

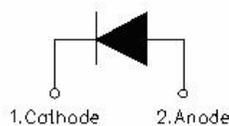
SDURK15Q60 ULTRAFAST RECTIFIER



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
- Terminals finish: 100% Pure Tin
- 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 | - | 600 | V |
| Average Rectified Forward Current | $I_{F(AV)}$ | $T_c=75^\circ\text{C}$ | 15 | A |
| Peak One Cycle Non-Repetitive Surge Current | I_{FSM} | 8.3ms, Half Sine pulse | 160 | A |

Electrical Characteristics:

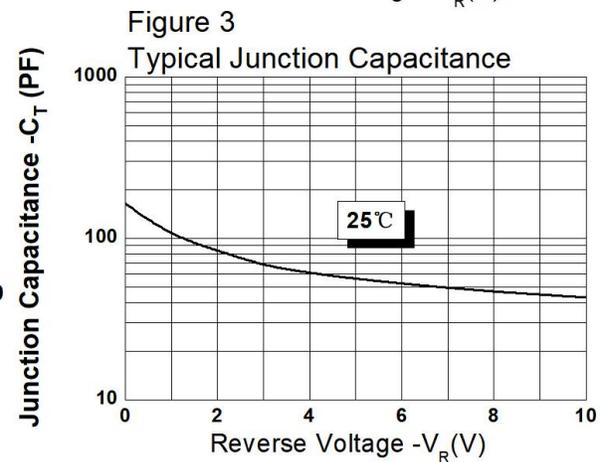
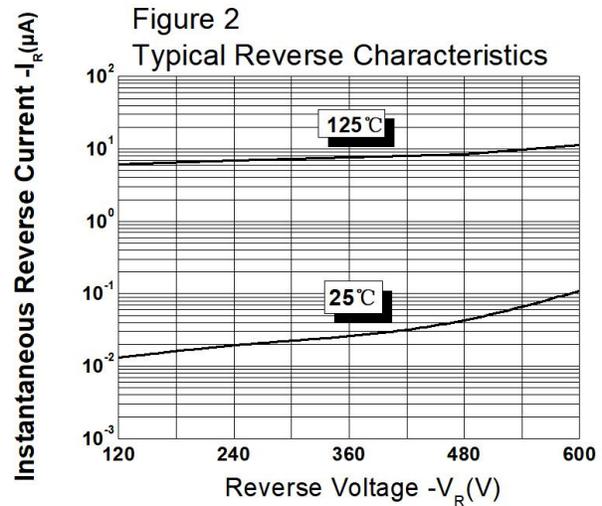
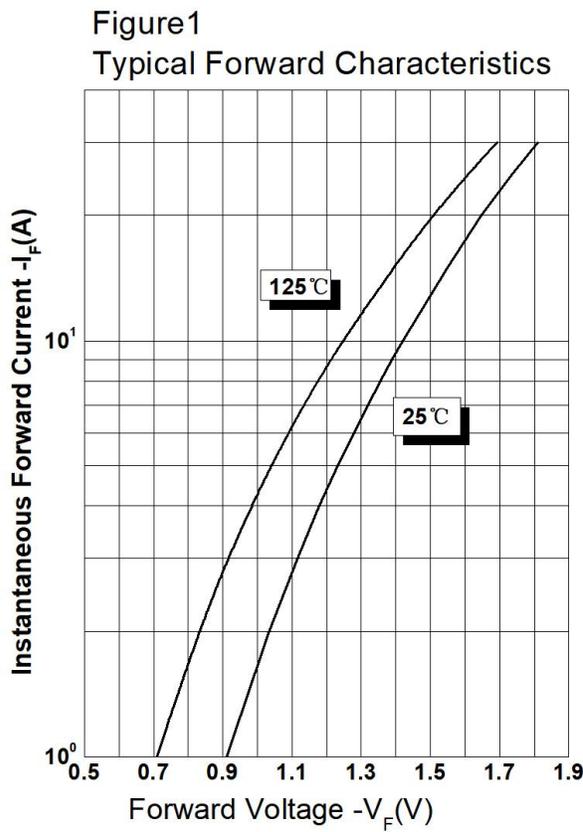
| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|------------------------|----------|---|------|------|---------------|
| Forward Voltage Drop * | V_{F1} | @ 15A, Pulse, $T_J = 25^\circ\text{C}$ | 1.55 | 2.0 | V |
| | V_{F2} | @ 15A, Pulse, $T_J = 125^\circ\text{C}$ | 1.40 | 1.7 | V |
| Reverse Current * | I_{R1} | @ $V_R = \text{rated } V_R, T_J = 25^\circ\text{C}$ | 0.11 | 20 | μA |
| | I_{R2} | @ $V_R = \text{rated } V_R, T_J = 125^\circ\text{C}$ | 0.01 | 1 | mA |
| Reverse Recovery Time | t_{rr} | $I_F=500\text{mA}, I_R=1\text{A}, \text{and } I_m=250\text{mA}$ | 30 | 40 | ns |

