


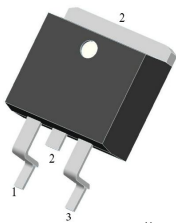

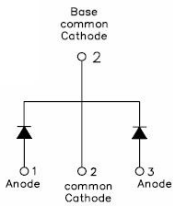
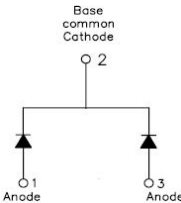
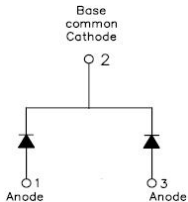
## SDUR1560CT SDURB1560CT SDURD1560CT ULTRAFAST RECTIFIER

### 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

### Features

- Ultra-Fast Switching
- High Current Capability
- Low Reverse Leakage Current
- High Surge Current Capability
- Plastic Material has UL Flammability Classification 94V-0
- “-A” is an AEC-Q101 qualified device
- Terminals finish: 100% Pure Tin
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

| SDUR1560CT  | SDURB1560CT   | SDURD1560CT   |
|---|---|---|
|   |   |   |
|  |  |  |
| TO-220AB  | D <sup>2</sup> PAK  | DPAK  |

### Maximum Ratings:

| Characteristics                                      | Symbol      | Condition   | Max.                         | Units |
|--|-------------|---|------------------------------|-------|
| Peak Repetitive Reverse Voltage                      | $V_{RRM}$   | -   | 600                          | V     |
| Working Peak Reverse Voltage                         | $V_{RWM}$   |   |                              |       |
| DC Blocking Voltage                                  | $V_R$       |   |                              |       |
| Average Rectified Forward Current                    | $I_{F(AV)}$ | 50% duty cycle @ $T_c=105^{\circ}C$ , rectangular wave form | 8(Per Leg)<br>15(Per Device) | A     |
| Peak One Cycle Non-Repetitive Surge Current(Per Leg) | $I_{FSM}$   | 8.3ms, Half Sine pulse                                      | 80                           | A     |

