



# HERF1601CT THRU HERF1608CT

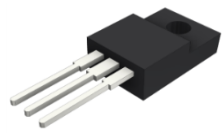
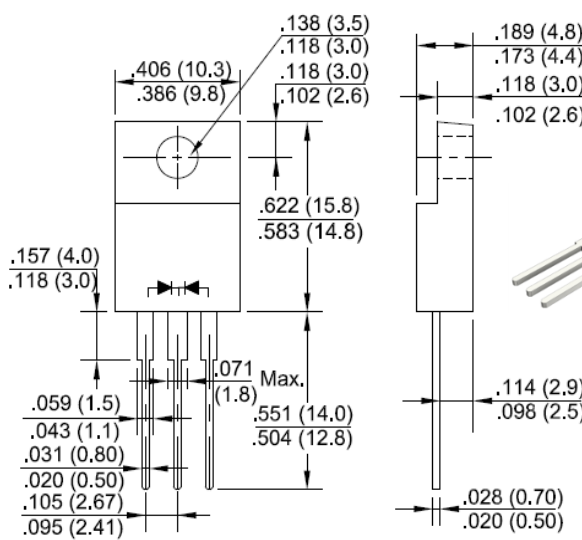
| High Efficiency Glass Passivated Rectifiers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                  | Reverse Voltage - 50 to 1000 Volts<br>Forward Current - 16.0 Ampere                                                                                                                                                                                                                                                                                                                                                                |                |                |                |                |                |                |                |      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|
| <b>Features</b> <ul style="list-style-type: none"><li>● Low switching noise</li><li>● Low thermal resistance</li><li>● Low forward voltage drop</li><li>● High current capability</li><li>● High fast switching capability</li><li>● High surge capacity</li></ul> <b>Mechanical Data</b> <ul style="list-style-type: none"><li>● Case: JEDEC ITO-220AC Molded plastic</li><li>● Polarity: Color band denotes cathode</li><li>● Mounting position: Any</li></ul> <b>Applications</b> <ul style="list-style-type: none"><li>● For use in SMPS, high frequency inverters, PWM and polarity protection applications</li></ul> |                                  | <b>ITO-220AB</b> <div></div>  <p>Package Outline Dimensions in Inches (Millimeters)</p> |                |                |                |                |                |                |                |      |
| <b>Maximum Ratings and Electrical Characteristics</b><br>Rating at 25°C ambient temperature unless otherwise specified.<br>Single phase, half wave, 60Hz, resistive or inductive load.<br>For capacitive load, derate current by 20%.                                                                                                                                                                                                                                                                                                                                                                                      |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |                |                |                |                |                |                |      |
| Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Symbol                           | HERF<br>1601CT                                                                                                                                                                                                                                                                                                                                                                                                                     | HERF<br>1602CT | HERF<br>1603CT | HERF<br>1604CT | HERF<br>1605CT | HERF<br>1606CT | HERF<br>1607CT | HERF<br>1608CT | Unit |
| Maximum Repetitive Peak Reverse Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | V <sub>RRM</sub>                 | 50                                                                                                                                                                                                                                                                                                                                                                                                                                 | 100            | 200            | 300            | 400            | 600            | 800            | 1000           | V    |
| Maximum RMS Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | V <sub>RMS</sub>                 | 35                                                                                                                                                                                                                                                                                                                                                                                                                                 | 70             | 140            | 210            | 280            | 420            | 560            | 700            | V    |
| Maximum DC Blocking Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | V <sub>DC</sub>                  | 50                                                                                                                                                                                                                                                                                                                                                                                                                                 | 100            | 200            | 300            | 400            | 600            | 800            | 1000           | V    |
| Maximum Average Forward Rectified Current @T <sub>A</sub> =75 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | I <sub>O</sub>                   | 16.0                                                                                                                                                                                                                                                                                                                                                                                                                               |                |                |                |                |                |                |                | A    |
| Peak Forward Surge Current, 8.3mS Single Half Sine-Wave, Superimposed on Rated Load (JEDEC Method)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I <sub>FSM</sub>                 | 125                                                                                                                                                                                                                                                                                                                                                                                                                                |                |                |                |                |                |                |                | A    |
| Typical Thermal Resistance Junction to Ambient                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | R <sub>θJA</sub>                 | 2.5                                                                                                                                                                                                                                                                                                                                                                                                                                |                |                |                |                |                |                |                | °C/W |
| Typical Junction Capacitance (Note1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | C <sub>J</sub>                   | 40                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |                |                |                |                |                |                | pF   |
| Peak Forward Voltage at 8.0 A DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V <sub>F</sub>                   | 1.0                                                                                                                                                                                                                                                                                                                                                                                                                                |                | 1.3            |                | 1.7            | 1.75           |                |                | V    |
| Maximum DC Reverse Current at Rated @T <sub>J</sub> =25°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | I <sub>R</sub>                   | 10                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |                |                |                |                |                |                | μA   |
| DC Blocking Voltage @T <sub>J</sub> =100°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                  | 150                                                                                                                                                                                                                                                                                                                                                                                                                                |                |                |                |                |                |                |                |      |
| Maximum Reverse Recovery Time (Note 2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | T <sub>RR</sub>                  | 60                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |                |                |                |                | 75             |                | nS   |
| Operating and Storage Temperature Range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | T <sub>J</sub> ,T <sub>STG</sub> | -55 to + 150                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                |                |                |                |                |                | °C   |
| Notes: 1.Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.<br>2.Measured with IF=0.5A,IR=1A,IRR=0.25A.<br>3.The typical data above is for reference only.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |                |                |                |                |                |                |      |
| HERF160*CT-U-00/99-00/01<br>Rev. 9, 22-Apr-2019                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |                |                |                |                |                |                |      |

