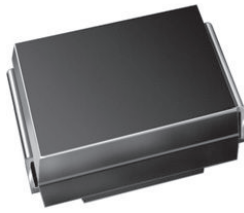


Surface-Mount Ultrafast Plastic Rectifier


SMB (DO-214AA)

 Cathode  Anode 

LINKS TO ADDITIONAL RESOURCES


[3D Models](#)

| 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 |

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
- AEC-Q101 qualified available
 - Automotive ordering code: base P/NHE3
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: SMB (DO-214AA)

Molding compound meets UL 94 V-0 flammability rating
 Base P/N-E3 - RoHS-compliant, commercial grade
 Base P/NHE3_X - RoHS-compliant, and AEC-Q101 qualified
 (“_X” denotes revision code e.g. A, B,.....)

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

E3 and HE3 suffix meet 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)



| ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | |
|--|--|-------------------------|-------------------------------|----------|----------|------|
| PARAMETER | TEST CONDITIONS | | SYMBOL | MURS340S | MURS360S | UNIT |
| Maximum instantaneous forward voltage | I _F = 3.0 A | T _J = 25 °C | V _F ⁽¹⁾ | 1.45 | | V |
| | | T _J = 150 °C | | 1.20 | | |
| Maximum instantaneous reverse current | Rated V _R | T _J = 25 °C | I _R ⁽²⁾ | 5.0 | | μA |
| | | T _J = 150 °C | | 150 | | |
| Maximum reverse recovery time | I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A | | t _{rr} | 50 | | ns |
| Maximum reverse recovery time | I _F = 1.0 A, di/dt = 50 A/μs, V _R = 30 V, I _{rr} = 10 % I _{RM} | | t _{rr} | 75 | | ns |

Notes

- ⁽³⁾ Pulse test: 300 μs pulse width, 1 % duty cycle
- ⁽⁴⁾ Pulse test: pulse width ≤ 40 ms

| THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | |
|---|---------------------------------|----------|----------|------|
| PARAMETER | SYMBOL | MURS340S | MURS360S | UNIT |
| Typical thermal resistance | R _{θJM} ⁽¹⁾ | 12 | | °C/W |
| | R _{θJA} ⁽²⁾ | 120 | | |

Notes

- ⁽¹⁾ Units mounted on PCB with 8 mm x 8 mm, 1 oz. copper pad areas. Thermal resistance R_{θJM} - junction to mount
- ⁽²⁾ Free air, mounted on recommended copper pad area. Thermal resistance R_{θJA} - junction to ambient

| ORDERING INFORMATION (Example) | | | | |
|--------------------------------|-----------------|------------------------|---------------|------------------------------------|
| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
| MURS360S-E3/52T | 0.093 | 52T | 750 | 7" diameter plastic tape and reel |
| MURS360S-E3/5BT | 0.093 | 5BT | 3200 | 13" diameter plastic tape and reel |
| MURS360SHE3_A/H ⁽¹⁾ | 0.093 | H | 750 | 7" diameter plastic tape and reel |
| MURS360SHE3_A/I ⁽¹⁾ | 0.093 | I | 3200 | 13" diameter plastic tape and reel |