**Electrical Characteristics:**

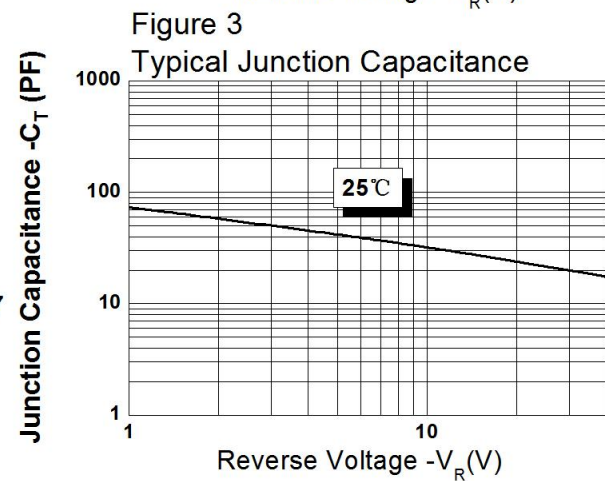
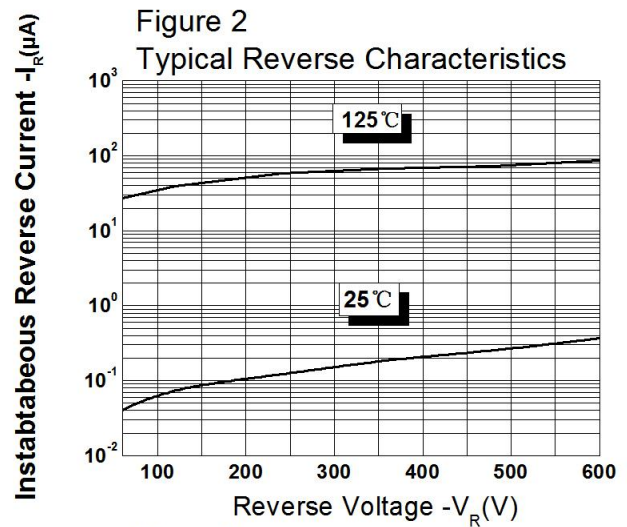
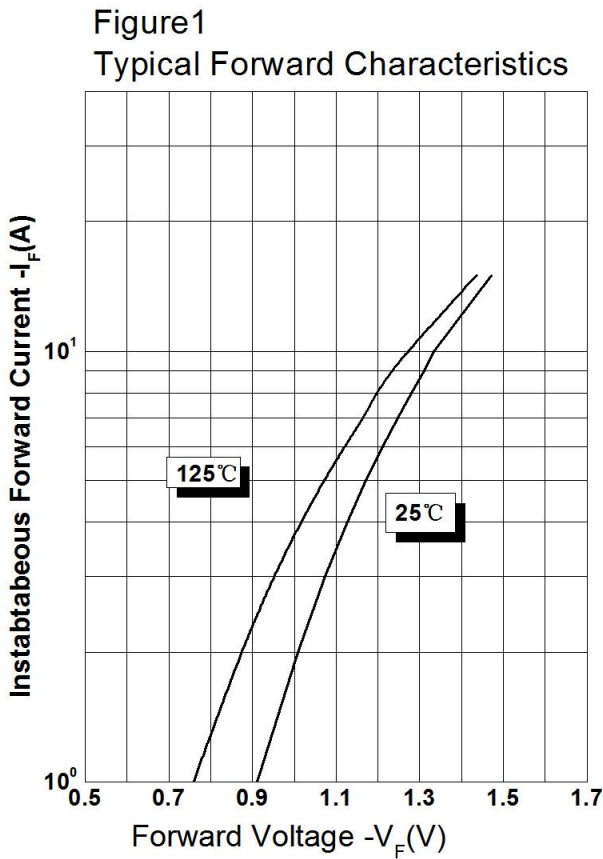
| Characteristics                | Symbol          | Condition  | Typ. | Max. | Units |
|--------------------------------|-----------------|--|------|------|-------|
| Forward Voltage Drop(Per Leg)* | V <sub>F1</sub> | @8A, Pulse, T <sub>J</sub> = 25°C  | 1.3  | 1.5  | V     |
|                                | V <sub>F2</sub> | @8A, Pulse, T <sub>J</sub> = 125°C   | -    | 1.3  | V     |
| Reverse Current(Per Leg)*      | I <sub>R1</sub> | @V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 25°C                               | 0.4  | 10   | μA    |
|                                | I <sub>R2</sub> | @V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 125°C                              | 0.09 | 1.5  | mA    |
| Reverse Recovery Time(Per Leg) | t <sub>rr</sub> | I <sub>F</sub> =500mA, I <sub>R</sub> =1A, and I <sub>rm</sub> =250mA, T <sub>J</sub> = 25°C | 42   | 50   | ns    |

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

**Thermal-Mechanical Specifications:**

| Characteristics                             | Symbol                             | SDUR1560CT  | SDURB1560CT | SDURD1560CT | Units |
|---|------------------------------------|-------------|-------------|-------------|-------|
| Junction Temperature                        | T <sub>J</sub>                     | -55 to +150 |             |             | °C    |
| Storage Temperature                         | T <sub>stg</sub>                   | -55 to +150 |             |             | °C    |
| Typical Thermal Resistance Junction to Case | R <sub>θJC</sub>                   | 2.3         | 2.3         | 1.7         | K/W   |
| Approximate Weight                          | wt                                 | 2.0         | 1.85        | 0.39        | g     |
| Case Style                                  | TO-220AB/ D <sup>2</sup> PAK/ DPAK |             |             |             |       |

