                                   | $T_J, T_{STG}$ | -65 to +175       |          | °C   |

### Notes

(1) Units mounted on PCB with 8 mm x 8 mm, 1 oz. copper pad areas (fig. 1)

(2) Free air, mounted on recommended copper pad area (fig. 2)



| <b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) |  |             |                                   |          |               |
|--|--|-------------|-----------------------------------|----------|---------------|
| PARAMETER  | TEST CONDITIONS  | SYMBOL      | MURS340S                          | MURS360S | UNIT          |
| Maximum instantaneous forward voltage  | $I_F = 3.0\text{ A}$   | $V_F^{(1)}$ | $T_J = 25\text{ }^\circ\text{C}$  | 1.45     | V             |
|  |  |             | $T_J = 150\text{ }^\circ\text{C}$ | 1.20     |               |
| Maximum instantaneous reverse current  | Rated $V_R$  | $I_R^{(2)}$ | $T_J = 25\text{ }^\circ\text{C}$  | 5.0      | $\mu\text{A}$ |
|  |  |             | $T_J = 150\text{ }^\circ\text{C}$ | 150      |               |
| Maximum reverse recovery time  | $I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, I_{rr} = 0.25\text{ A}$                               | $t_{rr}$    | 50                                |          | ns            |
| Maximum reverse recovery time  | $I_F = 1.0\text{ A}, dI/dt = 50\text{ A}/\mu\text{s}, V_R = 30\text{ V}, I_{rr} = 10\% I_{RM}$ | $t_{rr}$    | 75                                |          | ns            |

**Notes**(1) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle(2) Pulse test: Pulse width  $\leq 40\text{ ms}$ 

| <b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted) |                       |          |          |                           |
|---|-----------------------|----------|----------|---------------------------|
| PARAMETER   | SYMBOL                | MURS340S | MURS360S | UNIT                      |
| Typical thermal resistance  | $R_{\theta JM}^{(1)}$ | 12       |          | $^\circ\text{C}/\text{W}$ |
|   | $R_{\theta JA}^{(2)}$ | 120      |          |                           |

**Notes**(1) Units mounted on PCB with 8 mm x 8 mm, 1 oz. copper pad areas. Thermal resistance  $R_{\theta JM}$  - junction to mount(2) Free air, mounted on recommended copper pad area. Thermal resistance  $R_{\theta JA}$  - junction to ambient

| <b>ORDERING INFORMATION</b> (Example) |                 |                        |               |                                    |
|---------------------------------------|-----------------|------------------------|---------------|------------------------------------|
| PREFERRED P/N                         | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE                      |
| MURS360S-M3/52T                       | 0.093           | 52T                    | 750           | 7" diameter plastic tape and reel  |
| MURS360S-M3/5BT                       | 0.093           | 5BT                    | 3200          | 13" diameter plastic tape and reel |

