

**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<sub>A</sub>=25°C)

Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	600	V
DC Blocking Voltage	V <sub>R</sub>	600	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	420	V
Average Forward Current (T <sub>L</sub> =90°C)	I <sub>O</sub>	10	A
Peak Forward Surge Current, tp=8.3ms	I <sub>FSM</sub>	150	A
Operating and Storage Junction Temperature	T <sub>J</sub> , T <sub>stg</sub>	-65 to +175	°C
Thermal Resistance (Note 1)	θ <sub>JL</sub>	10	°C/W
Thermal Resistance (Note 1)	θ <sub>JA</sub>	23	°C/W

SYMBOL			UNITS
V <sub>RRM</sub>	600		V
V <sub>R</sub>	600		V
V <sub>R(RMS)</sub>	420		V
I <sub>O</sub>	10		A
I <sub>FSM</sub>	150		A
T <sub>J</sub> , T <sub>stg</sub>	-65 to +175		°C
θ <sub>JL</sub>	10		°C/W
θ <sub>JA</sub>	23		°C/W

**ELECTRICAL CHARACTERISTICS:** (T<sub>A</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I <sub>R</sub>	V <sub>R</sub> =600V		1.2	10	μA
I <sub>R</sub>	V <sub>R</sub> =600V, T <sub>A</sub> =150°C			500	μA
BV <sub>R</sub>	I <sub>R</sub> =0.5mA	600			V
V <sub>F</sub>	I <sub>F</sub> =10A		1.6	1.7	V
V <sub>F</sub>	I <sub>F</sub> =10A, T <sub>A</sub> =125°C		1.15		V
V <sub>F</sub>	I <sub>F</sub> =10A, T <sub>A</sub> =-40°C		1.8		V
C <sub>J</sub>	V <sub>R</sub> =4.0V, f=1.0MHz		42		pF
t <sub>rr</sub>	I <sub>F</sub> =10A, V <sub>R</sub> =400V, di/dt=200A/μs		22	25	ns

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

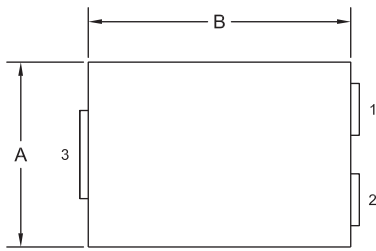
R1 (27-February 2014)

CTLHR10-06

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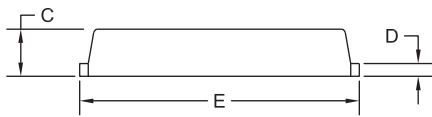
**TLM364 CASE - MECHANICAL OUTLINE**



TOP VIEW

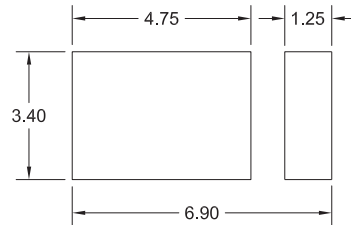
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.167	0.172	4.25	4.35
B	0.238	0.243	6.05	6.15
C	0.039	0.048	1.00	1.20
D	0.009	0.014	0.25	0.35
E	0.250	0.262	6.35	6.65
F	0.128	0.136	3.25	3.45
G	0.076	0.085	1.95	2.15
H	0.044	0.052	1.10	1.30
J	0.083		2.10	
K	0.035	0.044	0.90	1.10
L	0.171	0.183	4.35	4.65

TLM364 (REV:R0)

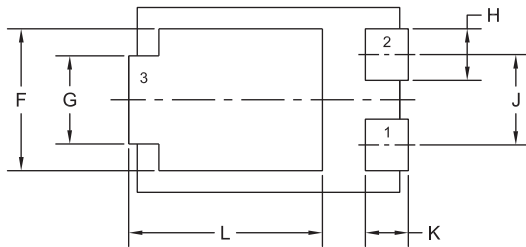


SIDE VIEW

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



R0



BOTTOM VIEW

R0

**LEAD CODE:**

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

**MARKING CODE: CHR1006**

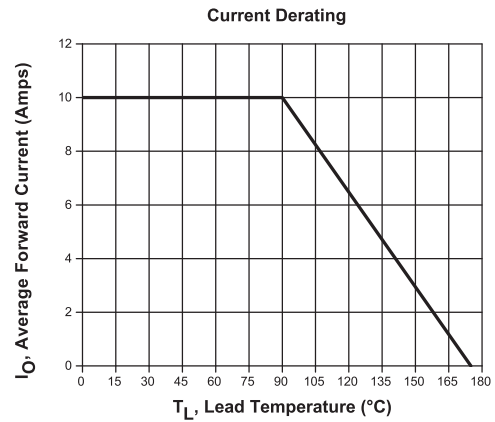
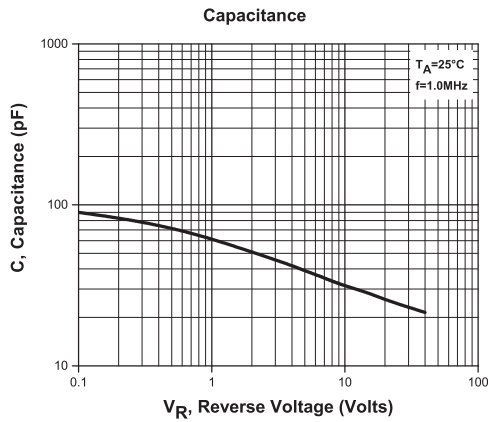
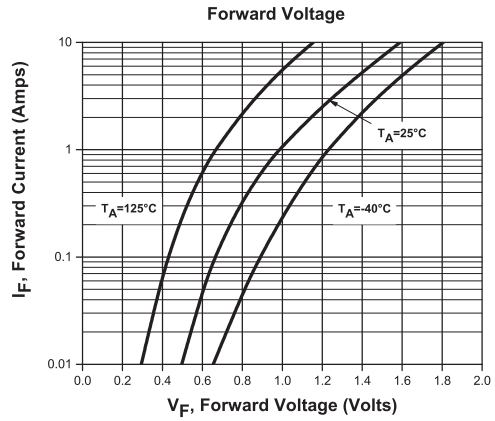
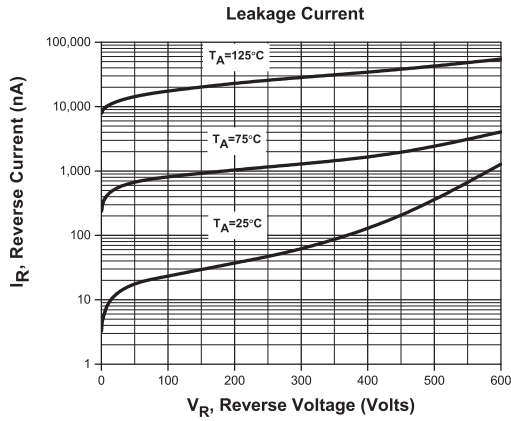
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**TYPICAL ELECTRICAL CHARACTERISTICS**



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## 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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