

Surface-Mount Ultrafast Plastic Rectifier


SMC (DO-214AB)

 Cathode  Anode

LINKS TO ADDITIONAL RESOURCES


[3D Models](#)

| PRIMARY 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 |
| Package | SMC (DO-214AB) |
| Circuit configuration | Single |

FEATURES

- Glass passivated pellet 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-020, LF maximum peak of 260 °C
- AEC-Q101 qualified available
 - Automotive ordering code: base P/NHE3 or P/NHM3
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
 COMPLIANT
 HALOGEN
FREE
 Available

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: SMC (DO-214AB)

Molding compound meets UL 94 V-0 flammability rating
 Base P/N-E3 - RoHS-compliant, commercial grade
 Base P/N-M3 - halogen-free, RoHS-compliant, commercial grade

Base P/NHE3_X - RoHS-compliant and AEC-Q101 qualified
 Base P/NHM3_X - halogen-free, 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 suffix meets JESD 201 class 2 whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: color band denotes cathode end

| MAXIMUM RATINGS ($T_A = 25\text{ °C}$ unless otherwise noted) | | | | |
|--|----------------|-----------------------|---------|------|
| PARAMETER | SYMBOL | MURS340 | MURS360 | UNIT |
| Device marking code | | 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: (fig. 1) | $I_{F(AV)}$ | $T_L = 130\text{ °C}$ | | A |
| | | $T_L = 115\text{ °C}$ | | |
| 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 noted)

| PARAMETER | TEST CONDITIONS | SYMBOL | MURS340 | MURS360 | UNIT |
|--|--|-----------------------------------|---------|---------|---------------|
| Maximum instantaneous forward voltage | $I_F = 3.0\text{ A}$ | $T_J = 25\text{ }^\circ\text{C}$ | 1.25 | | V |
| | $I_F = 4.0\text{ A}$ | | 1.28 | | |
| | $I_F = 3.0\text{ A}$ | $T_J = 150\text{ }^\circ\text{C}$ | 1.05 | | |
| Maximum instantaneous reverse current at rated DC blocking voltage | | $T_J = 25\text{ }^\circ\text{C}$ | 10 | | μA |
| | | $T_J = 150\text{ }^\circ\text{C}$ | 250 | | |
| 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 |
| Maximum forward recovery time | $I_F = 1.0\text{ A}, di/dt = 100\text{ A}/\mu\text{s},$ recovery to 1.0 V | t_{fr} | 25 | | ns |

Note(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 noted)

| PARAMETER | SYMBOL | MURS340 | MURS360 | UNIT |
|---|-----------------|---------|---------|---------------------------|
| Typical thermal resistance junction to lead | $R_{\theta JL}$ | 11 | | $^\circ\text{C}/\text{W}$ |

ORDERING INFORMATION (Example)

| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
|--------------------|-----------------|------------------------|---------------|------------------------------------|
| MURS360-E3/57T | 0.211 | 57T | 850 | 7" diameter plastic tape and reel |
| MURS360-E3/9AT | 0.211 | 9AT | 3500 | 13" diameter plastic tape and reel |
| MURS360HE3_A/H (1) | 0.211 | H | 850 | 7" diameter plastic tape and reel |
| MURS360HE3_A/I (1) | 0.211 | I | 3500 | 13" diameter plastic tape and reel |
| MURS360-M3/57T | 0.211 | 57T | 850 | 7" diameter plastic tape and reel |
| MURS360-M3/9AT | 0.211 | 9AT | 3500 | 13" diameter plastic tape and reel |
| MURS360HM3_A/H (1) | 0.211 | H | 850 | 7" diameter plastic tape and reel |
| MURS360HM3_A/I (1) | 0.211 | I | 3500 | 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)