## RATINGS AND CHARACTERISTICS CURVES ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

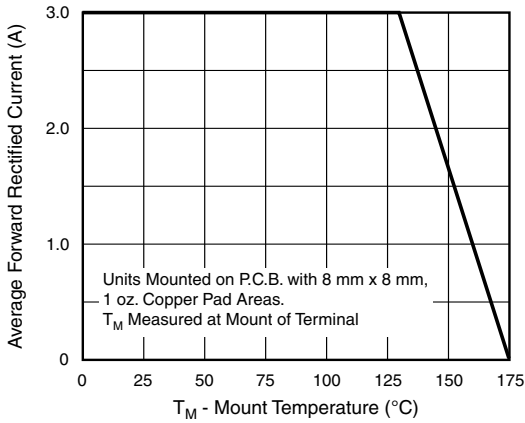


Fig. 1 - Forward Current Derating Curve

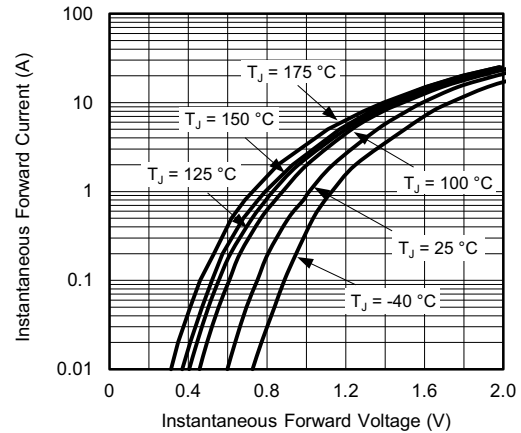


Fig. 4 - Typical Instantaneous Forward Characteristics

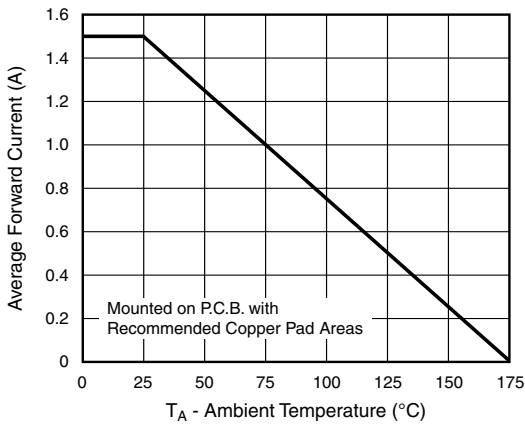


Fig. 2 - Forward Current Derating Curve

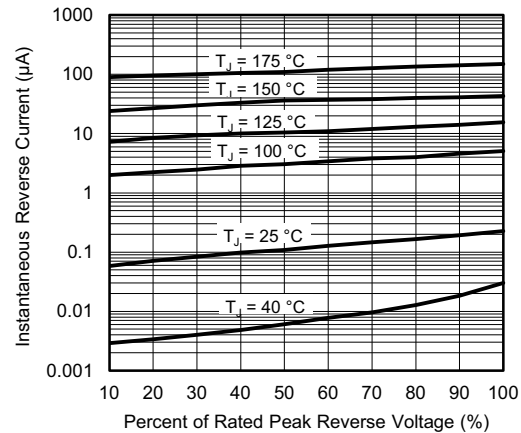


Fig. 5 - Typical Reverse Characteristics

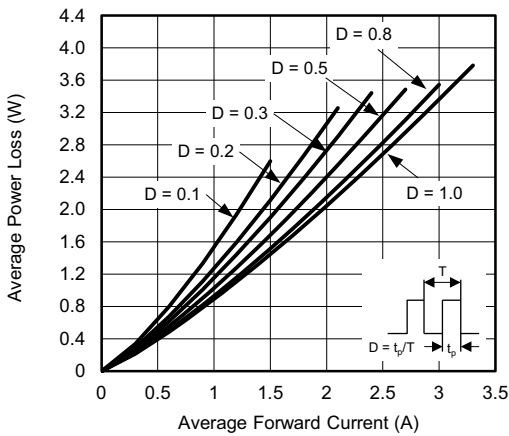


Fig. 3 - Forward Power Loss Characteristics

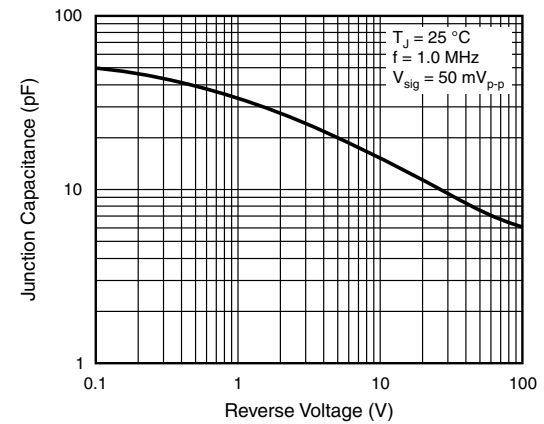
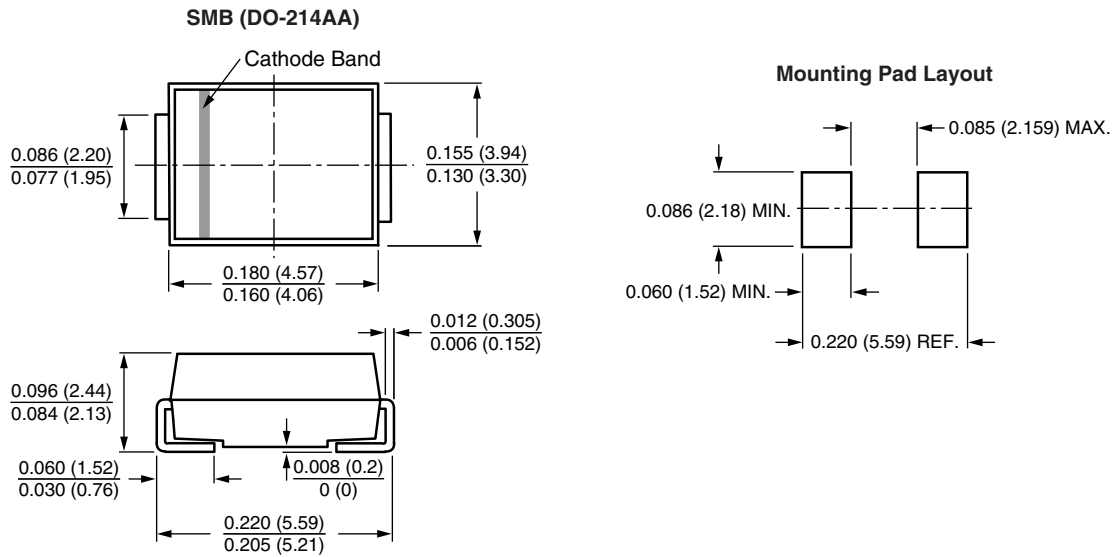


Fig. 6 - Typical Junction Capacitance



## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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