



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

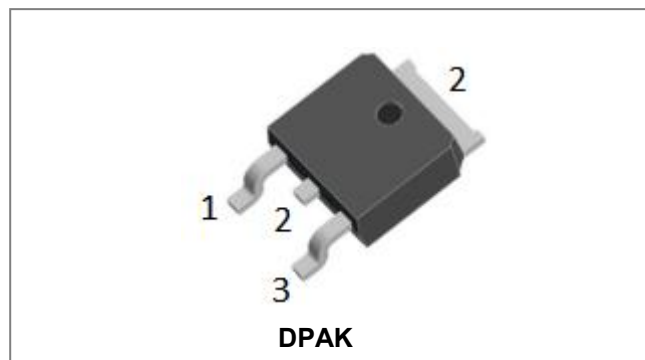
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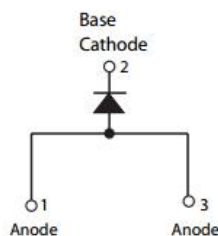
SDURD560A ULTRAFAST RECTIFIER



Applications

- Antiparallel diode for high frequency switching devices
- Anti saturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating and melting
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

Circuit Diagram



Features

- Ultra-Fast switching
- High current capability
- Low reverse leakage current
- High surge current capability
- This is a Pb – free device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Maximum Ratings

| Characteristics | Symbol | Condition | Max. | Units |
|--|---------------------------------|---|------|-------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | - | 600 | V |
| Average Rectified Forward Current | $I_F (AV)$ | 50% duty cycle @ $T_c=100^\circ\text{C}$, rectangular wave form | 5 | A |
| Peak One Cycle Non-Repetitive Surge Current | I_{FSM} | 8.3ms, Half Sine pulse | 60 | A |

Electrical Characteristics

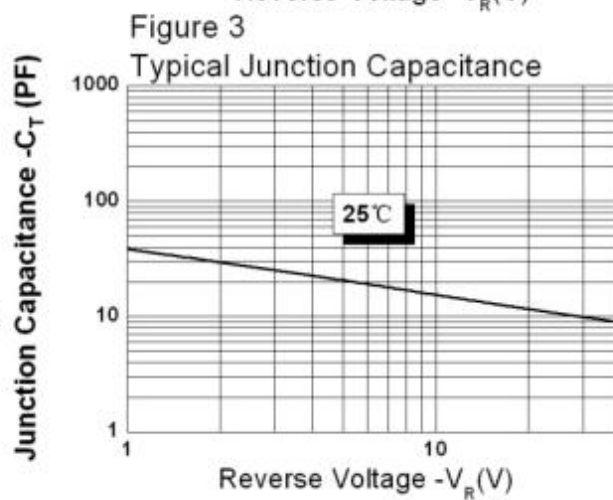
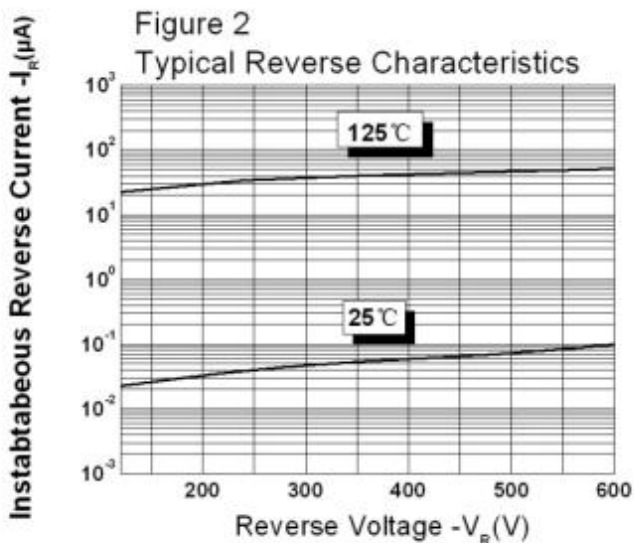
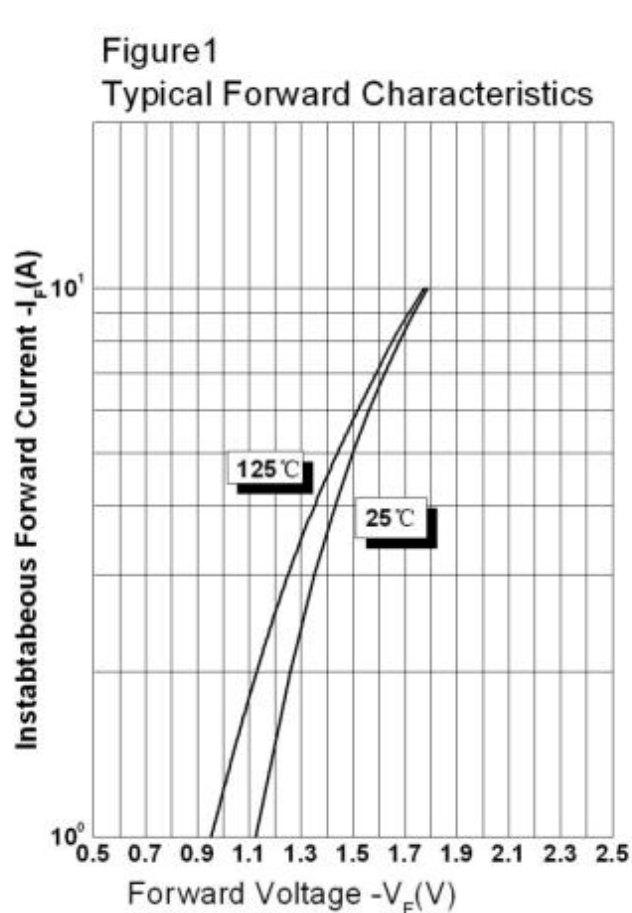
| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|-----------------------|----------|--|------|------|---------------|
| Forward Voltage Drop* | V_{F1} | @ 5A, Pulse, $T_J = 25^\circ\text{C}$ | 1.50 | 1.70 | V |
| | V_{F2} | @ 5A, Pulse, $T_J = 125^\circ\text{C}$ | 1.41 | 1.50 | V |
| Reverse Current* | I_{R1} | @ V_R = rated V_R , $T_J = 25^\circ\text{C}$ | 0.1 | 5 | μA |
| | I_{R2} | @ V_R = rated V_R , $T_J = 125^\circ\text{C}$ | 52 | 500 | μA |
| Reverse Recovery Time | t_{rr} | $I_F=500\text{mA}$, $I_R=1\text{A}$, and $I_{rm}=250\text{mA}$ | 32 | 35 | ns |