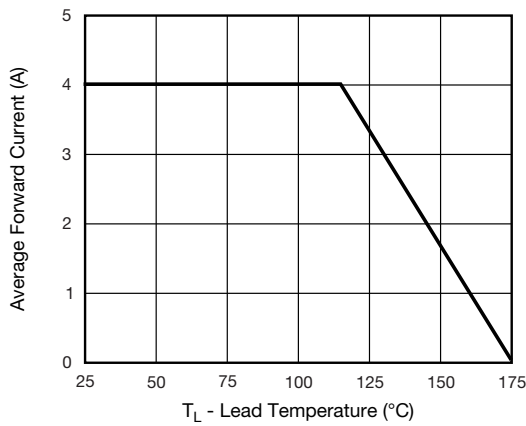


Fig. 1 - Forward Current Derating Curve

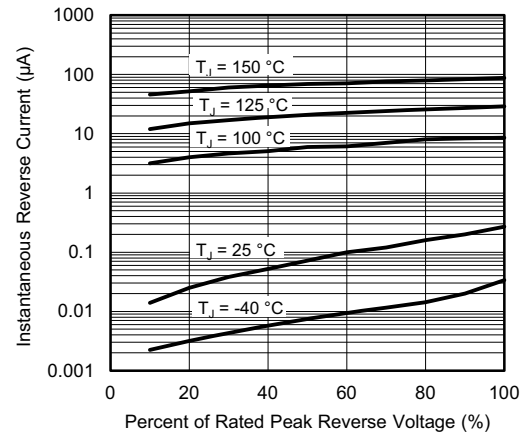


Fig. 4 - Typical Reverse Characteristics

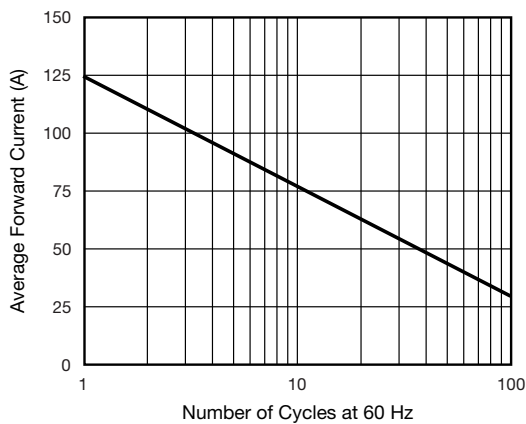


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

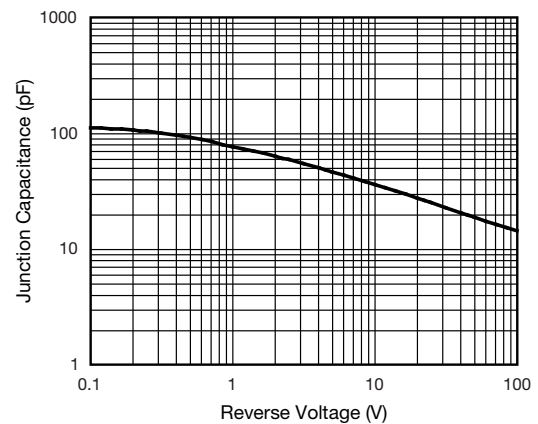


Fig. 5 - Typical Junction Capacitance

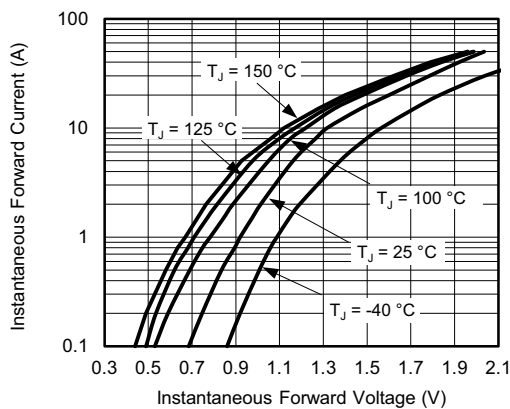


Fig. 3 - Typical Instantaneous Forward Characteristics

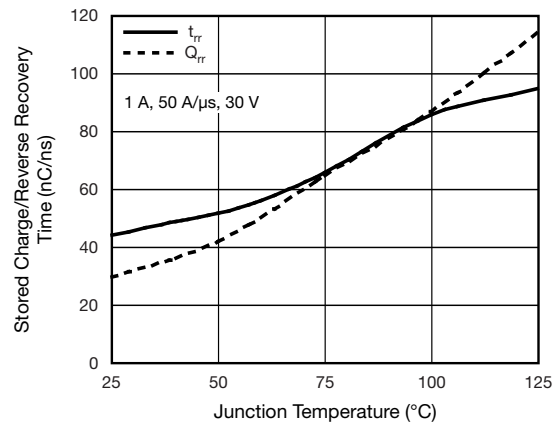
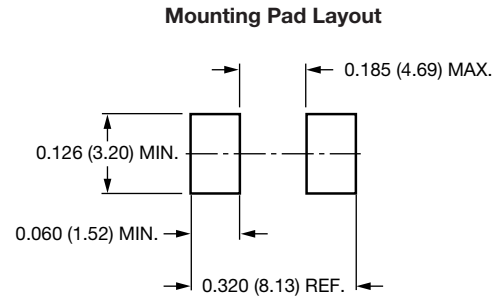
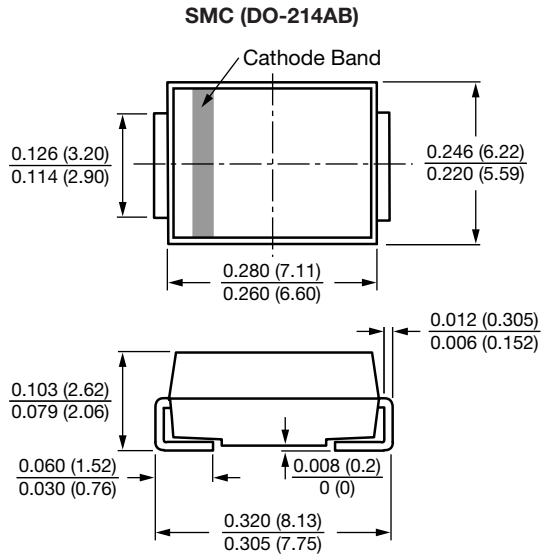


Fig. 6 - Typical Reverse Switching Characteristics



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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