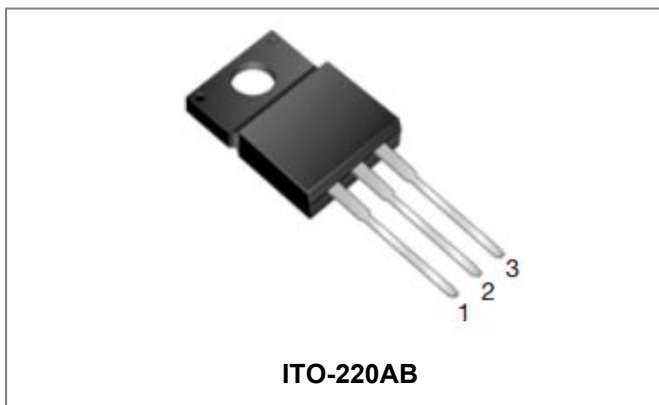


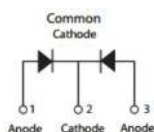
STF2050C SCHOTTKY RECTIFIER



Features

- 150 °C T_J operation
- 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
- Trench MOS Schottky technology
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Applications

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

Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|--|--------------------|---|-------------------------------|-------|
| Peak Repetitive Reverse Voltage | V _{RRM} | - | 50 | V |
| Working Peak Reverse Voltage | V _{RWM} | | | |
| DC Blocking Voltage | V _R | | | |
| Average Rectified Forward Current | I _{F(AV)} | 50% duty cycle @T _c =95°C, rectangular wave form | 10(Per Leg) 20(Per Device) | A |
| Peak One Cycle Non-Repetitive Surge Current(Per Leg) | I _{FSM} | 8.3ms, Half Sine pulse, T _c =25°C | 80 | A |

Electrical Characteristics:

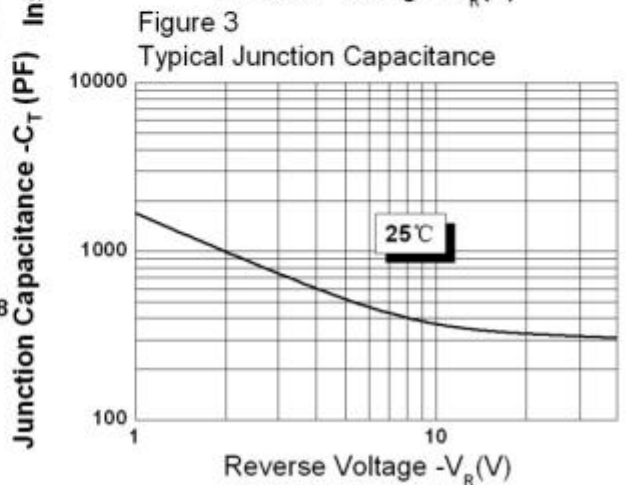
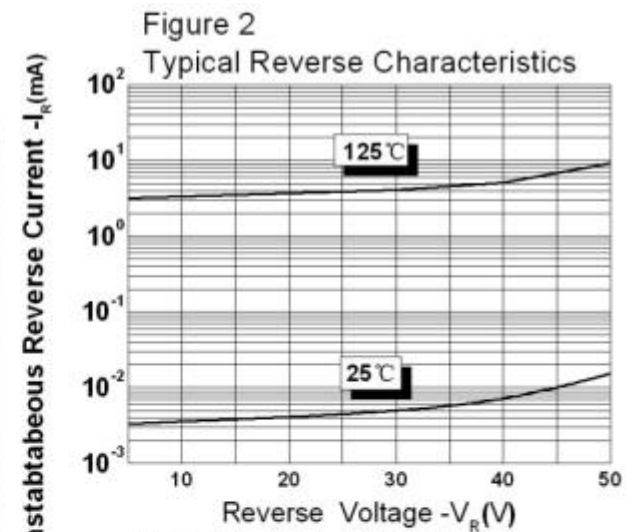
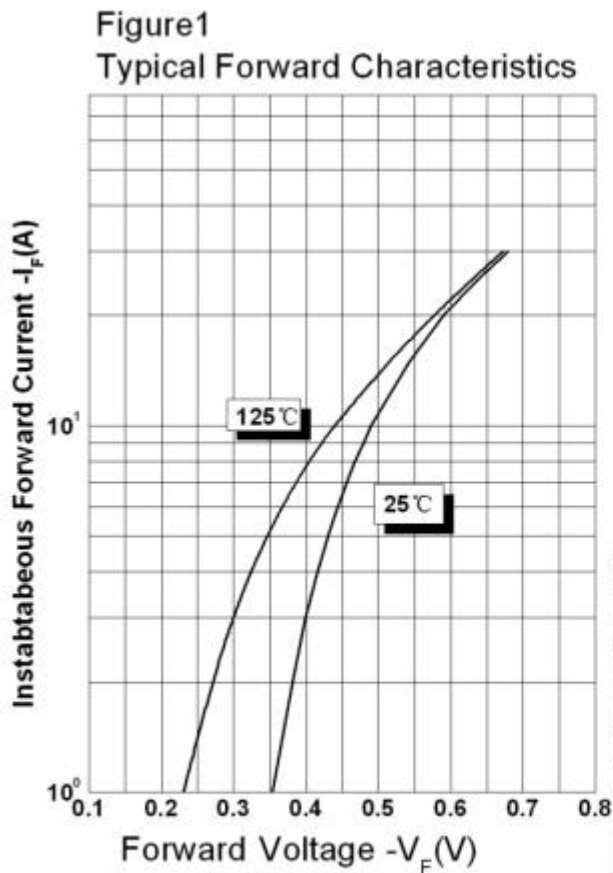
| Characteristics | Symbol | Condition | Typ. | Max. | Units |
|--|------------------|---|------|------|-------|
| Forward Voltage Drop (Per Leg)* | V _{F1} | @ 5A, Pulse, T _J = 25 °C | 0.43 | - | V |
| | | @ 10A, Pulse, T _J = 25 °C | 0.49 | 0.55 | |
| | V _{F2} | @ 5A, Pulse, T _J = 125 °C | 0.34 | - | V |
| | | @ 10A, Pulse, T _J = 125 °C | 0.44 | 0.49 | |
| Reverse Current(Per Leg)* | I _{R1} | @V _R = rated V _R , T _J = 25 °C | 0.01 | 1.5 | mA |
| | I _{R2} | @V _R = rated V _R , T _J = 125 °C | 9 | 85 | mA |
| Junction Capacitance | C _T | @V _R = 5V, T _c = 25 °C, f _{SIG} = 1MHz | 400 | - | pF |
| RSM Isolation Voltage (t = 1.0 second, R. H. < =30%, T _A = 25 °C) | V _{ISO} | Clip mounting, the epoxy body away from the heatsink edge by more than 0.110" along the lead direction. | - | 4500 | V |
| | | Clip mounting, the epoxy body is inside the heatsink. | - | 3500 | |
| | | Screw mounting, the epoxy body is inside the heatsink. | - | 1500 | |

