

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



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 °C unless otherwise noted)

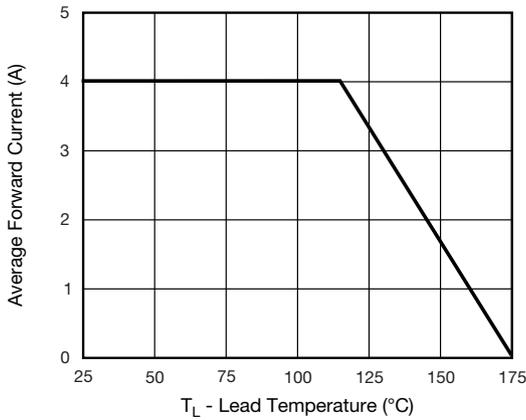


Fig. 1 - Forward Current Derating Curve

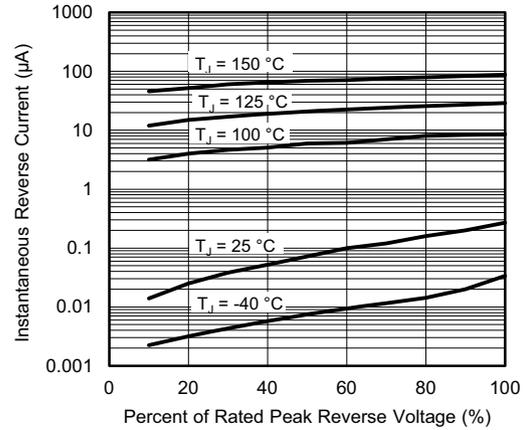


Fig. 4 - Typical Reverse Characteristics

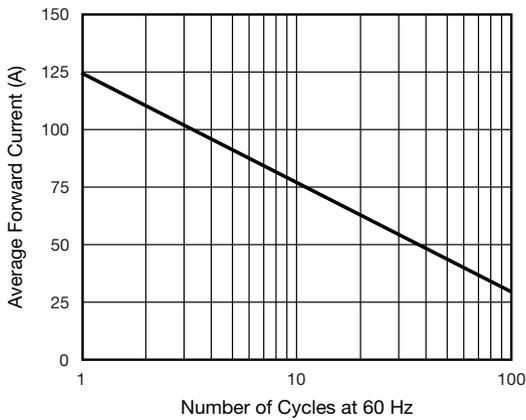


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

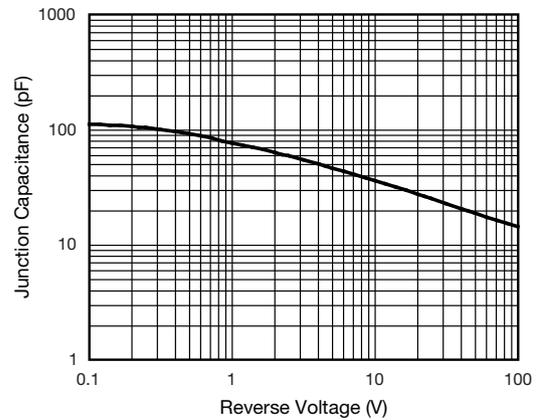


Fig. 5 - Typical Junction Capacitance

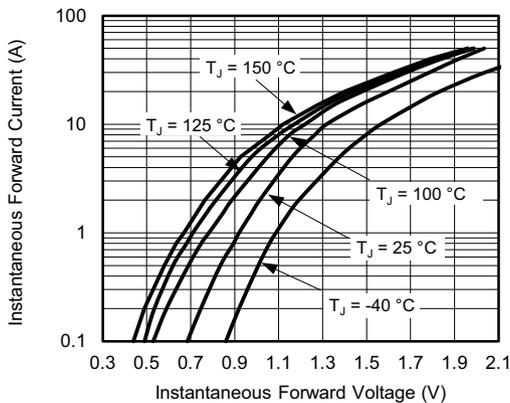


Fig. 3 - Typical Instantaneous Forward Characteristics

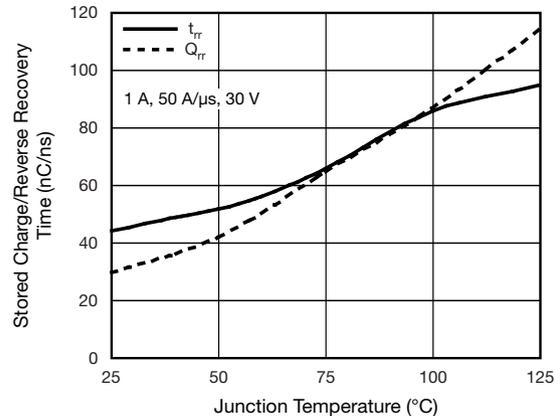
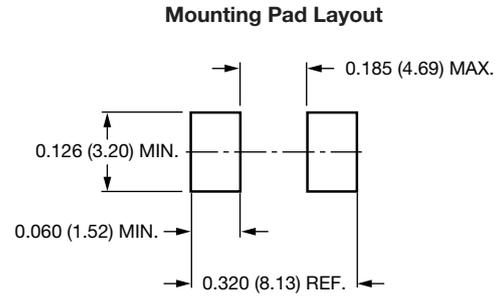
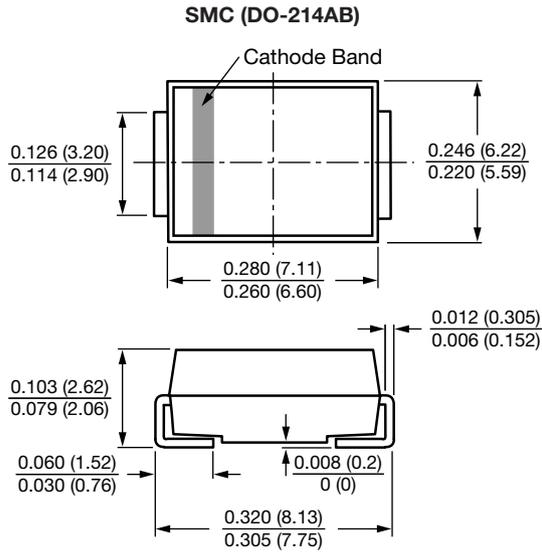


Fig. 6 - Typical Reverse Switching Characteristics



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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