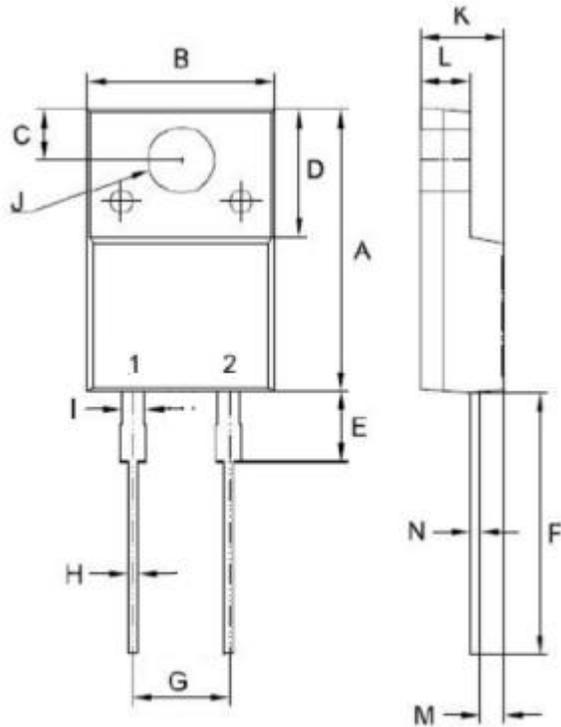
* Pulse width < 300 μs , duty cycle < 2%

Thermal-Mechanical Specifications:

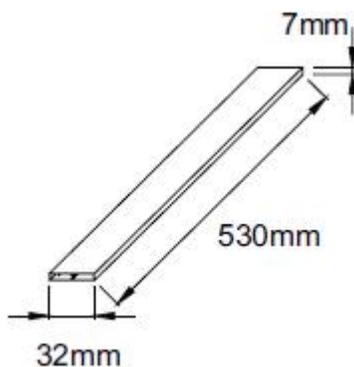
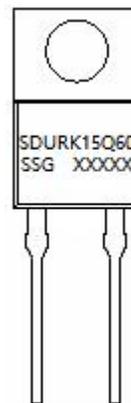
| Characteristics | Symbol | Condition | Specification | Units |
|---|-----------------------|--------------|---------------|----------------------|
| Junction Temperature | T_J | - | -55 to +150 | $^{\circ}\text{C}$ |
| Storage Temperature | T_{stg} | - | -55 to +150 | $^{\circ}\text{C}$ |
| Typical Thermal Resistance Junction to Case | $R_{\theta\text{JC}}$ | DC operation | 2.5 | $^{\circ}\text{C/W}$ |
| Approximate Weight | wt | - | 1.6 | g |
| Case Style | ITO-220AC-2L | | | |

Ratings and Characteristics Curves



Mechanical Dimensions ITO-220AC-2L


| SYMBOL | Millimeters | | |
|--------|-------------|-------|-------|
| | MIN. | TYP. | MAX. |
| A | 14.50 | 15.30 | 16.00 |
| B | 9.50 | 10.00 | 10.50 |
| C | 2.50 | 3.00 | 3.5 |
| D | 6.30 | 6.80 | 7.30 |
| E | 3.10 | 3.70 | 4.30 |
| F | 13.00 | 13.5 | 14.00 |
| G | 4.90 | 5.10 | 5.30 |
| H | 0.30 | 0.60 | 0.90 |
| I | 0.90 | 1.2 | 1.50 |
| J | 3.20 | 3.50 | 3.80 |
| K | 4.24 | 4.54 | 4.84 |
| L | 2.30 | 2.61 | 2.92 |
| M | 1.09 | 1.29 | 1.49 |
| N | 0.42 | 0.53 | 0.63 |

Tube Specification

Marking Diagram


Where XXXXX is YYWWL

SDUR = Device Type
 K = Package type
 15 = Forward Current (15A)
 Q = Q
 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 |
|------------|------------------------|--------------|
| SDURK15Q60 | ITO-220AC-2L (Pb-Free) | 50 pcs/ tube |

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