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

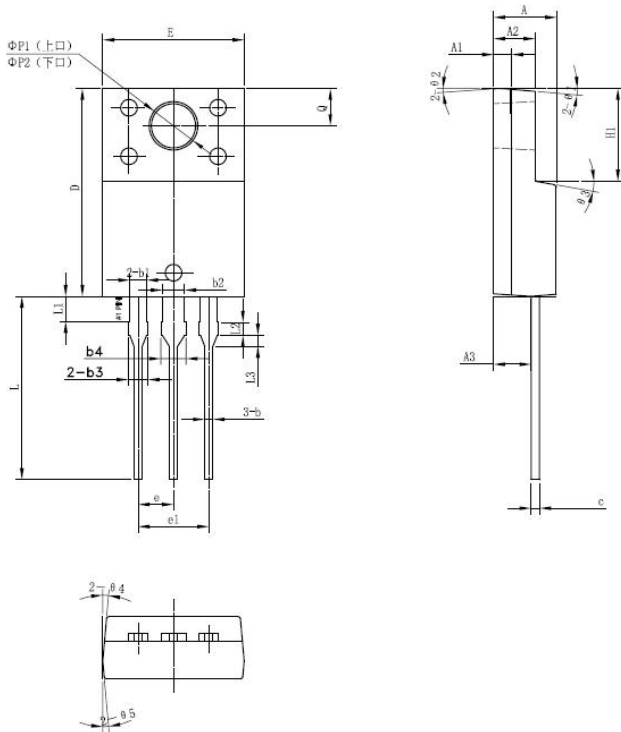
Thermal-Mechanical Specifications:

| 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) | $R_{\theta JC}$ | DC operation | 6 | °C/W |
| Approximate Weight | wt | - | 2 | g |
| Case Style | ITO-220AB | | | |

Ratings and Characteristics Curves

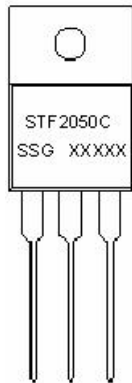


Mechanical Dimensions ITO-220AB



| SYMBOL | Millimeters | | |
|----------------|-------------|-------|-------|
| | MIN. | TYP. | MAX. |
| A | 4.30 | 4.50 | 4.70 |
| A1 | 1.10 | 1.30 | 1.50 |
| A2 | 2.80 | 3.00 | 3.20 |
| A3 | 2.50 | 2.70 | 2.90 |
| b | 0.50 | 0.60 | 0.75 |
| b1 | 1.10 | 1.20 | 1.35 |
| b2 | 1.50 | 1.60 | 1.75 |
| b3 | 1.20 | 1.30 | 1.45 |
| b4 | 1.60 | 1.70 | 1.85 |
| c | 0.50 | 0.60 | 0.75 |
| D | 14.80 | 15.00 | 15.20 |
| E | 9.96 | 10.16 | 10.36 |
| e | | 2.55 | |
| e1 | | 5.10 | |
| H1 | 6.50 | 6.70 | 6.90 |
| L | 12.70 | 13.20 | 13.70 |
| L1 | 1.60 | 1.80 | 2.00 |
| L2 | 0.80 | 1.00 | 1.20 |
| L3 | 0.60 | 0.80 | 1.00 |
| $\Phi P1$ (上口) | 3.30 | 3.50 | 3.70 |
| $\Phi P2$ (下口) | 2.99 | 3.19 | 3.39 |
| Q | 2.50 | 2.70 | 2.90 |
| $\Theta 1$ | | 5° | |
| $\Theta 2$ | | 4° | |
| $\Theta 3$ | | 10° | |
| $\Theta 4$ | | 5° | |
| $\Theta 5$ | | 5° | |

Marking Diagram

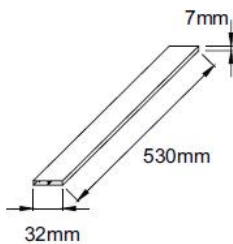


Where XXXXX is YYWWL

- ST = Device Type
- F = Package type
- 20 = Forward Current (20A)
- 50 = Reverse Voltage (50V)
- C = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

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

Tube Specification



Ordering Information

| Device | Package | Shipping |
|----------|------------------------|--------------|
| STF2050C | ITO-220AB (Pb-Free) | 50 pcs/ tube |

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



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