



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

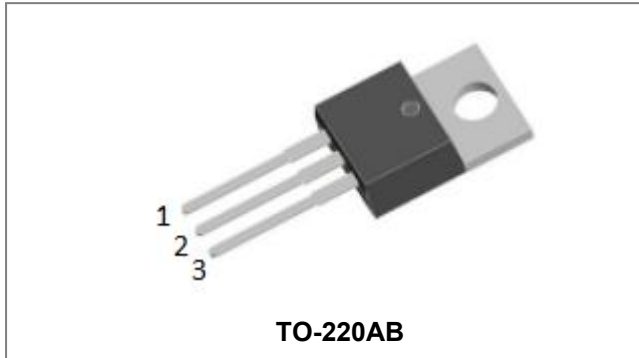
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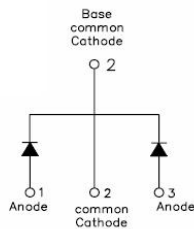
SDUR2020CT ULTRAFAST RECTIFIER



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 | - | 200 | V |
| Average Rectified Forward Current | $I_{F(AV)}$ | 50% duty cycle @ $T_c=105^\circ\text{C}$, rectangular wave form | 10(Per Leg) 20(Per Device) | A |
| Peak One Cycle Non-Repetitive Surge Current(Per Leg) | I_{FSM} | 8.3ms, Half Sine pulse | 120 | A |

Electrical Characteristics:

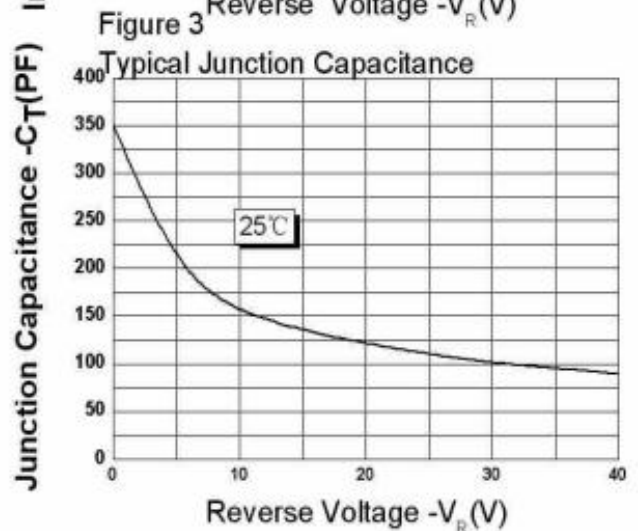
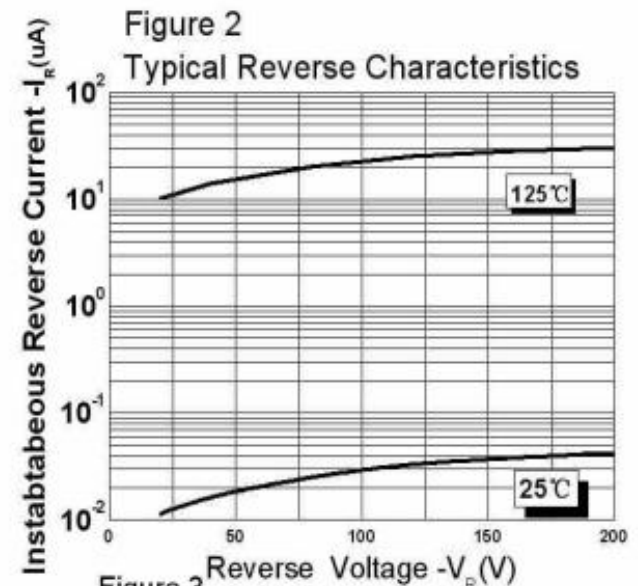
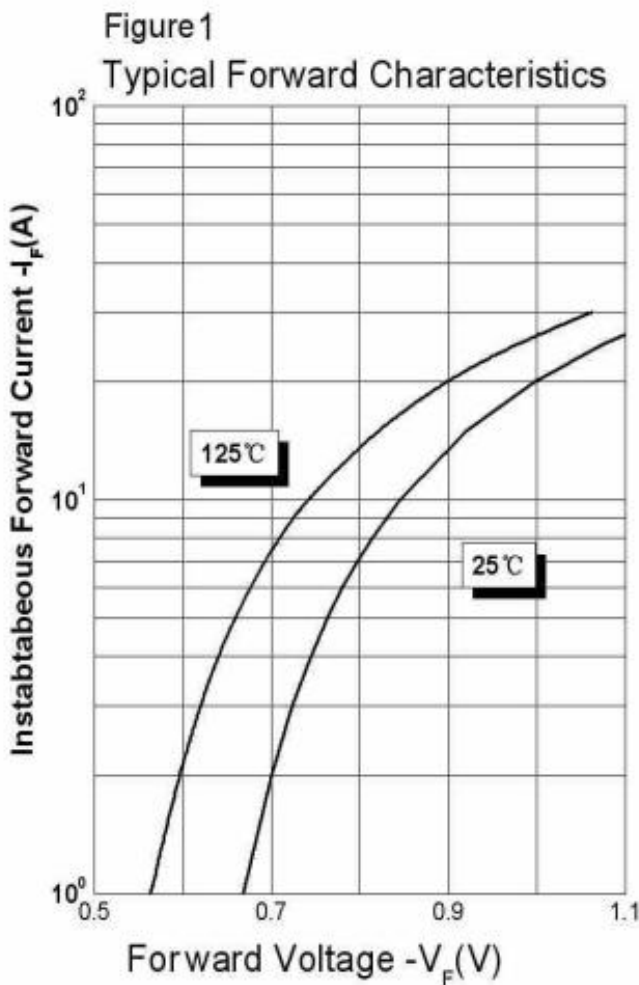
| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|--------------------------------|----------|---|------|------|---------------|
| Forward Voltage Drop(Per Leg)* | V_{F1} | @ 10A, Pulse, $T_J = 25^\circ\text{C}$ | 0.85 | 1.05 | V |
| | V_{F2} | @ 10A, Pulse, $T_J = 125^\circ\text{C}$ | 0.74 | 0.85 | V |
| Reverse Current(Per Leg)* | I_{R1} | @ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$ | 0.04 | 10 | μA |
| | I_{R2} | @ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$ | 30 | 500 | μA |
| Reverse Recovery Time(Per Leg) | t_{rr} | $I_F=500\text{mA}$, $I_R=1\text{A}$, and $I_m=250\text{mA}$ | 30 | 35 | ns |

