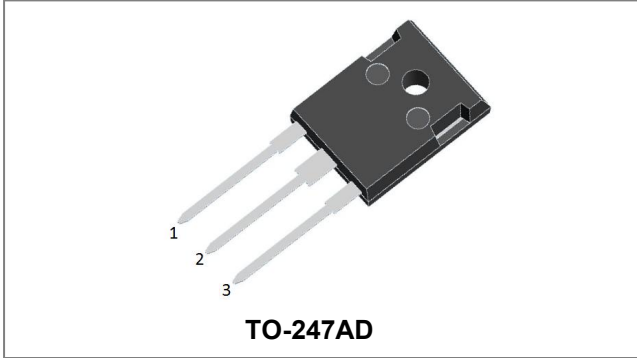


Technical Data
Data Sheet N0239, Rev. B



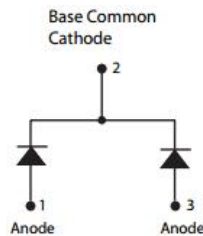
SDUR3030WT ULTRAFAST RECTIFIER



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 | - | 300 | V |
| Average Rectified Forward Current | $I_{F(AV)}$ | 50% duty cycle @ $T_c=122^\circ C$, rectangular wave form | 15(Per Leg) 30(Per Device) | A |
| Peak One Cycle Non-Repetitive Surge Current(Per Leg) | I_{FSM} | 8.3ms, Half Sine pulse | 240 | A |

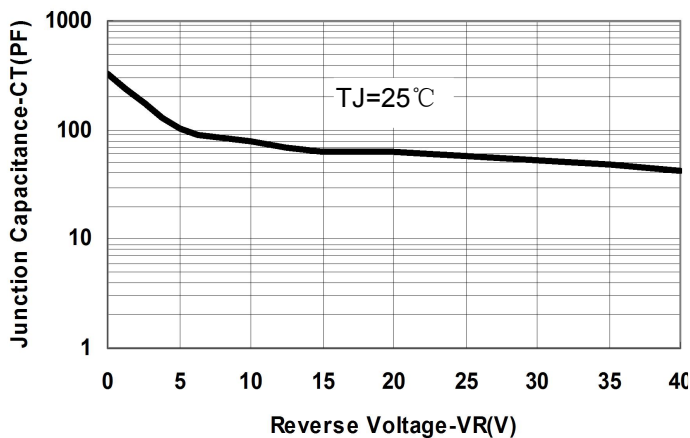
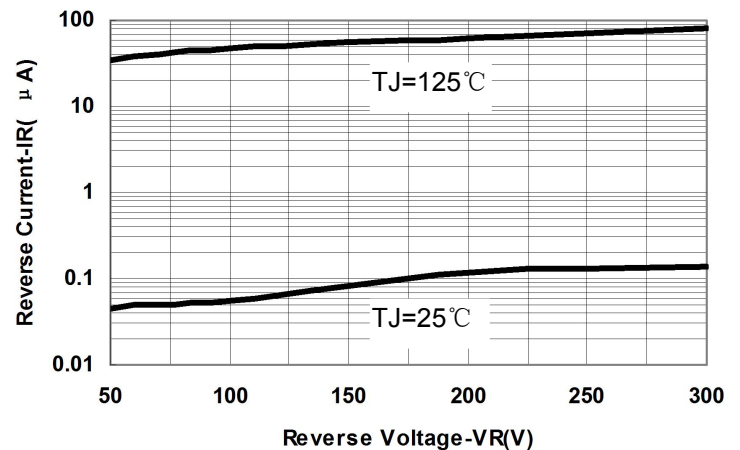
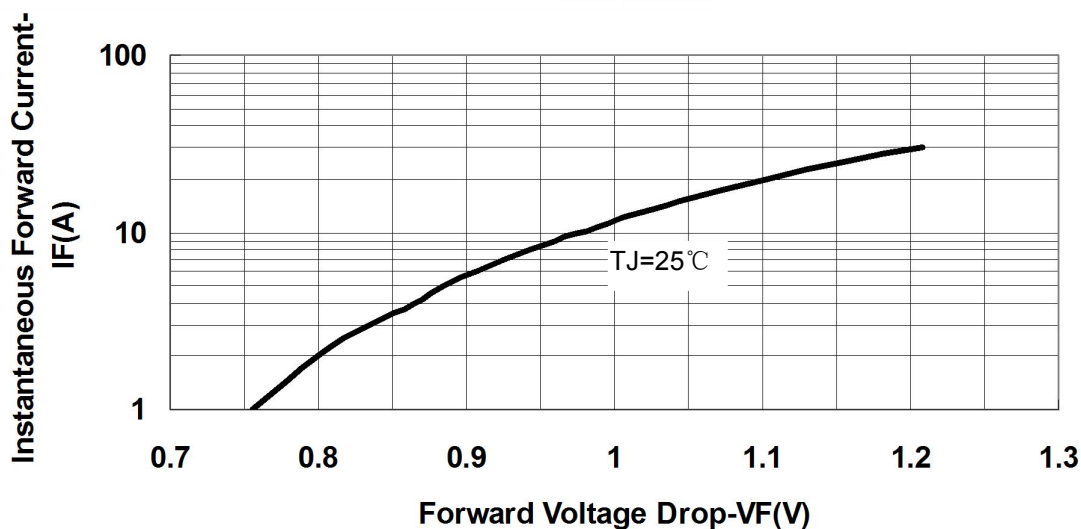
Electrical Characteristics:

| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|---------------------------------|----------|---|------|------|---------|
| Forward Voltage Drop (Per Leg)* | V_{F1} | @15A, Pulse, $T_J = 25^\circ C$ | 1.04 | 1.25 | V |
| | V_{F2} | @15A, Pulse, $T_J = 125^\circ C$ | - | 1.21 | V |
| Reverse Current (Per Leg)* | I_{R1} | @ $V_R = \text{rated } V_R$, $T_J = 25^\circ C$ | 0.15 | 5.0 | μA |
| | I_{R2} | @ $V_R = \text{rated } V_R$, $T_J = 125^\circ C$ | 0.09 | 1.0 | mA |
| Reverse Recovery Time (Per Leg) | t_{rr} | $I_F=500mA$, $I_R=1A$, and $I_{tm}=250mA$ | 41 | 45 | ns |

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

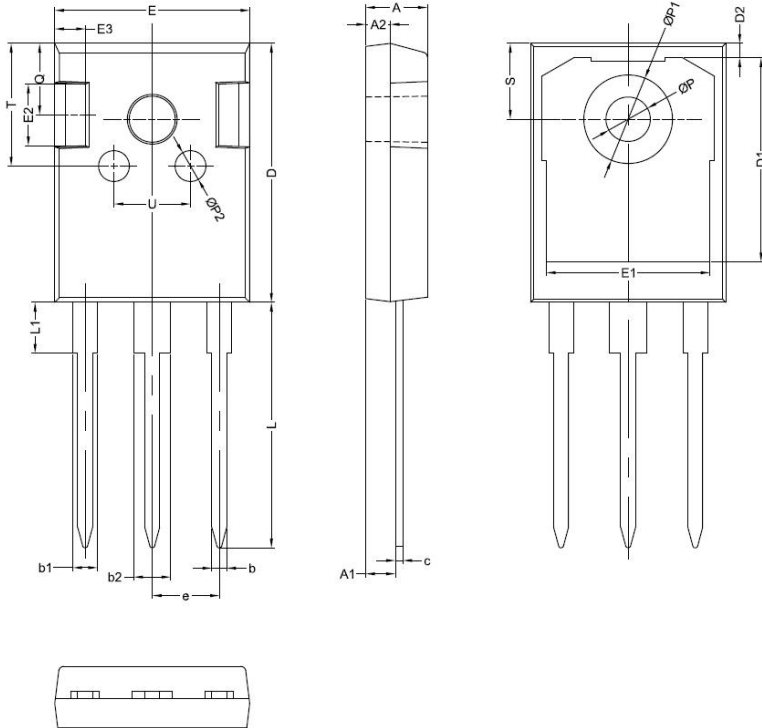
Thermal-Mechanical Specifications:

| 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 (Per Leg) | R _{θJC} | DC operation | 1.75 | °C/W |
| Approximate Weight | wt | - | 6.28 | g |
| Case Style | TO-247AD | | | |

Ratings and Characteristics Curves

Fig.1-Typical Junction Capacitance

Fig.2-Typical Reverse Characteristics

Fig.3-Typical Instantaneous Forward Voltage Characteristics



Mechanical Dimensions TO-247AD



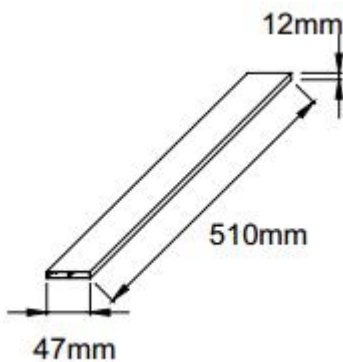
| SYMBOL | Millimeters | | |
|--------|-------------|-------|-------|
| | MIN. | TYP. | MAX. |
| A | 4.80 | 5.00 | 5.20 |
| A1 | 2.20 | 2.41 | 2.61 |
| A2 | 1.90 | 2.00 | 2.10 |
| b | 1.10 | 1.20 | 1.40 |
| b1 | 1.80 | 2.00 | 2.20 |
| b2 | 2.80 | 3.00 | 3.20 |
| c | 0.50 | 0.60 | 0.75 |
| D | 20.30 | 21.00 | 21.20 |
| D1 | | 16.55 | |
| D2 | | 1.20 | |
| E | 15.45 | 15.80 | 16.00 |
| E1 | | 13.30 | |
| E2 | | 5.00 | |
| E3 | | 2.50 | |
| e | | 5.44 | |
| L | 19.42 | 19.92 | 20.70 |
| L1 | | 4.13 | |
| P | 3.50 | 3.60 | 3.70 |
| P1 | 7.1 | | 7.40 |
| P2 | | 2.50 | |
| Q | | 5.80 | |
| S | 6.05 | 6.15 | 6.25 |
| T | | 10.00 | |
| U | | 6.20 | |

Ordering Information

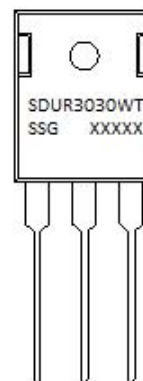
| Device | Package | Shipping |
|------------|-------------------|--------------|
| SDUR3030WT | TO-247AD(Pb-Free) | 25pcs / tube |

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

Tube Specification



Marking Diagram



Where XXXXX is YYWWL

- SDUR = Device Type
- 30 = Forward Current (30A)
- 30 = Reverse Voltage (300V)
- WT = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

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

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