* Pulse width < 300 μs , duty cycle < 2%

Thermal-Mechanical Specifications

| Characteristics | Symbol | Condition | Specification | Units |
|---|-----------------|-----------|---------------|-------|
| Junction Temperature | T_J | - | -55 to +150 | °C |
| Storage Temperature | T_{stg} | - | -55 to +150 | °C |
| Typical Thermal Resistance Junction to Case | $R_{\theta JC}$ | - | 4.5 | °C/W |
| Approximate Weight | wt | - | 0.39 | g |
| Case Style | DPAK | | | |

Ratings and Characteristics Curves



Technical Data
Data Sheet N0399 Rev. C



$I_F = 0.5A$

$I_R = 1.0A$

$I_{rr} = 0.25$

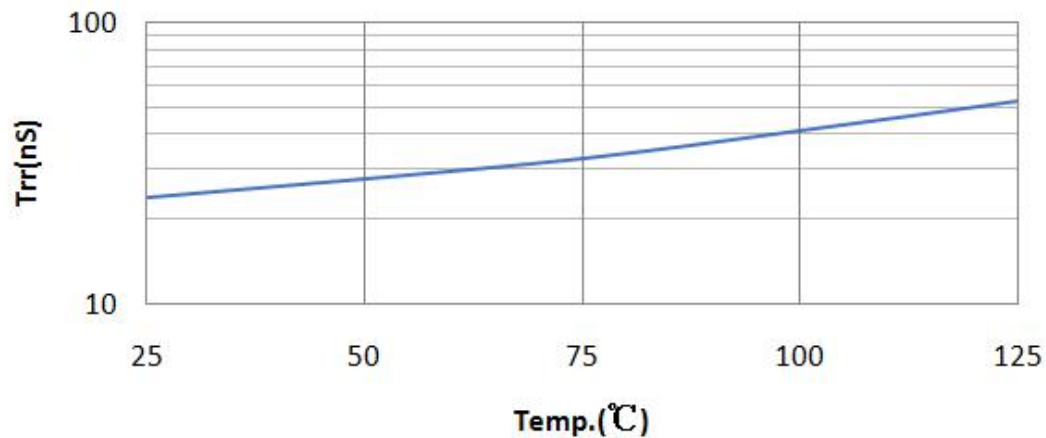
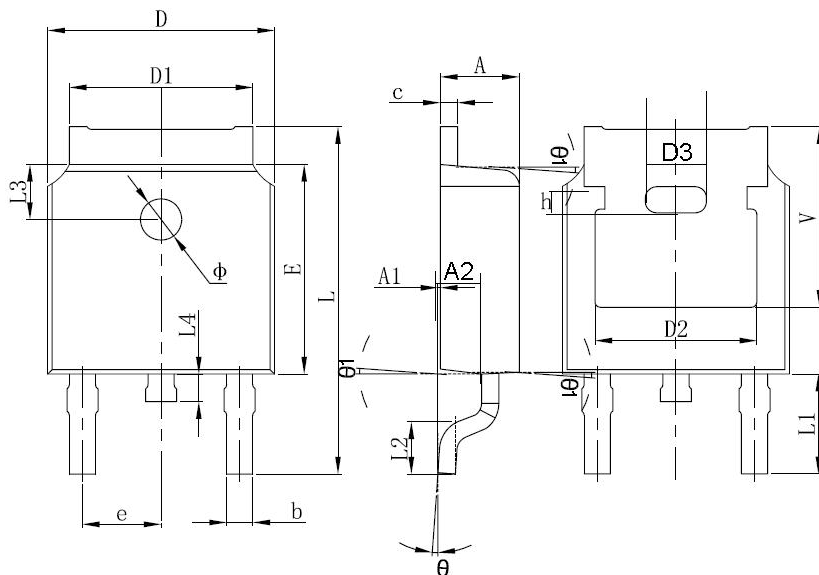


