

**CTLHR10-06**  
**SURFACE MOUNT SILICON**  
**HYPERFAST**  
**RECOVERY RECTIFIER**  
**10 AMP, 600 VOLT**



[www.centrasemi.com](http://www.centrasemi.com)

**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:** ( $T_A=25^\circ\text{C}$ )

Peak Repetitive Reverse Voltage	$V_{RRM}$	600	V
DC Blocking Voltage	$V_R$	600	V
RMS Reverse Voltage	$V_R(\text{RMS})$	420	V
Average Forward Current ( $T_L=90^\circ\text{C}$ )	$I_O$	10	A
Peak Forward Surge Current, $t_p=8.3\text{ms}$	$I_{FSM}$	150	A
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 to +175	$^\circ\text{C}$
Thermal Resistance (Note 1)	$\Theta_{JL}$	10	$^\circ\text{C/W}$
Thermal Resistance (Note 1)	$\Theta_{JA}$	23	$^\circ\text{C/W}$

SYMBOL			UNITS
$V_{RRM}$	600		V
$V_R$	600		V
$V_R(\text{RMS})$	420		V
$I_O$	10		A
$I_{FSM}$	150		A
$T_J, T_{stg}$	-65 to +175		$^\circ\text{C}$
$\Theta_{JL}$	10		$^\circ\text{C/W}$
$\Theta_{JA}$	23		$^\circ\text{C/W}$

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_R$	$V_R=600\text{V}$		1.2	10	$\mu\text{A}$
$I_R$	$V_R=600\text{V}, T_A=150^\circ\text{C}$			500	$\mu\text{A}$
$BV_R$	$I_R=0.5\text{mA}$	600			V
$V_F$	$I_F=10\text{A}$		1.6	1.7	V
$V_F$	$I_F=10\text{A}, T_A=125^\circ\text{C}$		1.15		V
$V_F$	$I_F=10\text{A}, T_A=-40^\circ\text{C}$		1.8		V
$C_J$	$V_R=4.0\text{V}, f=1.0\text{MHz}$		42		pF
$t_{rr}$	$I_F=10\text{A}, V_R=400\text{V}, di/dt=200\text{A}/\mu\text{s}$		22	25	ns

Notes: (1) FR-4 epoxy PCB with 25cm<sup>2</sup> copper pad area.

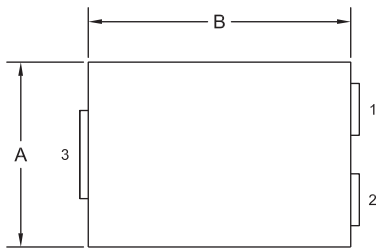
R1 (27-February 2014)

CTLHR10-06

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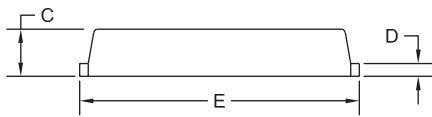
**TLM364 CASE - MECHANICAL OUTLINE**



TOP VIEW

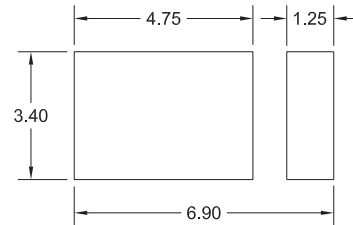
DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.167	0.172	4.25	4.35
B	0.238	0.243	6.05	6.15
C	0.039	0.048	1.00	1.20
D	0.009	0.014	0.25	0.35
E	0.250	0.262	6.35	6.65
F	0.128	0.136	3.25	3.45
G	0.076	0.085	1.95	2.15
H	0.044	0.052	1.10	1.30
J	0.083		2.10	
K	0.035	0.044	0.90	1.10
L	0.171	0.183	4.35	4.65

TLM364 (REV:R0)

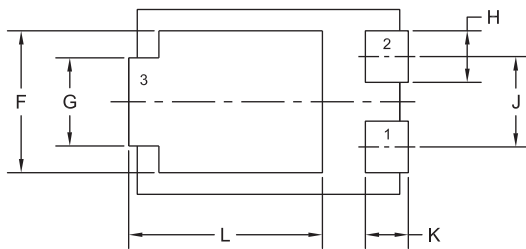


SIDE VIEW

**SUGGESTED MOUNTING PADS**  
(Dimensions in mm)



R0



BOTTOM VIEW R0

**LEAD CODE:**

- 1) Anode
- 2) Anode
- 3) Cathode

**MARKING CODE: CHR1006**

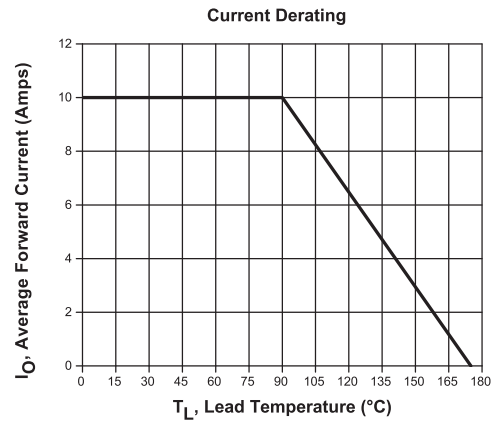
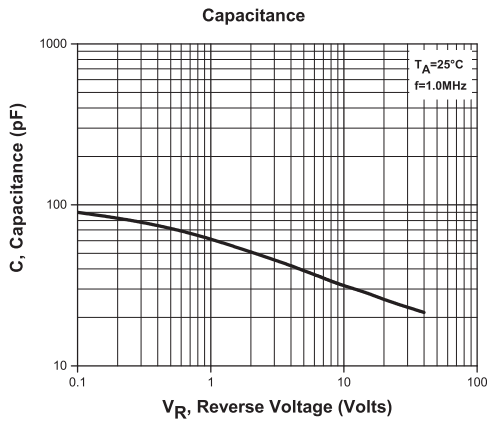
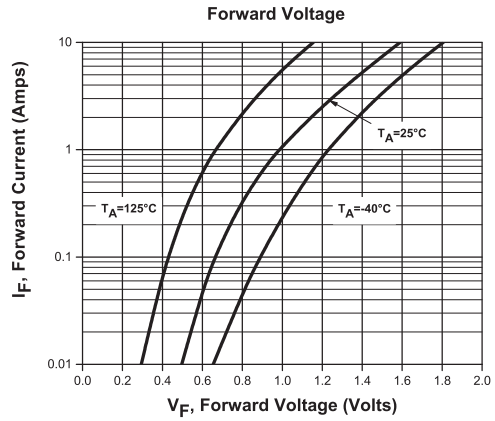
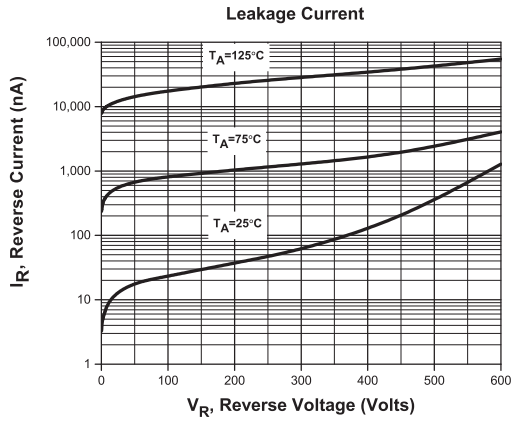
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TYPICAL ELECTRICAL CHARACTERISTICS



R1 (27-February 2014)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> 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

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### 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).

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### CONTACT US

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