

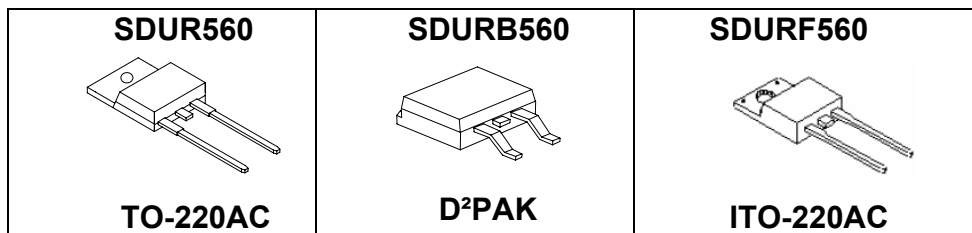
SDUR560/SDURB560/SDURF560 ULTRAFAST PLASTIC RECTIFIER

Applications:

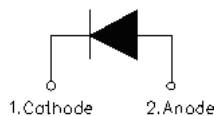
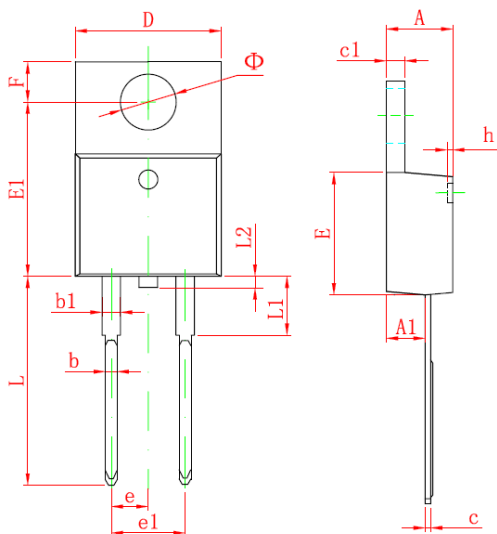
- Antiparallel diode for high frequency switching devices
- Anti saturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating and melting
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners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

Features:

- Ultra-Fast Switching
- High Current Capability
- Low Reverse Leakage Current
- High Surge Current Capability
- Plastic Material has UL Flammability Classification 94V-0
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request



Mechanical Dimensions: In mm

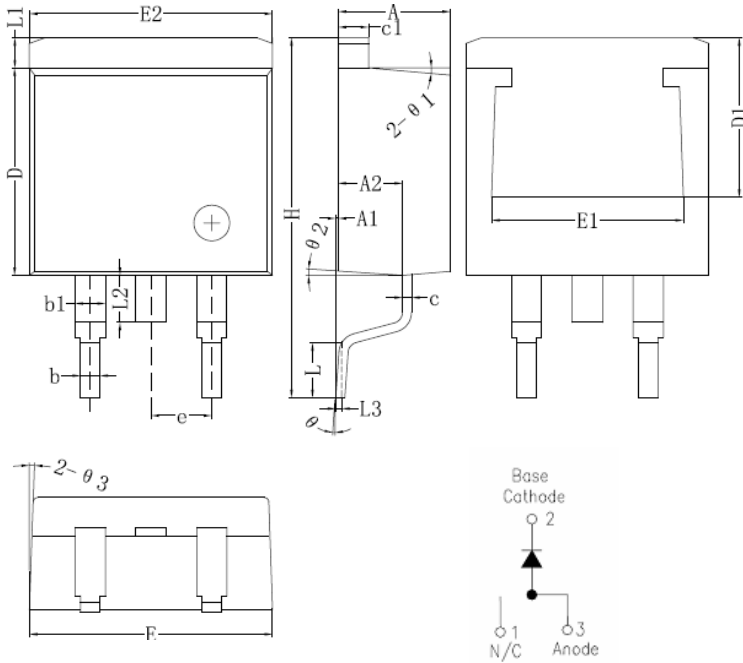


| Symbol | Dimensions In Millimeters | |
|--------|---------------------------|--------|
| | Min | Max |
| A | 4.470 | 4.670 |
| A1 | 2.520 | 2.820 |
| b | 0.710 | 0.910 |
| b1 | 1.170 | 1.370 |
| c | 0.310 | 0.530 |
| c1 | 1.170 | 1.370 |
| D | 10.010 | 10.310 |
| E | 8.500 | 8.900 |
| E1 | 12.060 | 12.460 |
| e | 2.540 TYP | |
| e1 | 4.980 | 5.180 |
| F | 2.590 | 2.890 |
| h | 0.000 | 0.300 |
| L | 13.400 | 13.800 |
| L1 | 3.560 | 3.960 |
| L2 | | 1.000 |
| Φ | 3.735 | 3.935 |

