

MURD340

SWITCHMODE™ Power Rectifier

DPAK Surface Mount Package

These state-of-the-art devices are designed for use in switching power supplies, inverters and as free wheeling diodes.

Features

- Low Forward Voltage Drop
- Low Leakage
- Ultra-Fast Recovery Time
- Pb-Free Package is Available

Mechanical Characteristics

- Case: Epoxy, Molded
- Weight: 0.4 gram (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 260°C Max. for 10 Seconds

MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|--|----------------|-------------|------|
| Peak Reverse Voltage | V_R | 400 | V |
| Average Rectified Forward Current | $I_{F(AV)}$ | 3 | A |
| Nonrepetitive Peak Surge Current | I_{FSM} | 75 | A |
| Operating Junction and Storage Temperature Range | T_J, T_{stg} | -55 to +175 | °C |

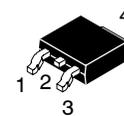
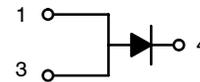
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.



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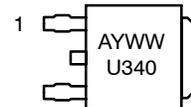
<http://onsemi.com>

ULTRAFAST RECTIFIER 3 A, 400 V



DPAK
CASE 369C

MARKING DIAGRAM



U340 = Specific Device Code
A = Assembly Location
Y = Year
WW = Work Week

ORDERING INFORMATION

| Device | Package | Shipping† |
|------------|-------------------|--------------------|
| MURD340T4 | DPAK | 2500 / Tape & Reel |
| MURD340T4G | DPAK (Pb-Free) | 2500 / Tape & Reel |

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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THERMAL CHARACTERISTICS

| Characteristics | Symbol | Value | Unit |
|---|-----------------|-------|---------------|
| Thermal Resistance – Junction-to-Case | $R_{\theta JC}$ | 2 | $^{\circ}C/W$ |
| Thermal Resistance – Junction-to-Ambient (Note 1) | $R_{\theta JA}$ | 49 | $^{\circ}C/W$ |

1. Rating applies when surface mounted on a 700 mm², 1 oz Cu heat spreader.

ELECTRICAL CHARACTERISTICS

| Characteristic | Symbol | Value | Unit |
|--|----------|-----------------|---------|
| Maximum Instantaneous Forward Voltage ($I_F = 3.0\text{ A}$, $T_J = 25^{\circ}C$) ($I_F = 3.0\text{ A}$, $T_J = 150^{\circ}C$) | V_F | 1.15 0.92 | V |
| Maximum Instantaneous Reverse Current (Rated V_R) ($T_J = 25^{\circ}C$, 400 V) ($T_J = 150^{\circ}C$, 400 V) | I_R | 5 500 | μA |
| Maximum Reverse Recovery Time ($I_F = 1.0\text{ A}$, $di/dt = 50\text{ A}/\mu s$, $V_R = 30\text{ V}$, $T_J = 25^{\circ}C$) | t_{rr} | 50 | ns |
| ESD Ratings Machine Model = C Human Body Model = 3B | | > 400 > 8000 | V |

