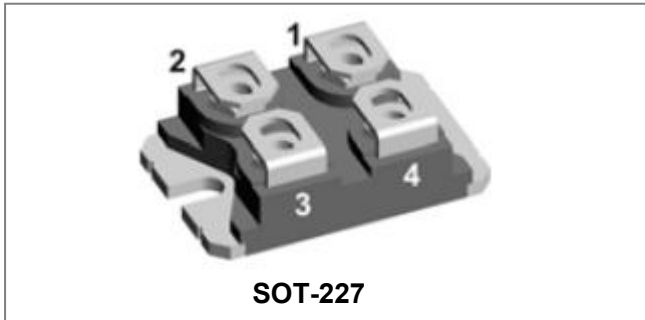


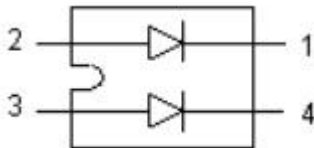
SK2U200-600 Ultrafast Recovery Modules



Features

- Two fully independent diodes
- Fully insulated package
- Ultrafast, soft reverse recovery, with high operation
- Lo forward voltage drop
- Optimized for power conversion: welding and industrial
- SMPS applications
- Easy to use and parallel
- Industry standard outline
- Designed and qualified for industrial level

Circuit Diagram



Maximum Ratings (limiting values, $T_C = 25^\circ\text{C}$ unless otherwise specified)

| Characteristics | Symbol | Condition | Max. | Units |
|--|------------|--|------|-------|
| Cathode to anode voltage | V_R | - | 600 | V |
| Continuous forward current per diode | I_F | $T_C = 80^\circ\text{C}$ | 200 | A |
| Single pulse forward current per diode | I_{FSM} | 8.3 ms, half Sine pulse, $T_C = 25^\circ\text{C}$ | 1200 | A |
| Maximum power dissipation per module | P_D | $T_C = 90^\circ\text{C}$ | 250 | W |
| Isolation Voltage | V_{ISOL} | Ac.50Hz; R.M.S.; 1min, $T_J = 25^\circ\text{C}$ | 2500 | V |
| | | Ac.50Hz; R.M.S.; 1sec, $T_J = 25^\circ\text{C}$ | 3500 | |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Min. | Typ. | Max. | Units |
|-------------------------------------|----------|--|------|-------------|------|---------|
| Cathode to anode breakdown voltage* | V_{BR} | @ $I_R = 100\mu A$, $T_J = 25\text{ }^\circ C$ | 600 | - | - | V |
| Forward Voltage Drop* | V_{F1} | @ 100A, Pulse, $T_J = 25\text{ }^\circ C$ | - | 1.44 | 1.50 | V |
| | V_{F2} | @ 100A, Pulse, $T_J = 125\text{ }^\circ C$ | - | 1.24 | 1.30 | V |
| Reverse Current* | I_{R1} | @ $V_R = \text{rated } V_R$ $T_J = 25\text{ }^\circ C$ | - | 0.01 | 10 | μA |
| | I_{R2} | @ $V_R = \text{rated } V_R$ $T_J = 125\text{ }^\circ C$ | - | 0.03 | 1 | mA |
| Junction capacitance | t_{tr} | $I_F = 500mA$, $I_R = 1A$, and $I_m = 250mA$, $T_J = 25\text{ }^\circ C$ | - | 64 | 80 | nS |

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

Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|---|-----------------|--------------|---------------|--------------|
| Junction Temperature | T_J | - | -55 to +150 | $^\circ C$ |
| Storage Temperature | T_{stg} | - | -55 to +150 | $^\circ C$ |
| Maximum Thermal Resistance Junction to Case(per leg) | $R_{\theta JC}$ | DC operation | 0.50 | $^\circ C/W$ |
| Maximum Thermal Resistance Junction to Case(per package) | $R_{\theta JC}$ | DC operation | 0.25 | $^\circ C/W$ |
| Typical Mounting Torque | T_M | - | 1.3 | Nm |
| Typical Approximate Weight | wt | - | 30 | g |
| Case Style | | SOT-227 | | |

