

## Schottky Rectifier

## STPS15H100CB

## FEATURES

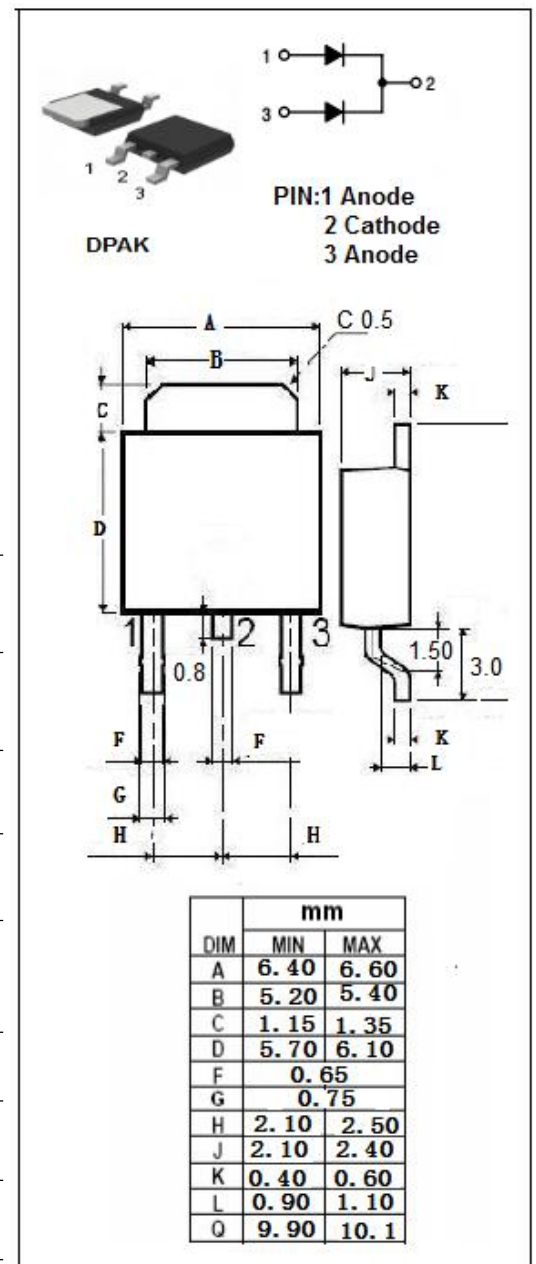
- Plastic material used carriers Underwriter Laboratory
- Metal silicon junction, majority carrier conduction
- Low Power Loss,high Efficiency
- Guard ring for overvoltage protection
- High Surge Capability,High Current Capability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- For use in low voltage,high frequency inverters,free wheeling and polarity protection applications.

## ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

| SYMBOL   | PARAMETER   |                            | VALUE     | UNIT |
|--|---|----------------------------|-----------|------|
| V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>R</sub> | Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage  |                            | 100       | V    |
| I <sub>F</sub> (RMS)                                   | RMS Forward current   |                            | 10        | A    |
| I <sub>F</sub> (AV)                                    | Average Rectified Forward Current Tc=135°C; δ =0.5  | per diode<br>Total package | 7.5<br>15 | A    |
| I <sub>FSM</sub>                                       | Nonrepetitive Peak Surge Current<br>8.3ms single half sine-wave superimposed<br>on rated load conditions<br>tp=10 ms sinusoidal |                            | 75        | A    |
| T <sub>J</sub>   | Junction Temperature  |                            | 175       | °C   |
| T <sub>stg</sub>                                       | Storage Temperature Range   |                            | -65~175   | °C   |
| dv/dt  | Voltage Rate of Change (Rated V <sub>R</sub> )  |                            | 10000     | V/μs |



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## THERMAL CHARACTERISTICS

| SYMBOL              | PARAMETER                            | MAX                | UNIT     |
|---------------------|--------------------------------------|--------------------|----------|
| R <sub>th j-c</sub> | Thermal Resistance, Junction to Case |                    |          |
|                     |                                      | Per diode<br>Total | 4<br>2.4 |
|                     |                                      |                    | °C/W     |

## ELECTRICAL CHARACTERISTICS (Pulse Test: Pulse Width=300 μs, Duty Cycle≤1%)

| SYMBOL         | PARAMETER                             | CONDITIONS   | MAX  | UNIT |
|----------------|---------------------------------------|--|------|------|
| V <sub>F</sub> | Maximum Instantaneous Forward Voltage | I <sub>F</sub> = 7.5A ; T <sub>c</sub> = 25°C              | 0.8  | V    |
|                |                                       | I <sub>F</sub> = 7.5A ; T <sub>c</sub> =125°C              | 0.67 |      |
|                |                                       | I <sub>F</sub> =12A ; T <sub>c</sub> = 25°C                | 0.85 |      |
|                |                                       | I <sub>F</sub> =12A ; T <sub>c</sub> = 125°C               | 0.73 |      |
|                |                                       | I <sub>F</sub> =15A ; T <sub>c</sub> = 25°C                | 0.89 |      |
|                |                                       | I <sub>F</sub> =15A ; T <sub>c</sub> =125°C                | 0.76 |      |
| I <sub>R</sub> | Maximum Instantaneous Reverse Current | V <sub>R</sub> = V <sub>RWM</sub> ; T <sub>c</sub> = 25°C  | 3    | mA   |
|                |                                       | V <sub>R</sub> = V <sub>RWM</sub> ; T <sub>c</sub> = 125°C | 4    |      |

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