**Ratings and Characteristics Curves**

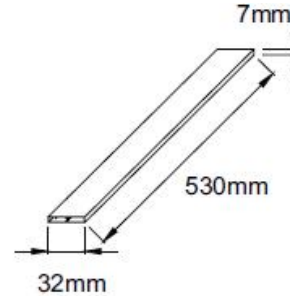


**Tube Specification**

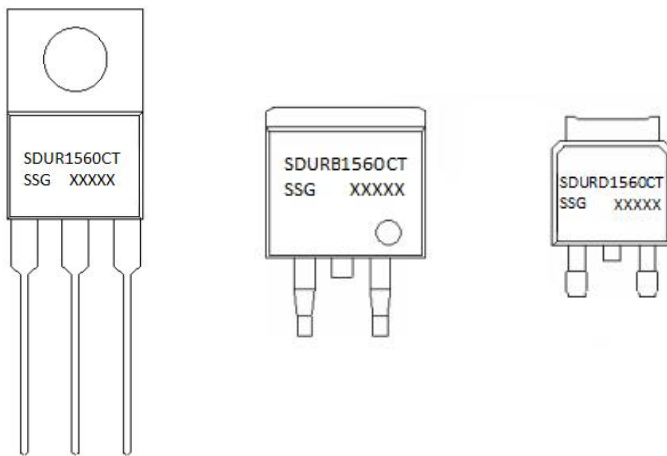
| Device        | Package            | Shipping       |
|---------------|--------------------|----------------|
| SDUR1560CT    | TO-220AB           | 50pcs / tube   |
| SDURB1560CT   | D <sup>2</sup> PAK | 800pcs / reel  |
| SDURB1560CTTR | D <sup>2</sup> PAK | 800pcs / reel  |
| SDURD1560CT   | DDPAK              | 2500pcs / reel |
| SDURD1560CTTR | DDPAK              | 2500pcs / reel |

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Tube Specification(TO-220AB)**



**Marking Diagram**

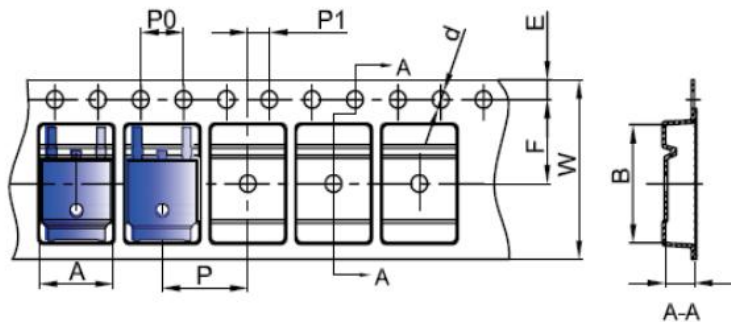


Where XXXXX is YYWWL

- SDUR = Device Type
- B/D = Package type
- 15 = Forward Current (15A)
- 600 = Reverse Voltage (600V)
- CT = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

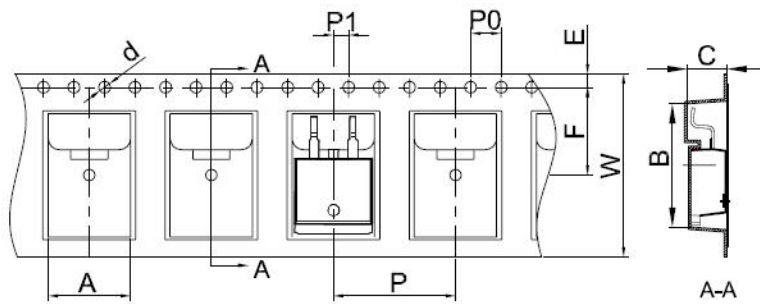
**Cautions:** Molding resin  
 Epoxy resin UL:94V-0