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

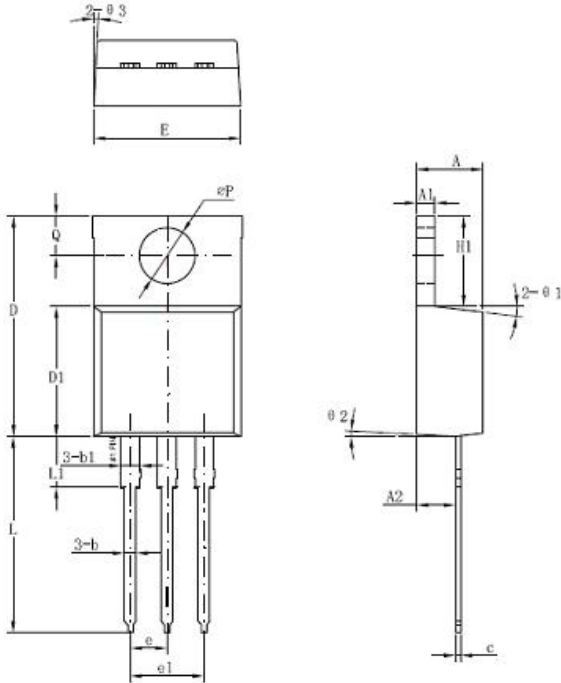
Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|---|-----------------------|--------------|---------------|----------------------|
| Junction Temperature | T_J | - | -55 to +150 | $^{\circ}\text{C}$ |
| Storage Temperature | T_{stg} | - | -55 to +150 | $^{\circ}\text{C}$ |
| Typical Thermal Resistance Junction to Case | $R_{\theta\text{JC}}$ | DC operation | 1.6 | $^{\circ}\text{C/W}$ |
| Approximate Weight | wt | - | 2 | g |
| Case Style | TO-220AB | | | |

Ratings and Characteristics Curves

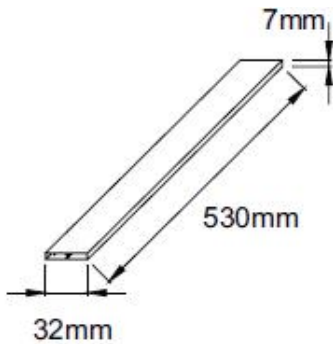


Mechanical Dimensions TO-220AB

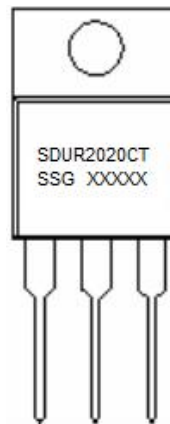


| Symbol | Dimensions in millimeters | | |
|--------|---------------------------|---------|-------|
| | Min | Typical | Max |
| A | 4.42 | 4.57 | 4.72 |
| A1 | 1.17 | 1.27 | 1.37 |
| A2 | 2.52 | 2.69 | 2.89 |
| b | 0.71 | 0.81 | 0.96 |
| b1 | 1.17 | 1.27 | 1.37 |
| c | 0.31 | 0.38 | 0.61 |
| D | 14.94 | 15.24 | 15.54 |
| D1 | 8.85 | 9.00 | 9.15 |
| E | 10.01 | 10.16 | 10.31 |
| e | | 2.54 | |
| e1 | 4.98 | 5.06 | 5.18 |
| H1 | 6.04 | 6.24 | 6.44 |
| L | 12.7 | 13.56 | 13.80 |
| L1 | 3.56 | 3.5 | 3.96 |
| ΦP | 3.74 | 3.84 | 4.04 |
| Q | 2.54 | 2.74 | 2.94 |
| θ1 | | 7° | |
| θ2 | | 3° | |
| θ3 | | 4° | |

Tube Specification



Marking Diagram



Where XXXXX is YYWWL

- SDUR = Device Type
- 20 = Forward Current (20A)
- 20 = Reverse Voltage(200V)
- CT = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

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

Ordering Information

| Device | Package | Shipping |
|------------|--------------------|--------------|
| SDUR2020CT | TO-220AB (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.

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