TYPICAL CHARACTERISTICS

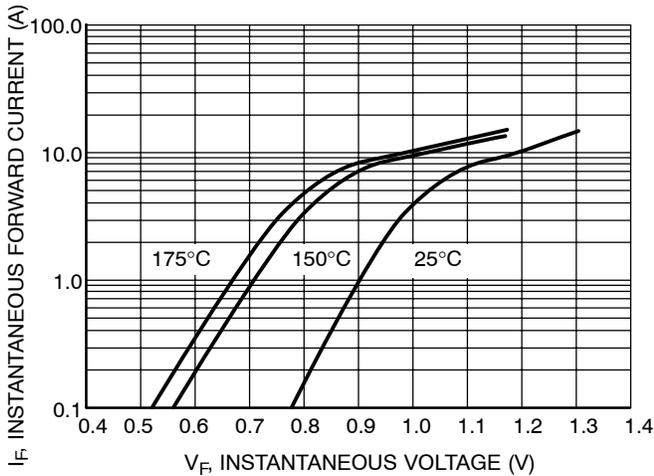


Figure 1. Typical Forward Voltage

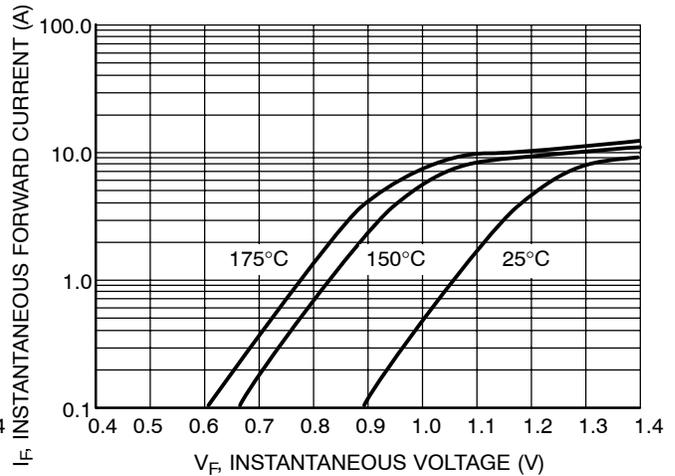


Figure 2. Maximum Forward Voltage

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TYPICAL CHARACTERISTICS

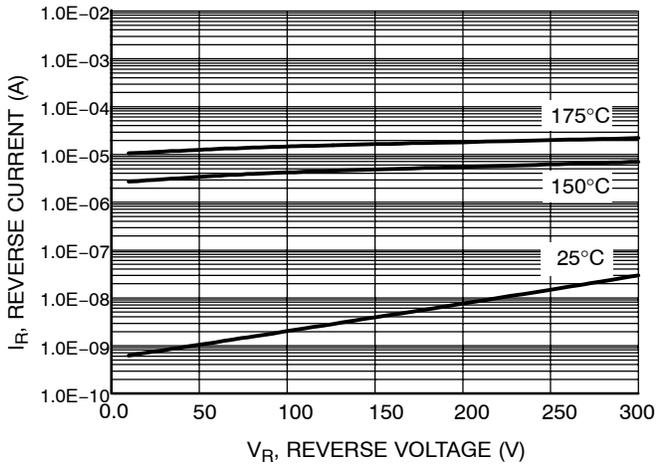


Figure 3. Typical Reverse Voltage

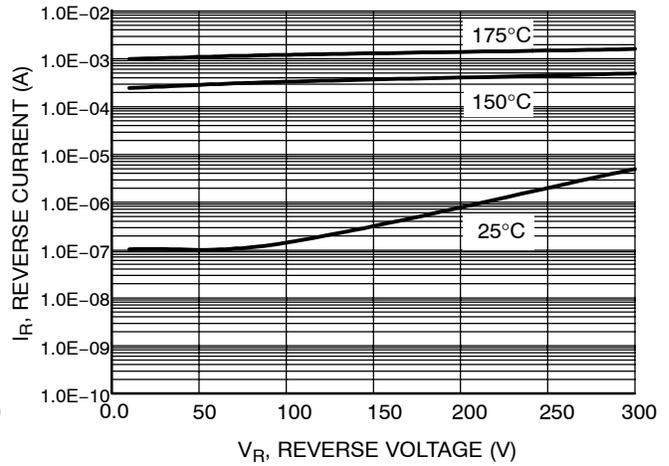


Figure 4. Maximum Reverse Voltage

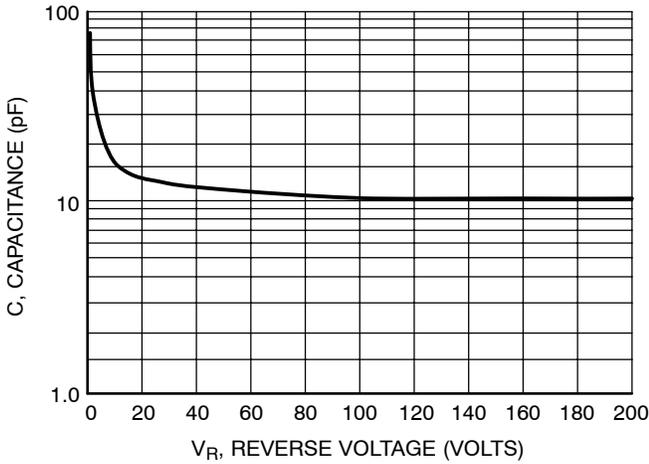


Figure 5. Typical Capacitance

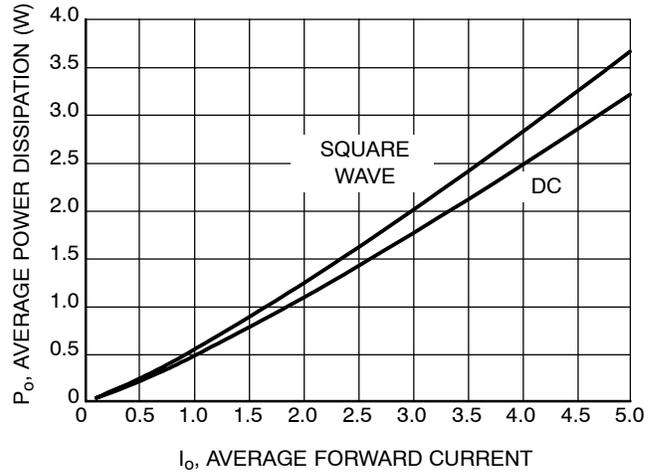


Figure 6. Power Dissipation

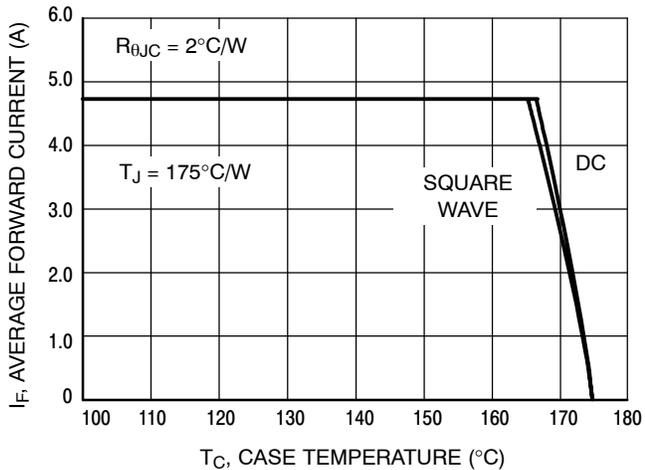


Figure 7. Current Derating, Case

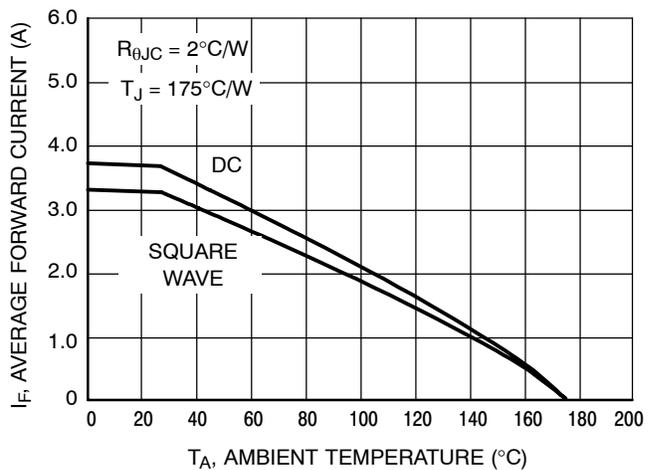
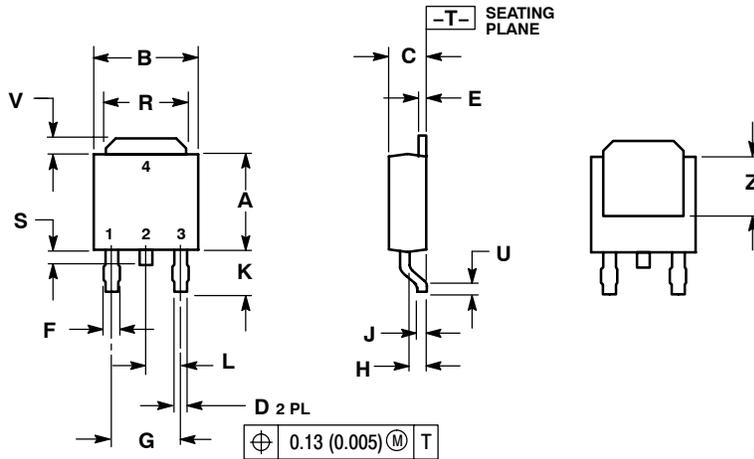


Figure 8. Current Derating, Ambient

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PACKAGE DIMENSIONS

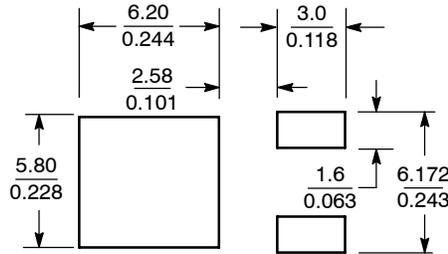
DKPAK (SINGLE GAUGE) CASE 369C-01 ISSUE 0



