**CTLHR10-06**

**SURFACE MOUNT SILICON HYPERFAST RECOVERY RECTIFIER**

10 AMP, 600 VOLT

---

**DESCRIPTION:**
The CENTRAL SEMICONDUCTOR CTLHR10-06 is a HyperFast power rectifier designed for high voltage, high frequency applications such as PFC that require a low profile, high power density package.

**MARKING CODE:** CHR1006

---

**APPLICATIONS:**
- Power Factor Correction (PFC)
- Motor control
- Power management
- DC-DC output rectification

**FEATURES:**
- HyperFast recovery time (22ns TYP)
- Low reverse leakage current (1.2μA TYP)
- Low profile 1.2mm MAX package height

---

**MAXIMUM RATINGS:** *(T_A=25°C)*

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>UNITS</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>V_RRM</td>
<td>V</td>
<td>600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V_R</td>
<td>V</td>
<td>600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V_R(RMS)</td>
<td>V</td>
<td>420</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I_O</td>
<td>A</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I_FSM</td>
<td>A</td>
<td>150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T_J, T_stg</td>
<td>°C</td>
<td>-65 to +175</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Θ_JL</td>
<td>°C/W</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Θ_JA</td>
<td>°C/W</td>
<td>23</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**ELECTRICAL CHARACTERISTICS:** *(T_A=25°C unless otherwise noted)*

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>TEST CONDITIONS</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>I_R</td>
<td>V_R=600V</td>
<td>1.2</td>
<td>10</td>
<td>μA</td>
</tr>
<tr>
<td>I_R</td>
<td>V_R=600V, T_A=150°C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BVR</td>
<td>I_R=0.5mA</td>
<td>600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>V_F</td>
<td>I_F=10A</td>
<td>1.6</td>
<td>1.7</td>
<td>V</td>
</tr>
<tr>
<td>V_F</td>
<td>I_F=10A, T_A=125°C</td>
<td></td>
<td>1.15</td>
<td>V</td>
</tr>
<tr>
<td>V_F</td>
<td>I_F=10A, T_A=40°C</td>
<td></td>
<td>1.8</td>
<td>V</td>
</tr>
<tr>
<td>C_J</td>
<td>V_R=4.0V, f=1.0MHz</td>
<td>42</td>
<td></td>
<td>pF</td>
</tr>
<tr>
<td>τ_R</td>
<td>I_F=10A, V_R=400V, dI/dt=200A/μs</td>
<td>22</td>
<td>25</td>
<td>ns</td>
</tr>
</tbody>
</table>

Notes: (1) FR-4 epoxy PCB with 25cm² copper pad area.

---

R1 (27-February 2014)
TLM364 CASE - MECHANICAL OUTLINE

**DIMENSIONS**

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>INCHES</th>
<th>MILLIMETERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.167</td>
<td>4.25</td>
</tr>
<tr>
<td>B</td>
<td>0.238</td>
<td>6.05</td>
</tr>
<tr>
<td>C</td>
<td>0.039</td>
<td>1.00</td>
</tr>
<tr>
<td>D</td>
<td>0.009</td>
<td>0.25</td>
</tr>
<tr>
<td>E</td>
<td>0.250</td>
<td>6.35</td>
</tr>
<tr>
<td>F</td>
<td>0.128</td>
<td>3.25</td>
</tr>
<tr>
<td>G</td>
<td>0.076</td>
<td>1.95</td>
</tr>
<tr>
<td>H</td>
<td>0.044</td>
<td>1.10</td>
</tr>
<tr>
<td>J</td>
<td>0.083</td>
<td>2.10</td>
</tr>
<tr>
<td>K</td>
<td>0.035</td>
<td>0.90</td>
</tr>
<tr>
<td>L</td>
<td>0.171</td>
<td>4.35</td>
</tr>
</tbody>
</table>

**SUGGESTED MOUNTING PADS**

(Dimensions in mm)

**LEAD CODE:**
1) Anode
2) Anode
3) Cathode

**MARKING CODE:** CHR1006

R1 (27-February 2014)
TYPICAL ELECTRICAL CHARACTERISTICS

Leakage Current

Forward Voltage

Capacitance

Current Derating

www.centralsemi.com

R1 (27-February 2014)
OUTSTANDING SUPPORT AND SUPERIOR SERVICES

PRODUCT SUPPORT
Central’s operations team provides the highest level of support to insure product is delivered on-time.
• Supply management (Customer portals)
• Inventory bonding
• Consolidated shipping options

• Custom bar coding for shipments
• Custom product packing

DESIGNER SUPPORT/SERVICES
Central’s applications engineering team is ready to discuss your design challenges. Just ask.
• Free quick ship samples (2nd day air)
• Online technical data and parametric search
• SPICE models
• Custom electrical curves
• Environmental regulation compliance
• Customer specific screening
• Up-screening capabilities

• Special wafer diffusions
• PbSn plating options
• Package details
• Application notes
• Application and design sample kits
• Custom product and package development

REQUESTING PRODUCT PLATING
1. If requesting Tin/Lead plated devices, add the suffix “TIN/LEAD” to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix “PBFREE” to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centralsemi.com

Worldwide Field Representatives:
www.centralsemi.com/wwreps

Worldwide Distributors:
www.centralsemi.com/wwdistributors

For the latest version of Central Semiconductor’s LIMITATIONS AND DAMAGES DISCLAIMER, which is part of Central’s Standard Terms and Conditions of sale, visit: www.centralsemi.com/terms