**Carrier Tape Specification DPAK**



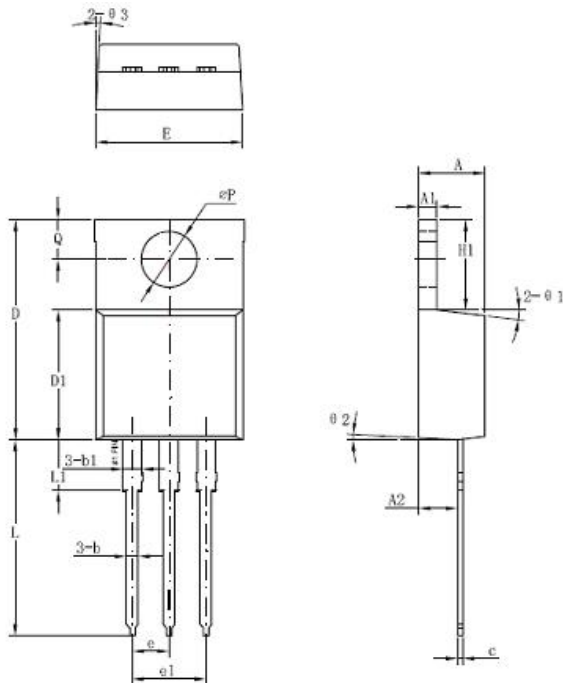
| SYMBOL | Millimeters |       |
|--------|-------------|-------|
|        | Min.        | Max.  |
| A      | 6.80        | 7.00  |
| B      | 10.40       | 10.60 |
| C      | 2.60        | 2.80  |
| d      | Φ1.45       | Φ1.65 |
| E      | 1.65        | 1.85  |
| F      | 7.40        | 7.60  |
| P0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

### Carrier Tape Specification D2PAK



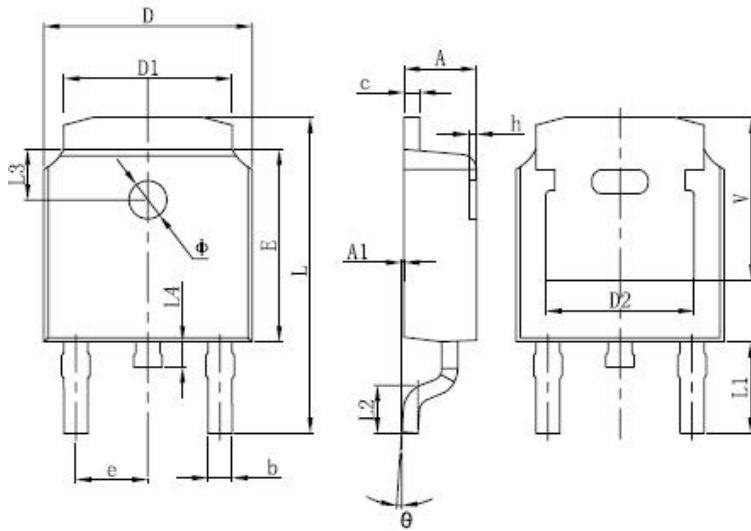
| SYMBOL | Millimeters |       |
|--------|-------------|-------|
|        | Min.        | Max.  |
| A      | 10.70       | 10.90 |
| B      | 16.03       | 16.23 |
| C      | 5.11        | 5.31  |
| d      | 1.45        | 1.65  |
| E      | 1.65        | 1.85  |
| F      | 11.40       | 11.60 |
| P0     | 3.90        | 4.10  |
| P      | 15.90       | 16.10 |
| P1     | 1.90        | 2.10  |
| W      | 23.90       | 24.30 |

