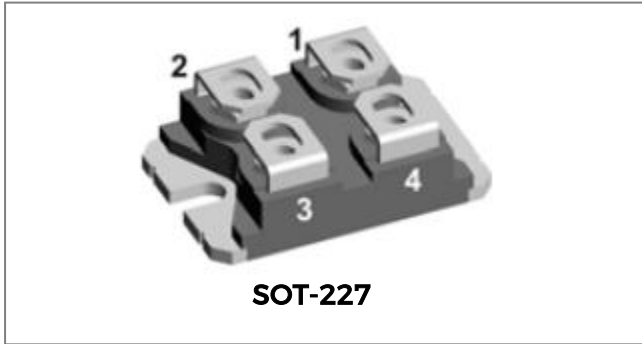


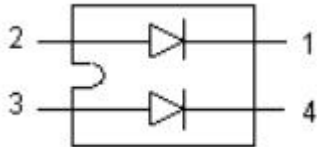
SK2U200-400 Ultrafast Recovery Modules



Features

- Two fully independent diodes
- Fully insulated package
- Ultrafast, soft reverse recovery, with high operation junction temperature (175°C T_J)
- Low 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
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|--|-------------------|---|------|-------|
| Cathode to anode voltage | V _R | - | 400 | V |
| Continuous forward current per diode | I _{F(1)} | T _C = 111°C, In DC | 120 | A |
| Single pulse forward current per diode | I _{FSM} | 8.3 ms, half Sine pulse, T _C = 25°C | 600 | A |
| RMS isolation voltage | V _{isol} | Any terminal to case, t=1 minute | 2500 | V |
| Maximum power dissipation per module | P _D | T _C = 90°C | 311 | W |

Note: (1) Maximum continuous forward current must be limited to 100A to do not exceed the maximum temperature of power terminations.

Electrical Characteristics:

| Characteristics | Symbol | Condition | Min. | Typ. | Max. | Units |
|------------------------------------|-----------|---|------|------|------|---------|
| Cathode to anode breakdown voltage | V_{BR} | @ $I_R = 100\mu A$ | 400 | - | - | V |
| Forward Voltage Drop (per leg) * | V_{F1} | @ 100A, Pulse, $T_J = 25^\circ C$ | - | 1.08 | 1.15 | V |
| | V_{F2} | @ 100A, Pulse, $T_J = 125^\circ C$ | - | 0.92 | 1.0 | V |
| Reverse Current (per leg) * | I_{R1} | @ $V_R = \text{rated } V_R, T_J = 25^\circ C$ | - | 0.03 | 50 | μA |
| | I_{R2} | @ $V_R = \text{rated } V_R, T_J = 125^\circ C$ | - | 0.06 | 2 | mA |
| Reverse recovery time | t_{rr} | $I_F = 500mA, I_R = 1A, \text{ and } I_{rm} = 250mA$ | - | 120 | 150 | nS |
| Reverse Recovery Time | t_{rr} | $I_F = 1A, diF/dt = 50A/\mu s, V_R = 30V, T_J = 25^\circ C$ | - | 68 | - | ns |
| Reverse Recovery Time | t_{rr} | $I_F = 30A, diF/dt = 200A/\mu s, V_R = 200V, T_J = 25^\circ C$ | - | 107 | - | ns |
| Reverse Recovery Charge | Q_{rr} | | - | 1850 | - | nC |
| Reverse Recovery Current | I_{RRM} | | - | 15 | - | A |
| Reverse Recovery Time | t_{rr} | $I_F = 30A, diF/dt = 200A/\mu s, V_R = 200V, T_J = 125^\circ C$ | - | 196 | - | ns |
| Reverse Recovery Charge | Q_{rr} | | - | 3110 | - | nC |
| Reverse Recovery Current | I_{RRM} | | - | 26.6 | - | A |

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

Thermal-Mechanical Specifications:

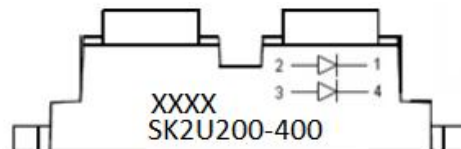
| Characteristics | Symbol | Condition | Specification | Units |
|--|-----------------|-----------------------|---------------|--------------|
| Junction Temperature | T_J | - | -55 to +175 | $^\circ C$ |
| Storage Temperature | T_{stg} | - | -55 to +175 | $^\circ C$ |
| Maximum Thermal Resistance Junction to Case(per leg) | $R_{\theta JC}$ | DC operation | 0.56 | $^\circ C/W$ |
| Maximum Thermal Resistance Junction to Case(per package) | $R_{\theta JC}$ | DC operation | 0.28 | $^\circ C/W$ |
| Typical Case to heatsink | $R_{\theta JS}$ | Flat, greased surface | 0.075 | $^\circ C/W$ |
| Typical Mounting Torque | T_M | - | 1.3 | Nm |
| Typical Approximate Weight | wt | - | 30 | g |

Ordering Information

| Device | Package | Shipping |
|-------------|-------------------|-------------|
| SK2U200-400 | SOT-227 (Pb-Free) | 36pcs /BULK |

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram

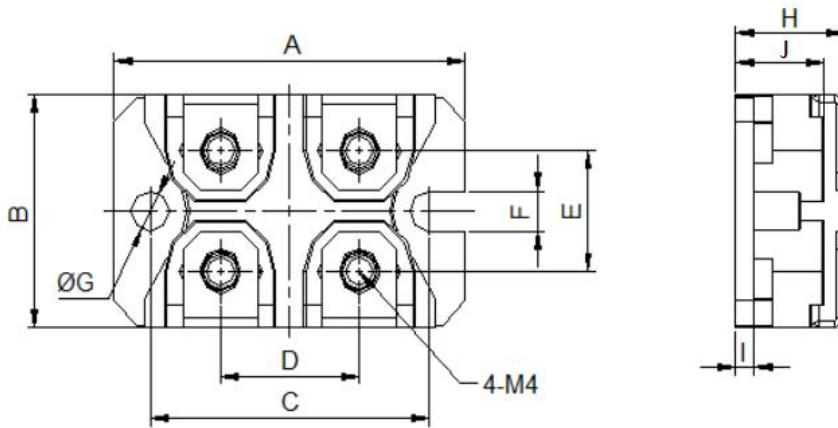


Where XXXX is YYWW

- S = SMC's Power Module
- K = SOT-227 Package
- 2 = Circuit Configuration
- U = Ultrafast Rectifier
- 200 = Forward Current (200A)
- 400 = Reverse Voltage (400V)
- YY = Year
- WW = Week

Remark: marking is as above from data code 2036.

Mechanical Dimensions SOT-227(Millimeters)



| SYMBOL | Dimensions in millimeters | |
|--------|---------------------------|-------|
| | Min. | Max. |
| A | 37.80 | 38.20 |
| B | 25.00 | 26.00 |
| C | 29.90 | 30.50 |
| D | 14.50 | 15.50 |
| E | 12.20 | 13.20 |
| F | 4.10 | 4.50 |
| G | φ4.1 | φ4.5 |
| H | 11.00 | 12.00 |
| I | 1.90 | 2.10 |
| J | 9.00 | 10.00 |

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