Fig.4- Trr & Temp.

Mechanical Dimensions DPAK



| SYMBOL | Millimeters | | Inches | |
|--------|-------------|-------|------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 2.20 | 2.40 | 0.087 | 0.094 |
| A1 | 0.00 | 0.127 | 0.000 | 0.005 |
| b | 0.66 | 0.86 | 0.026 | 0.034 |
| c | 0.46 | 0.60 | 0.018 | 0.024 |
| D | 6.50 | 6.70 | 0.256 | 0.264 |
| D1 | 5.13 | 5.46 | 0.202 | 0.215 |
| D2 | 4.83 REF. | | 0.190 REF. | |
| E | 6.00 | 6.20 | 0.236 | 0.244 |
| e | 2.186 | 2.386 | 0.086 | 0.094 |
| L | 9.70 | 10.40 | 0.381 | 0.409 |
| L1 | 2.90 REF. | | 0.144 REF. | |
| L2 | 1.40 | 1.70 | 0.055 | 0.067 |
| L3 | 1.60 REF. | | 0.063 REF. | |
| L4 | 0.60 | 1.00 | 0.024 | 0.039 |
| Φ | 1.10 | 1.30 | 0.043 | 0.051 |
| Θ | 0° | 8° | 0° | 8° |
| h | 0.00 | 0.30 | 0.000 | 0.012 |
| V | 5.35 REF. | | 0.211 REF. | |

Ordering Information

| Device | Package | Shipping |
|-----------|----------------|----------------|
| SDURD560A | DPAK (Pb-Free) | 2500pcs / reel |

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - sales@smc-diodes.com •

Marking Diagram

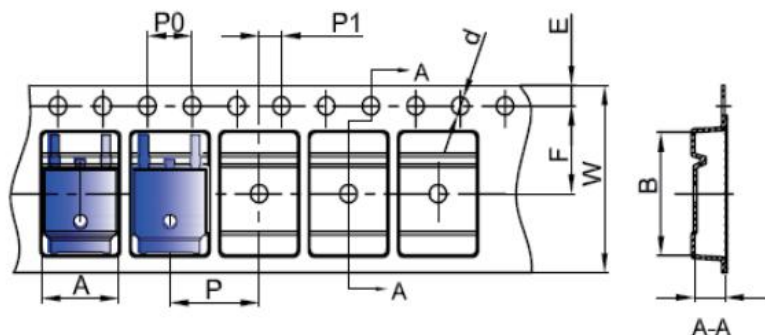


Where XXXXX is YYWWL

SDUR = Device Type
D = Package type
5 = Forward Current (5A)
60 = Reverse Voltage (600V)
A = A
SSG = SSG
YY = Year
WW = Week
L = Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Carrier Tape & Reel Specification DPAK



| SYMBOL | Millimeters | |
|--------|-------------|-------|
| | Min. | Max. |
| A | 6.80 | 7.00 |
| B | 10.40 | 10.60 |
| C | 2.60 | 2.80 |
| d | Φ1.45 | Φ1.65 |
| E | 1.65 | 1.85 |
| F | 7.40 | 7.60 |
| P0 | 3.90 | 4.10 |
| P | 7.90 | 8.10 |
| P1 | 1.90 | 2.10 |
| W | 15.90 | 16.30 |

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