Note

- ⁽¹⁾ AEC-Q101 qualified



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

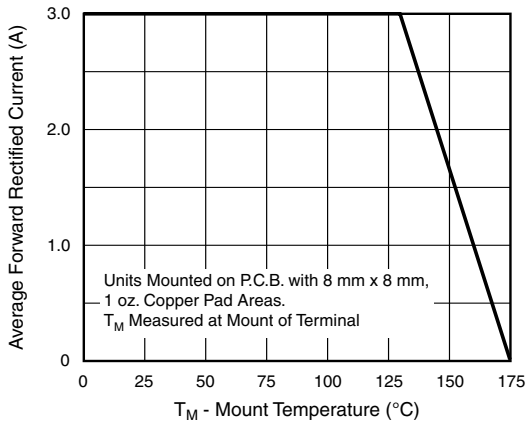


Fig. 1 - Forward Current Derating Curve

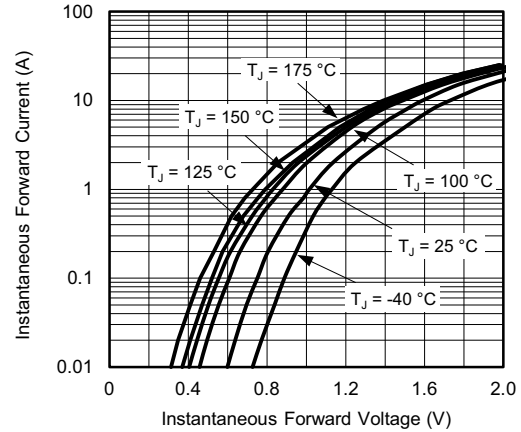


Fig. 4 - Typical Instantaneous Forward Characteristics

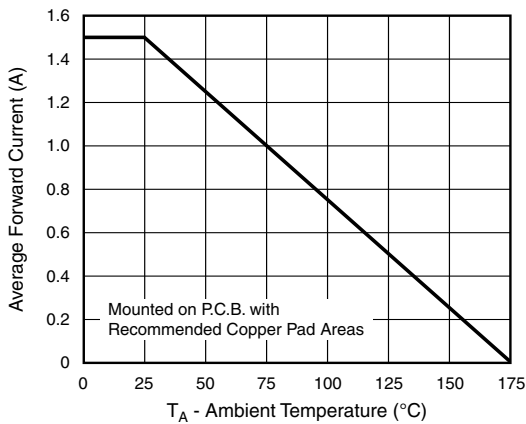


Fig. 2 - Forward Current Derating Curve

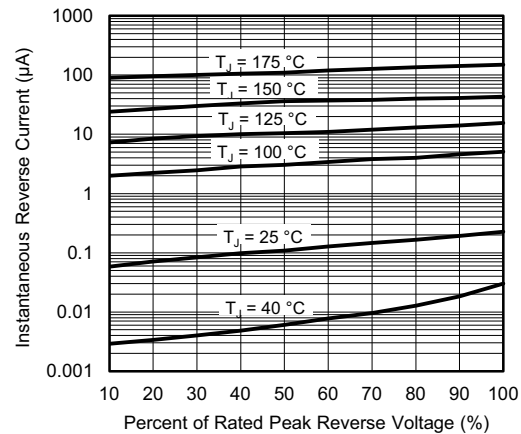


Fig. 5 - Typical Reverse Characteristics

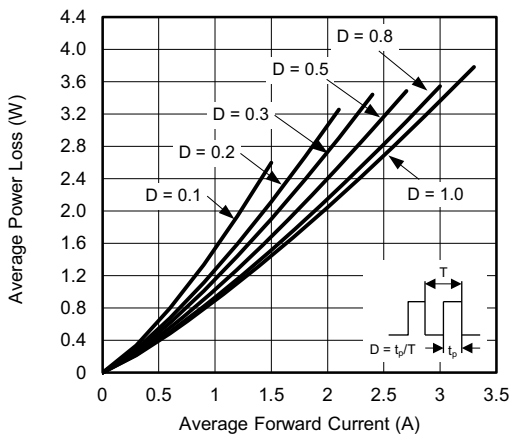


Fig. 3 - Forward Power Loss Characteristics

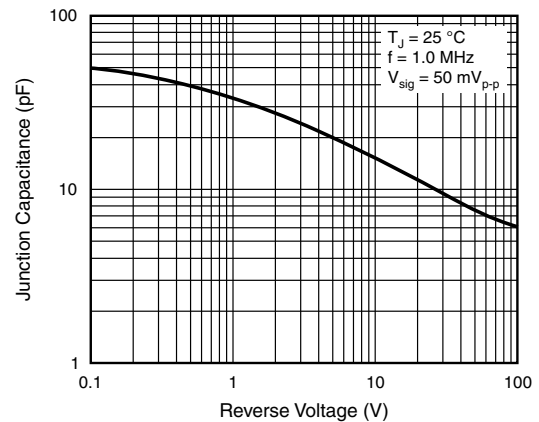
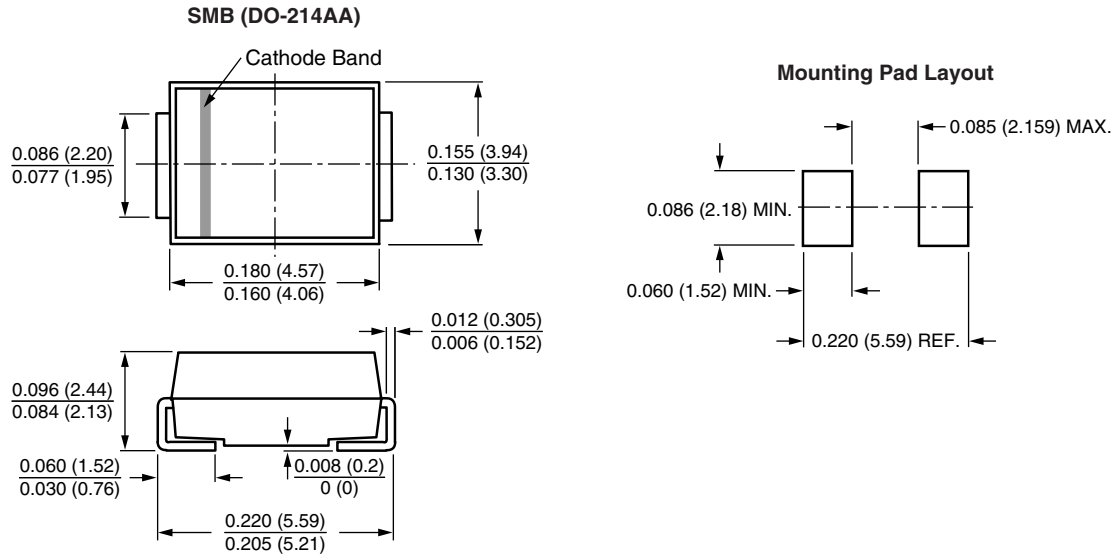


Fig. 6 - Typical Junction Capacitance



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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