TO-220AC

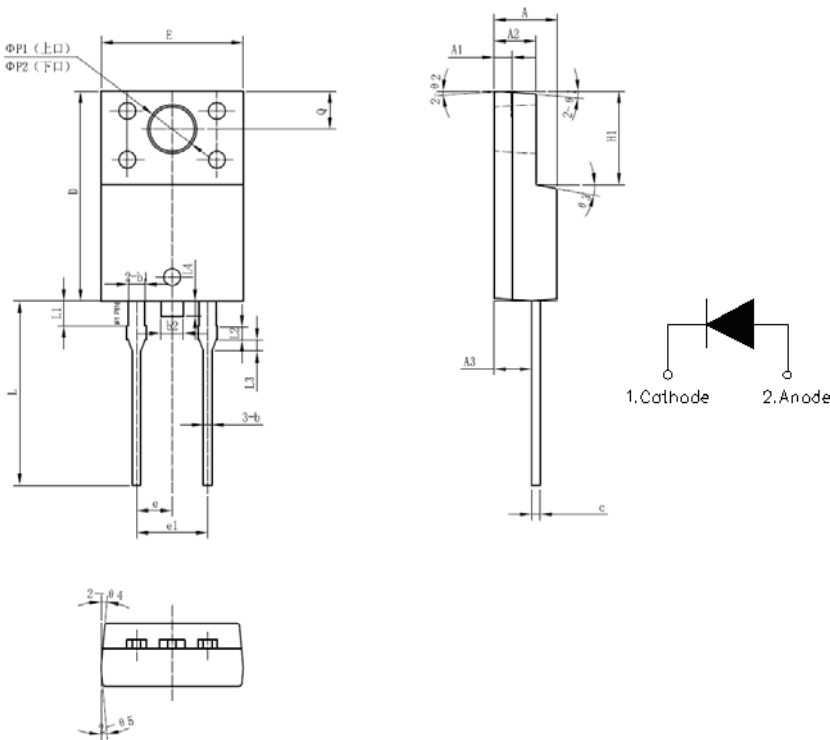
Technical Data
Data Sheet N1282, Rev. -

Green Products



| Symbol | Dimensions in millimeters | | |
|--------|---------------------------|---------|-------|
| | Min. | Typical | Max. |
| A | 4.55 | 4.70 | 4.85 |
| A1 | 0 | 0.10 | 0.25 |
| A2 | 2.59 | 2.69 | 2.89 |
| b | 0.71 | 0.81 | 0.96 |
| b1 | | 1.27 | |
| c | 0.36 | 0.38 | 0.61 |
| c1 | 1.17 | 1.27 | 1.37 |
| D | 8.55 | 8.70 | 8.85 |
| D1 | 6.40 | | |
| E | 10.01 | 10.16 | 10.31 |
| E1 | 7.6 | | |
| E2 | 9.98 | 10.08 | 10.18 |
| e | | 2.54 | |
| H | 14.6 | 15.1 | 15.6 |
| L | 2.00 | 2.30 | 2.70 |
| L1 | 1.17 | 1.27 | 1.40 |
| L2 | | | 2.20 |
| L3 | | 0.25BSC | |
| e | 0 | - | 8° |
| e1 | | 5° | |
| e2 | | 4° | |
| e3 | | 4° | |

