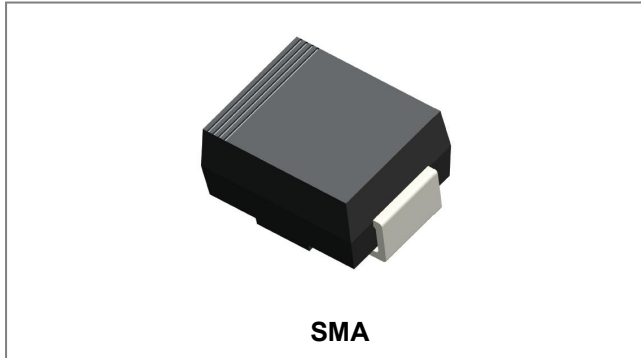


## SL520A SCHOTTKY RECTIFIER



### Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- High Current Capability
- Low Power Loss, High Efficiency
- High Surge Current Capability
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- Terminals finish: Tin Lead-free plated
- 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@T<sub>c</sub>=25°C unless otherwise specified

| Characteristics  | Symbol   | Condition  | Max. | Units |
|--|--|--|------|-------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>R</sub> | -  | 200  | V     |
| Average Rectified Forward Current  | I <sub>F(AV)</sub>                                     | 50% duty cycle @T <sub>c</sub> =115°C, rectangular wave form | 5    | A     |
| Peak One Cycle Non-Repetitive Surge Current  | I <sub>FSM</sub>                                       | 8.3ms, Half Sine pulse                                       | 120  | A     |

### Electrical Characteristics:

| Characteristics        | Symbol          | Condition  | Typ.   | Max.   | Units |
|------------------------|-----------------|--|--------|--------|-------|
| Forward Voltage Drop*  | V <sub>F1</sub> | @ 5A, Pulse, T <sub>J</sub> = 25 °C                                      | 0.82   | 0.89   | V     |
|                        | V <sub>F2</sub> | @ 5A, Pulse, T <sub>J</sub> = 125°C                                      | 0.68   | 0.76   | V     |
| Reverse Current*       | I <sub>R1</sub> | @V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 25 °C          | 0.0002 | 0.1    | mA    |
|                        | I <sub>R2</sub> | @V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 125°C          | 0.06   | 20     | mA    |
| Junction Capacitance   | C <sub>j</sub>  | @V <sub>R</sub> = 5.0 V, T <sub>c</sub> =25°C<br>f <sub>SIG</sub> = 1MHz | 91     | 150    | pF    |
| Series Inductance      | L <sub>s</sub>  | Measured lead to lead 5 mm from package body                             | 8.0    | -      | nH    |
| 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                        | $T_J$           | -            | -55 to +175   | °C    |
| Storage Temperature                         | $T_{stg}$       | -            | -55 to +175   | °C    |
| Typical Thermal Resistance Junction to Case | $R_{\theta JC}$ | DC operation | 20            | °C/W  |
| Approximate Weight                          | wt              | -            | 0.06          | g     |