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

| DIM | INCHES | | MILLIMETERS | |
|-----|-----------|-------|-------------|------|
| | MIN | MAX | MIN | MAX |
| A | 0.235 | 0.245 | 5.97 | 6.22 |
| B | 0.250 | 0.265 | 6.35 | 6.73 |
| C | 0.086 | 0.094 | 2.19 | 2.38 |
| D | 0.027 | 0.035 | 0.69 | 0.88 |
| E | 0.018 | 0.023 | 0.46 | 0.58 |
| F | 0.037 | 0.045 | 0.94 | 1.14 |
| G | 0.180 BSC | | 4.58 BSC | |
| H | 0.034 | 0.040 | 0.87 | 1.01 |
| J | 0.018 | 0.023 | 0.46 | 0.58 |
| K | 0.102 | 0.114 | 2.60 | 2.89 |
| L | 0.090 BSC | | 2.29 BSC | |
| R | 0.180 | 0.215 | 4.57 | 5.45 |
| S | 0.025 | 0.040 | 0.63 | 1.01 |
| U | 0.020 | --- | 0.51 | --- |
| V | 0.035 | 0.050 | 0.89 | 1.27 |
| Z | 0.155 | --- | 3.93 | --- |

SOLDERING FOOTPRINT*



SCALE 3:1 $\left(\frac{\text{mm}}{\text{inches}}\right)$

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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