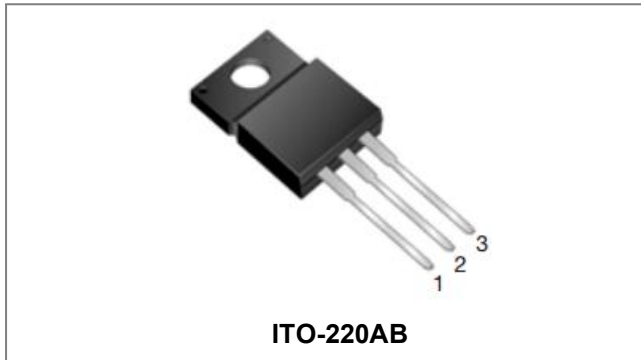


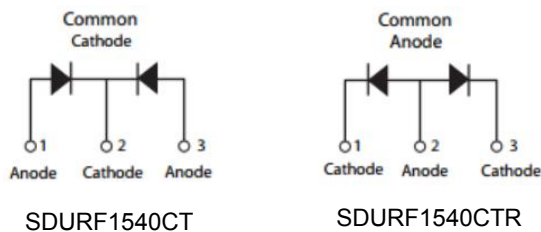
SDURF1540CT/CTR ULTRAFAST RECTIFIER



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 | - | 400 | V |
| Average Rectified Forward Current | $I_{F(AV)}$ | 50% duty cycle @ $T_c=105^\circ\text{C}$, rectangular wave form | 8(Per Leg) 15(Per Device) | A |
| Peak One Cycle Non-Repetitive Surge Current(Per Leg) | I_{FSM} | 8.3ms, Half Sine pulse | 80 | A |

Electrical Characteristics:

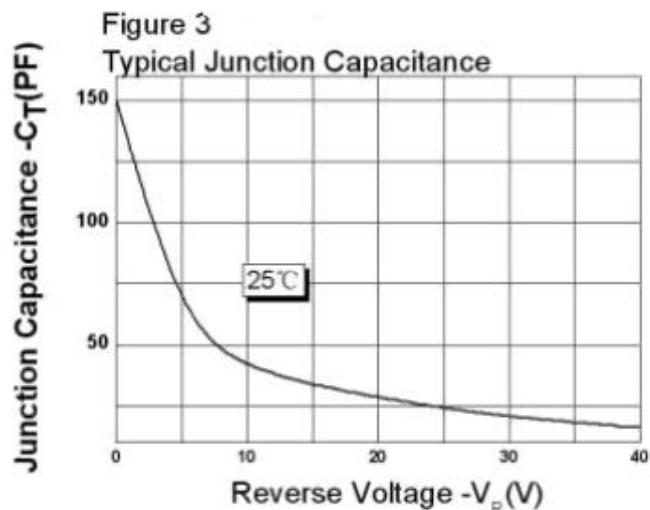
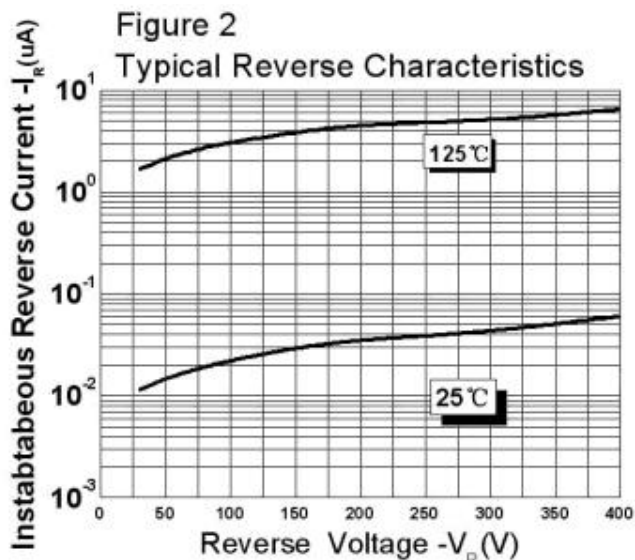
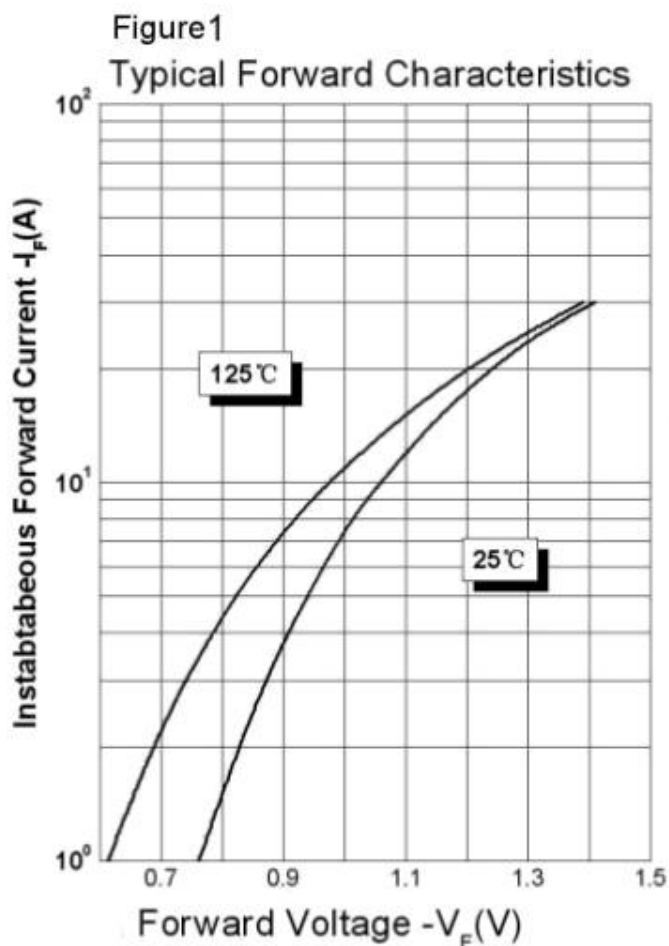
| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|--------------------------------|----------|---|------|------|---------------|
| Forward Voltage Drop(Per Leg)* | V_{F1} | @8A, Pulse, $T_J = 25^\circ\text{C}$ | 1.01 | 1.3 | V |
| | V_{F2} | @8A, Pulse, $T_J = 150^\circ\text{C}$ | - | 1.2 | V |
| Reverse Current(Per Leg)* | I_{R1} | @ $V_R = \text{rated } V_R, T_J = 25^\circ\text{C}$ | 0.1 | 10 | μA |
| | I_{R2} | @ $V_R = \text{rated } V_R, T_J = 125^\circ\text{C}$ | 6 | 500 | μA |
| Reverse Recovery Time(Per Leg) | t_{rr} | $I_F=500\text{mA}, I_R=1\text{A}, \text{and } I_m=250\text{mA}$ | 30 | 45 | ns |