Fig. 1 - Forward Current Derating Curve

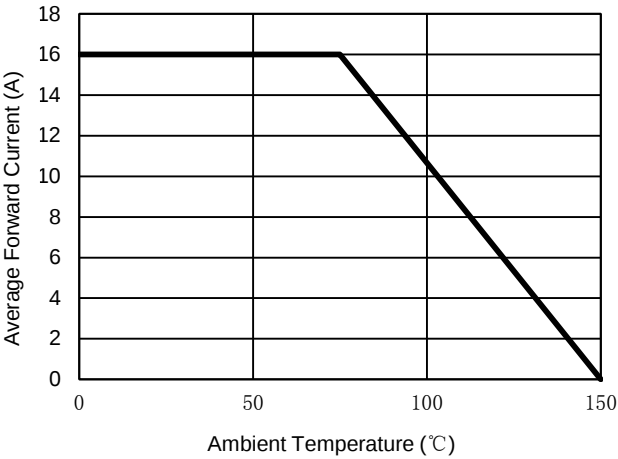


Fig. 2 - Maximum Non-Repetitive Surge Current

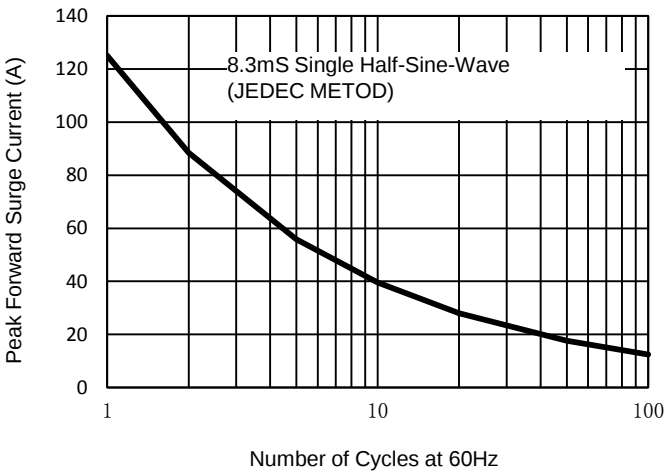


Fig. 3 - Typical Reverse Characteristics

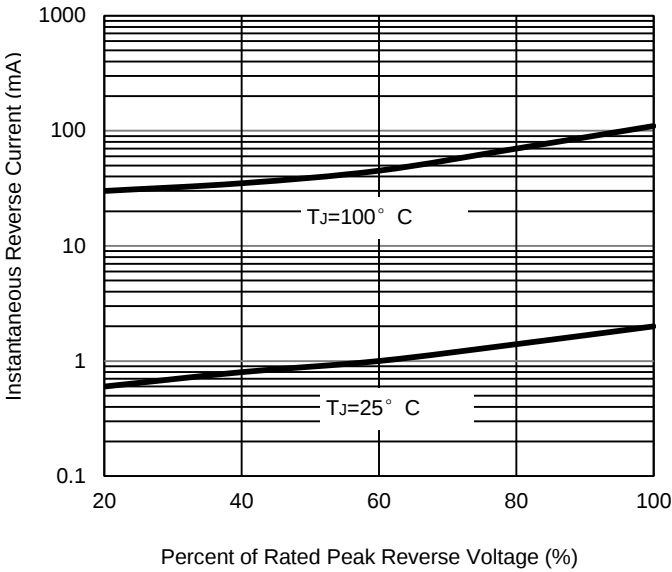


