

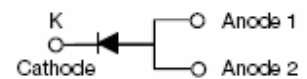
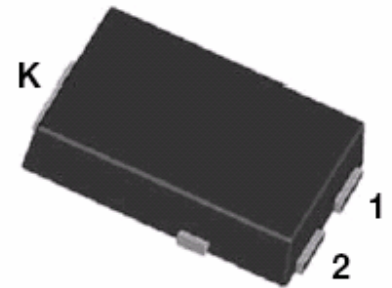
ST1040S SCHOTTKY RECTIFIER

Applications:

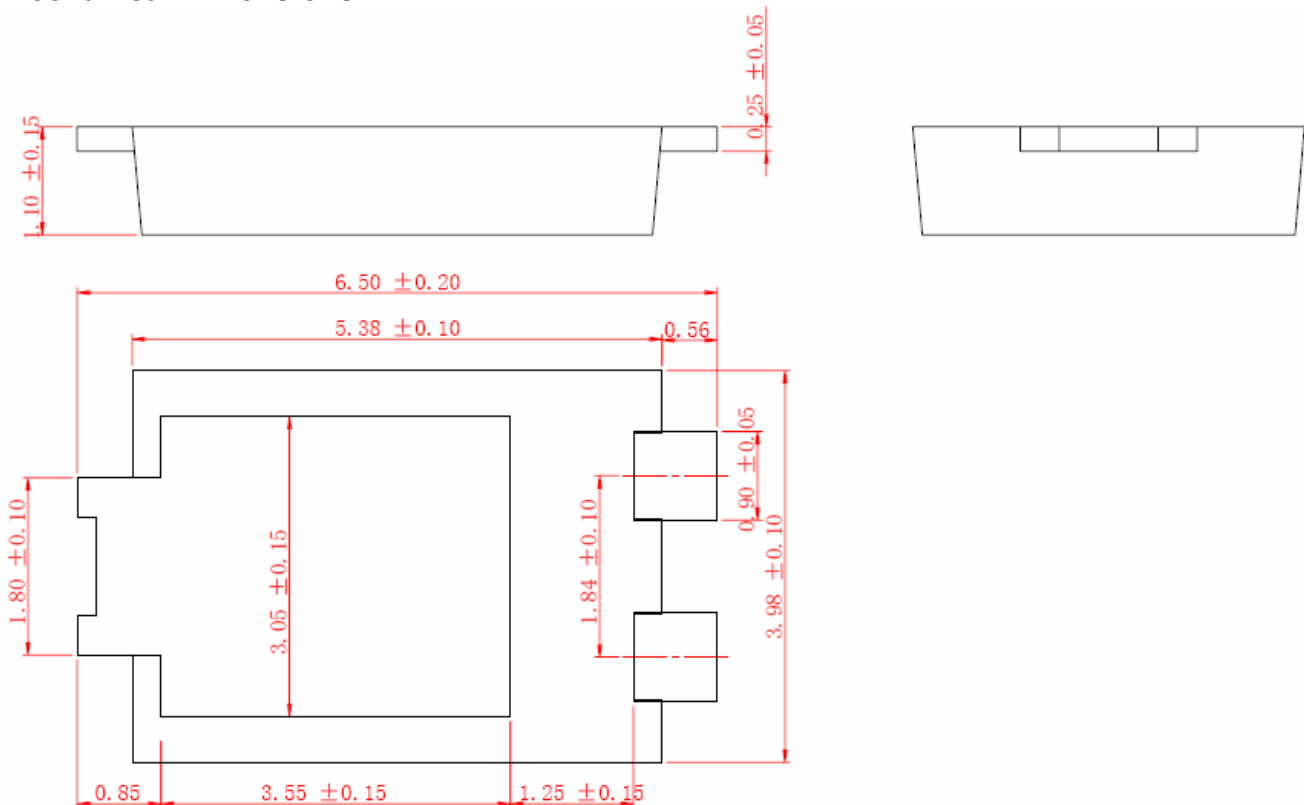
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Features:

- 150 °C T_J operation
- Center tap configuration
- Ultralow forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request



Mechanical Dimensions: In mm



TO-277B

Marking Diagram:



Where XXXXX is YYWWL

- S = Device Type
- T = Ultralow VF
- 10 = Forward Current (10)
- 40 = Reverse Voltage (40V)
- S = Package type
- YY = Year
- WW = Week
- L = Lot Number

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

Ordering Information:

| Device | Package | Shipping |
|---------|----------------------|---------------|
| ST1040S | TO-277B (Pb-Free) | 5000pcs/ reel |

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

Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|---|-------------|--|------|-------|
| Peak Inverse Voltage | V_{RWM} | - | 40 | V |
| Average Forward Current | $I_{F(AV)}$ | 50% duty cycle @ $T_C = 80\text{ }^\circ\text{C}$ rectangular wave form | 10 | A |
| Peak One Cycle Non-Repetitive Surge Current (per leg) | I_{FSM} | 8.3 ms, half Sine pulse | 150 | A |



Electrical Characteristics:

| Characteristics | Symbol | Condition | Max. | Units |
|-----------------------------|----------|--|--------|------------------|
| Forward Voltage Drop* | V_{F1} | @ 10A, Pulse, $T_J = 25\text{ }^\circ\text{C}$ | 0.47 | V |
| | V_{F2} | @ 10A, Pulse, $T_J = 125\text{ }^\circ\text{C}$ | 0.41 | V |
| Reverse Current (per leg) | I_{R1} | @ $V_R = \text{rated } V_R$ $T_J = 25\text{ }^\circ\text{C}$ | 0.3 | mA |
| Reverse Current (per leg) * | I_{R2} | @ $V_R = \text{rated } V_R$ $T_J = 125\text{ }^\circ\text{C}$ | 25 | mA |
| Voltage Rate of Change | dv/dt | - | 10,000 | V/ μs |

* Pulse Width < 300 μs , Duty Cycle <2%

Thermal-Mechanical Specifications:

| Characteristics | Symbol | Condition | Specification | Units |
|---|-----------------|--|---|--------------------|
| Junction Temperature at reduced reverse voltage at reduced reverse voltage in DC forward mode | T_J | $V_R \leq 80\%V_{RRM}$ $V_R \leq 50\%V_{RRM}$ | -55 to +150 -55 to +180 -55 to +200 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | - | -55 to +175 | $^\circ\text{C}$ |
| Maximum Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | DC operation | 73 | $^\circ\text{C/W}$ |
| Approximate Weight | wt | - | 0.08 | g |
| Case Style | TO-277B | | | |



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