### Mechanical Dimensions TO-220AB



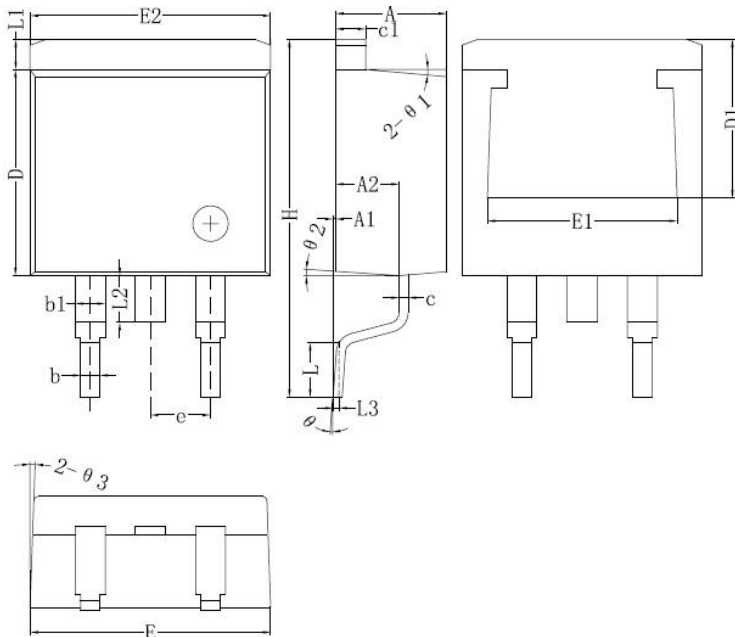
| Symbol | Dimensions in millimeters |         |       |
|--------|---------------------------|---------|-------|
|        | Min                       | Typical | Max   |
| A      | 3.56                      | -       | 4.83  |
| A1     | 0.51                      | -       | 1.40  |
| A2     | 2.03                      | -       | 2.92  |
| b      | 0.38                      | -       | 1.02  |
| b1     | 1.14                      | -       | 1.78  |
| c      | 0.31                      | -       | 0.61  |
| D      | 14.22                     | -       | 16.51 |
| D1     | 8.38                      | -       | 9.42  |
| E      | 9.65                      | -       | 10.67 |
| e      | -                         | 2.54    | -     |
| e1     | -                         | 5.08    | -     |
| H1     | 5.84                      | -       | 6.86  |
| L      | 12.70                     | -       | 14.73 |
| L1     | -                         | -       | 6.35  |
| ΦP     | -                         | 3.56    | -     |
| Q      | 2.54                      | -       | 3.43  |

**Mechanical Dimensions DPAK**



| SYMBOL   | Dimensions in millimeters |      |       |
|----------|---------------------------|------|-------|
|          | Min.                      | Typ. | Max.  |
| A        | 2.18                      | -    | 2.39  |
| A1       | -                         | -    | 0.13  |
| b        | 0.64                      | -    | 0.89  |
| c        | 0.46                      | -    | 0.89  |
| D        | 6.35                      | -    | 6.73  |
| D2       | 4.32                      | -    | -     |
| E        | 5.97                      | 6.10 | 6.22  |
| e        | 2.29BSC                   |      |       |
| L        | 9.40                      | -    | 10.41 |
| L2       | 1.40                      | 1.52 | 1.78  |
| L4       | -                         | -    | 1.02  |
| $\Theta$ | 0°                        | -    | 10°   |
| V        | 5.21                      | -    | -     |

**Mechanical Dimensions D<sup>2</sup>PAK**



| Symbol   | Dimensions in millimeters |       |
|----------|---------------------------|-------|
|          | Min.                      | Max.  |
| A        | 4.06                      | 4.83  |
| A1       | 0                         | 0.26  |
| b        | 0.51                      | 0.99  |
| b1       | 1.14                      | 1.78  |
| c        | 0.31                      | 0.74  |
| c1       | 1.14                      | 1.65  |
| D        | 8.38                      | 8.65  |
| D1       | 6.86                      |       |
| E1       | 6.22                      |       |
| E2       | 9.65                      | 10.67 |
| e        | 2.54BSC                   |       |
| H        | 14.60                     | 15.88 |
| L        | 1.78                      | 2.80  |
| L1       | -                         | 1.68  |
| L2       | -                         | 1.78  |
| L3       | 0.255BSC                  |       |
| $\Theta$ | 0                         | 8°    |



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