Fig. 4 - Typical Forward Characteristics

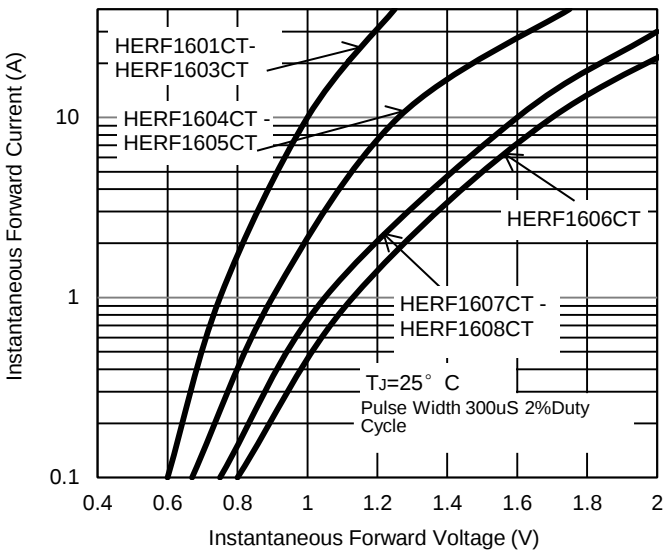
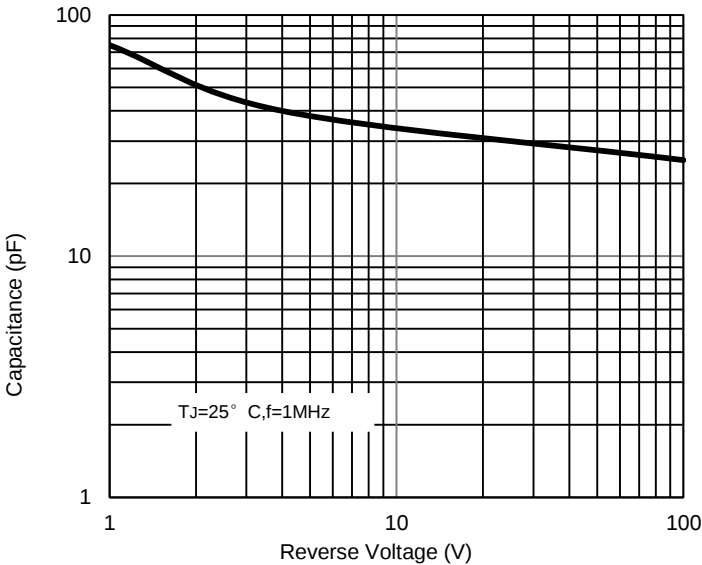


Fig. 5 - Typical Junction Capacitance



The curve above is for reference only.

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