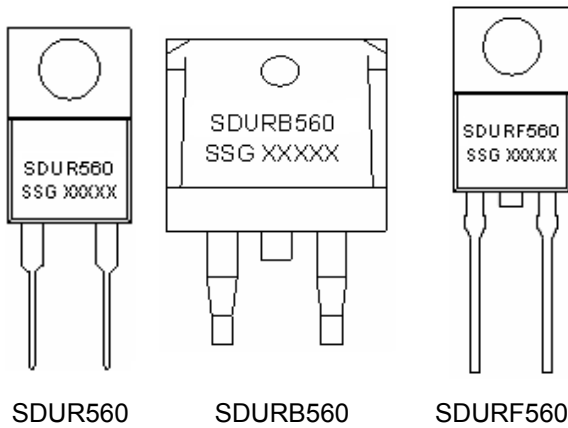
D² PAK



| SYMBOL | MIN. | TYP. | MAX. |
|---------|-------|-------|-------|
| A | 4.30 | 4.50 | 4.70 |
| A1 | 1.10 | 1.30 | 1.50 |
| A2 | 2.80 | 3.00 | 3.20 |
| A3 | 2.50 | 2.70 | 2.90 |
| b | 0.50 | 0.60 | 0.75 |
| b1 | 1.10 | 1.20 | 1.35 |
| b2 | 1.50 | 1.60 | 1.75 |
| c | 0.55 | 0.60 | 0.75 |
| D | 14.80 | 15.00 | 15.20 |
| E | 9.96 | 10.16 | 10.36 |
| e | - | 2.55 | - |
| e1 | - | 5.10 | - |
| H1 | 6.50 | 6.70 | 6.90 |
| L | 12.70 | 13.20 | 13.70 |
| L1 | 1.60 | 1.80 | 2.00 |
| L2 | 0.80 | 1.00 | 1.20 |
| L3 | 0.60 | 0.80 | 1.00 |
| L4 | - | 1.10 | 1.50 |
| ΦP1(上口) | 3.30 | 3.50 | 3.70 |
| ΦP2(下口) | 2.99 | 3.19 | 3.39 |
| Q | 2.50 | 2.70 | 2.90 |
| Θ1 | | 5° | |
| Θ2 | | 4° | |
| Θ3 | | 10° | |
| Θ4 | | 5° | |
| Θ5 | | 5° | |

ITO-220AC(HD)

Marking Diagram:



Where XXXXX is YYWWL

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

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

Ordering Information:

| Device | Package | Shipping |
|----------|---------------------------------|---------------|
| SDUR560 | TO-220AC (Pb-Free) | 50pcs / tube |
| SDURB560 | D ² PAK (Pb-Free) | 800pcs / reel |
| SDURF560 | ITO-220AC (Pb-Free) | 50 pcs / tube |

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

Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|---|-------------|--|------|-------|
| Peak Inverse Voltage | V_{RWM} | - | 600 | V |
| Average Forward Current | $I_{O(AV)}$ | 50% duty cycle @Tc=100°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 | Max. | Units |
|-----------------------|----------|--|------|---------------|
| Forward Voltage Drop | V_F | @ 5A, Pulse, $T_J = 25^\circ\text{C}$ | 1.55 | V |
| | V_{F2} | @ 5A, Pulse, $T_J = 125^\circ\text{C}$ | 1.45 | V |
| Reverse Current | I_R | @ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$ | 5 | μA |
| | I_R | @ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$ | 500 | μA |
| Reverse Recovery Time | t_{rr} | $I_F=500\text{mA}$, $I_R=1\text{A}$, and $I_{rm}=250\text{mA}$ | 50 | ns |

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

Thermal-Mechanical Specifications:

| Characteristics | Symbol | SDUR560 | SDURB560 | SDURF560 | Units |
|---|---|-------------|----------|----------|------------------|
| Junction Temperature | T_J | -55 to +150 | | | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -55 to +150 | | | $^\circ\text{C}$ |
| Maximum Thermal Resistance Junction to Case(per leg)* | $R_{\theta JC}$ | 2.3 | 2.3 | 4.2 | K/W |
| Approximate Weight | wt | 1.8 | 1.85 | 1.8 | g |
| Case Style | TO-220AC/ D ² PAK/ ITO-220AC | | | | |