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

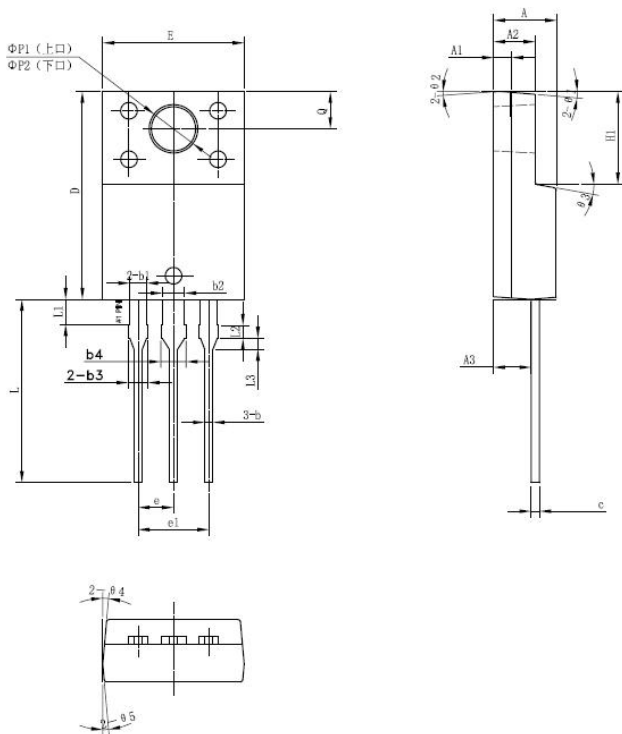
Thermal-Mechanical Specifications:

| 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 | $R_{\theta JC}$ | DC operation | 5 | °C/W |
| Approximate Weight | wt | - | 2 | g |
| Case Style | ITO-220AB | | | |

Ratings and Characteristics Curves

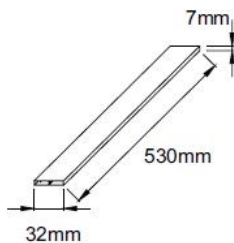


Mechanical Dimensions ITO-220AB



| SYMBOL | Millimeters | | |
|---------|-------------|-------|-------|
| | 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 |
| b3 | 1.20 | 1.30 | 1.45 |
| b4 | 1.60 | 1.70 | 1.85 |
| c | 0.50 | 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 |
| ΦP1(上□) | 3.30 | 3.50 | 3.70 |
| ΦP2(下□) | 2.99 | 3.19 | 3.39 |
| Q | 2.50 | 2.70 | 2.90 |
| Θ1 | | 5° | |
| Θ2 | | 4° | |
| Θ3 | | 10° | |
| Θ4 | | 5° | |
| Θ5 | | 5° | |

Tube Specification

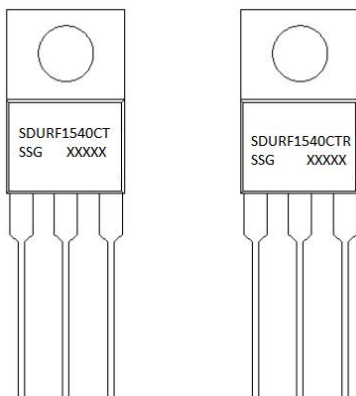


Ordering Information

| Device | Package | Shipping |
|------------------|------------------------|--------------|
| SDURF1540CT(CTR) | ITO-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.

Marking Diagram



Where XXXXX is YYWWL

- SDUR = Device Type
- F = Package type
- 15 = Forward Current (15A)
- 40 = Reverse Voltage (400V)
- CT(CTR) = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

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

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[NTE5850](#) [NTE5819](#) [NTE5837](#) [NTE5892](#) [NTE5900](#) [NTE5911](#) [NTE5915](#) [NTE5921](#) [NTE6104](#) [NTE6105](#)