**Ratings and Characteristics Curves**

Figure 1 Typical Forward Characteristics

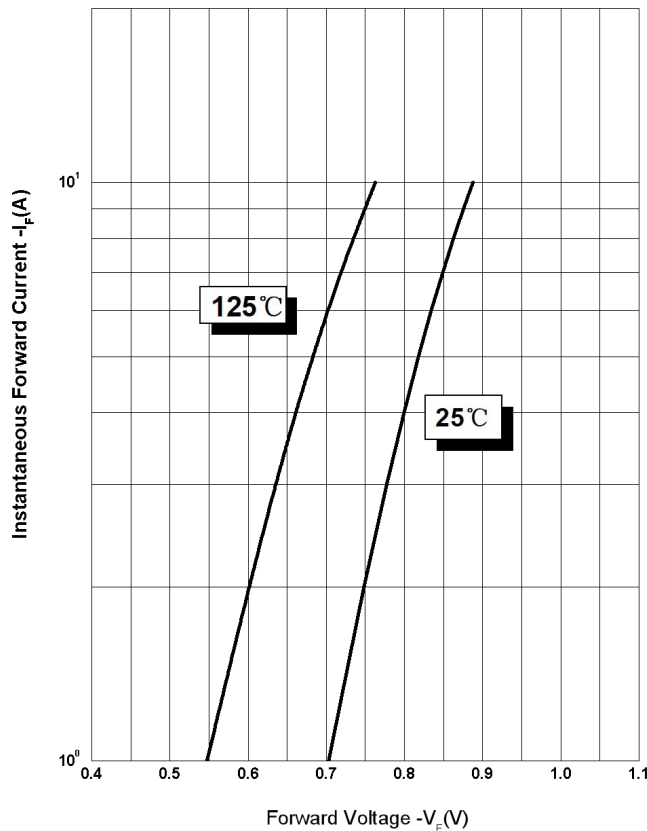


Figure 2 Typical Reverse Characteristics

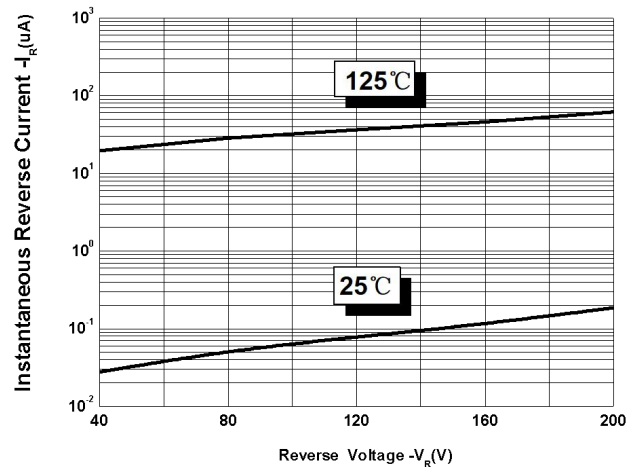
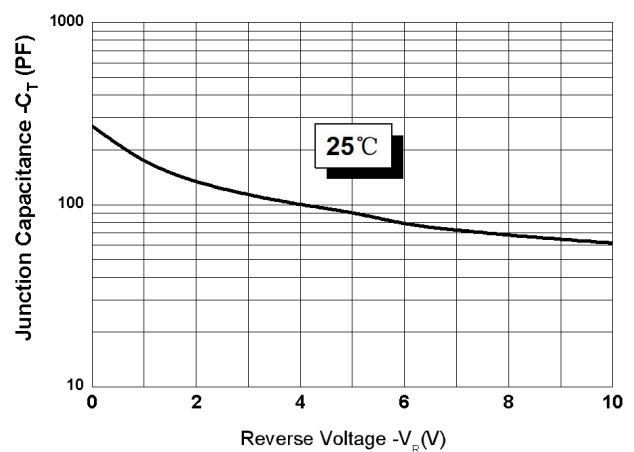
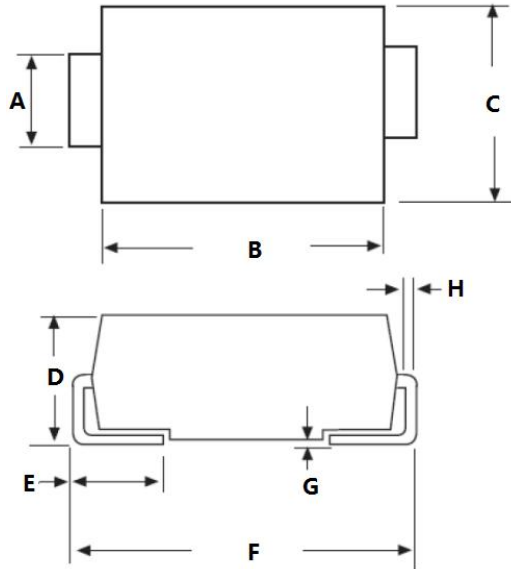


Figure 3 Typical Junction Capacitance



**Mechanical Dimensions SMA**


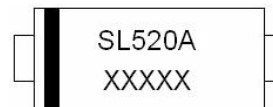
| SYMBOL | Millimeters |      | Inches |       |
|--------|-------------|------|--------|-------|
|        | Min.        | Max. | Min.   | Max.  |
| A      | 1.25        | 1.65 | 0.049  | 0.065 |
| B      | 3.95        | 4.60 | 0.156  | 0.181 |
| C      | 2.25        | 2.95 | 0.089  | 0.116 |
| D      | 1.95        | 2.90 | 0.077  | 0.114 |
| E      | 0.75        | 1.60 | 0.030  | 0.063 |
| F      | 4.80        | 5.60 | 0.189  | 0.220 |
| G      | 0.05        | 0.20 | 0.002  | 0.008 |
| H      | 0.15        | 0.41 | 0.006  | 0.016 |

**Ordering Information**

| Device   | Package          | Shipping       |
|----------|------------------|----------------|
| SL520A   | SMA<br>(Pb-Free) | 5000pcs / reel |
| SL520ATR | SMA<br>(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.

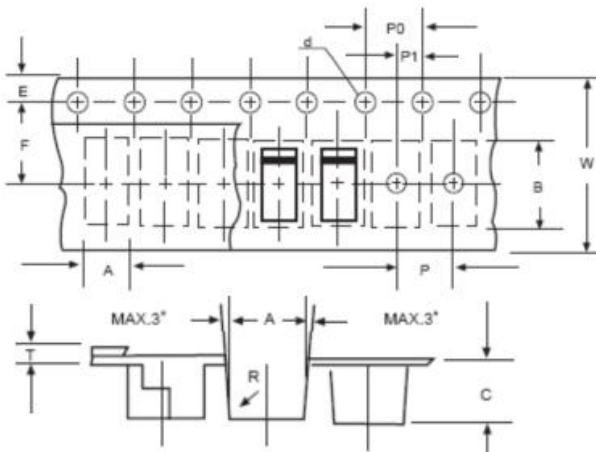
**Marking Diagram**



Where XXXXX is YYWWL

SL = Device Type  
5 = Forward Current (5A)  
20 = Reverse Voltage (200V)  
A = Package type  
YY = Year  
WW = Week  
L = Lot Number

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

**Carrier Tape Specification SMA**


| SYMBOL | Millimeters |       |
|--------|-------------|-------|
|        | Min.        | Max.  |
| A      | 2.97        | 3.17  |
| B      | 5.70        | 5.90  |
| C      | 2.32        | 2.52  |
| d      | 1.40        | 1.60  |
| E      | 1.40        | 1.60  |
| F      | 5.60        | 5.70  |
| P      | 3.90        | 4.10  |
| P0     | 3.90        | 4.10  |
| P1     | 1.90        | 2.10  |
| T      | 0.25        | 0.35  |
| W      | 11.80       | 12.20 |

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