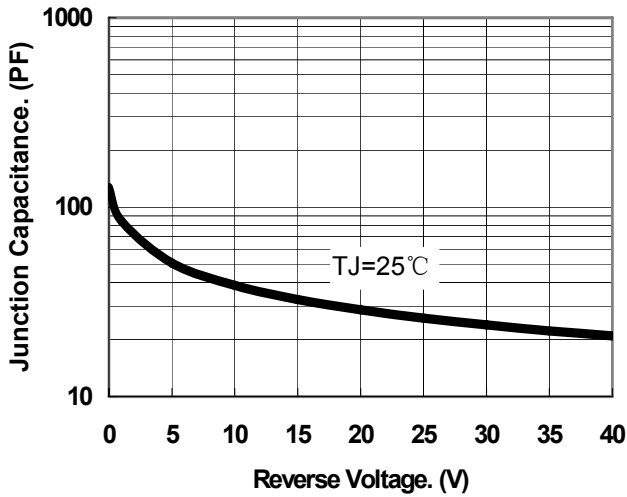


Fig.1-Typical Junction Capacitance

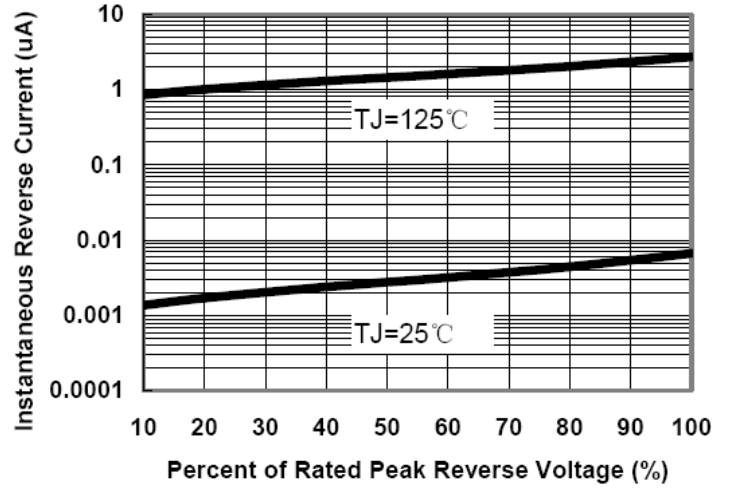


Fig.2-Typical Reverse Characteristics

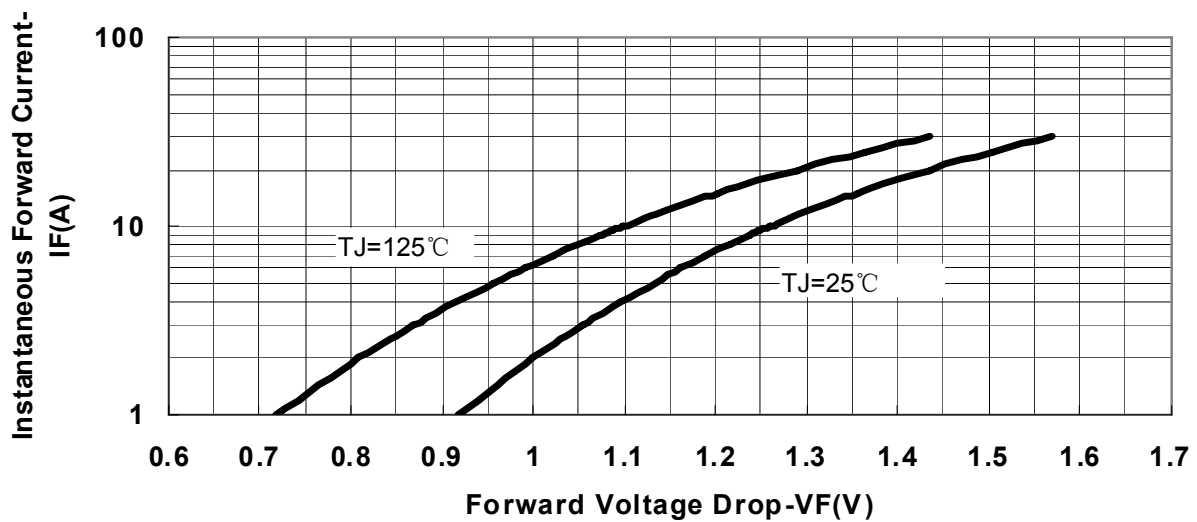


Fig.3-Typical Forward Voltage Drop Characteristics

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