Ratings and Characteristics Curves

Figure 1
Typical Forward Characteristics

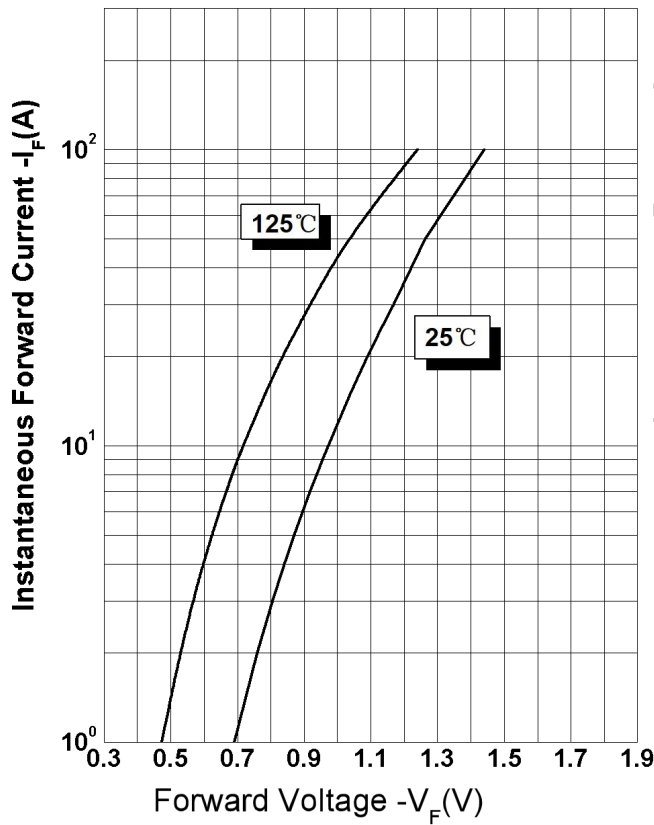


Figure 2
Typical Reverse Characteristics

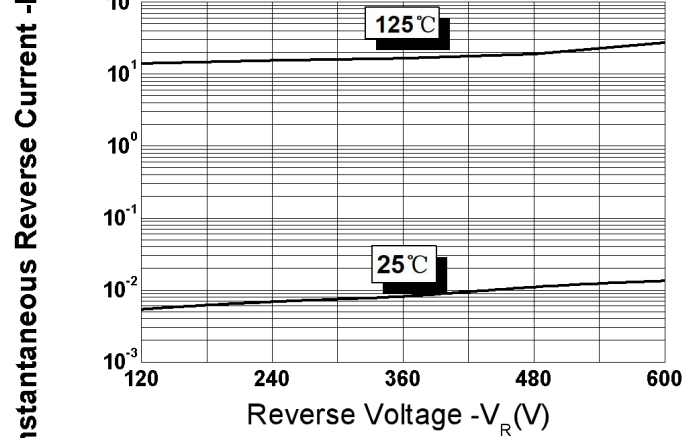
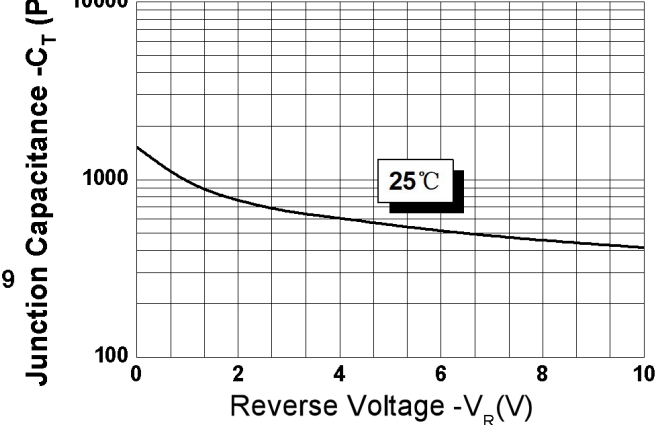


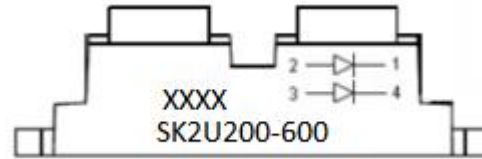
Figure 3
Typical Junction Capacitance



Ordering Information

| Device | Package | Shipping |
|-------------|----------------------|-------------|
| SK2U200-600 | SOT-227 (Pb-Free) | 36pcs /BULK |

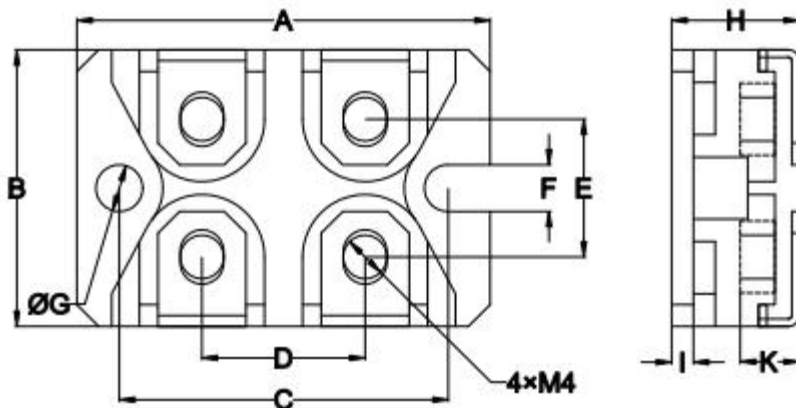
Marking Diagram



Where XXXX is YYWW

- S = SMC's Power Module
- K = SOT-227 Package
- 2 = Circuit Configuration
- U = Ultrafast Rectifier
- 200 = Forward Current (200A)
- 600 = Reverse Voltage (600V)
- YY = Year
- WW = Week

Mechanical Dimensions SOT-227(Millimeters)



| SYMBOL | Dimensions in millimeters | |
|--------|---------------------------|-------|
| | Min. | Max. |
| A | 37.8 | 38.2 |
| B | 24.8 | 25.21 |
| C | 29.9 | 30.55 |
| D | 14.5 | 15.5 |
| E | 12.2 | 13.45 |
| F | 4.1 | 4.31 |
| G | φ4.1 | φ4.31 |
| H | 11 | 12.5 |
| I | 1.9 | 2.1 |
| K | 4.3 | 6.5 |

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