

# CPD21-CTLHR10-06

## HyperFast Rectifier Die

### 10 Amp, 600 Volt

The CPD21-CTLHR10-06 is a silicon HyperFast rectifier designed for motor control and power factor correction applications where extremely fast switching is required.

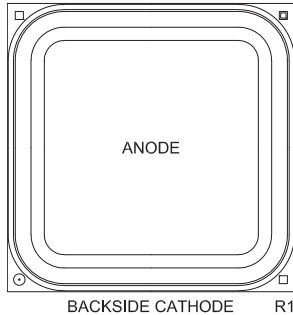
#### FEATURES:

- HyperFast recovery time
- High current
- High voltage

#### APPLICATIONS:

- Power factor correction
- Motor control

**HYPER  
FAST**



#### MECHANICAL SPECIFICATIONS:

Die Size	110 x 110 MILS
Die Thickness	10.2 MILS
Die Passivation	Glass
Anode Bonding Pad Area	80 x 80 MILS
Top Side Metalization	Al/Ti/Ni/Au – 13,500Å
Back Side Metalization	Al/Ti/Ni/Au – 13,500Å
Scribe Alley Width	3.7 MILS
Wafer Diameter	4 INCHES
Gross Die Per Wafer	700

#### MAXIMUM RATINGS: ( $T_A=25^\circ\text{C}$ unless otherwise noted)

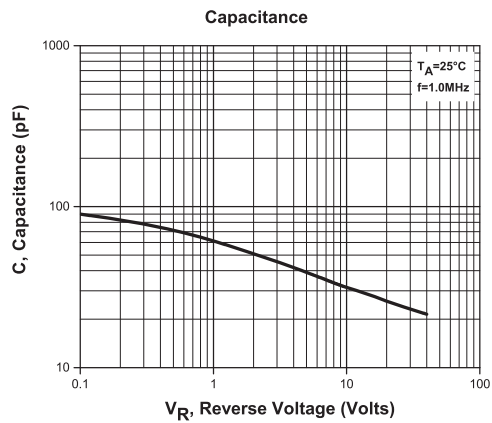
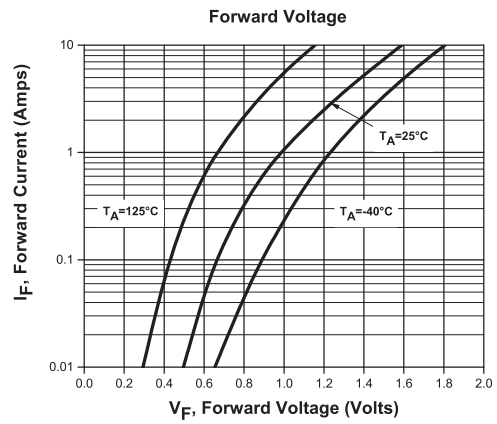
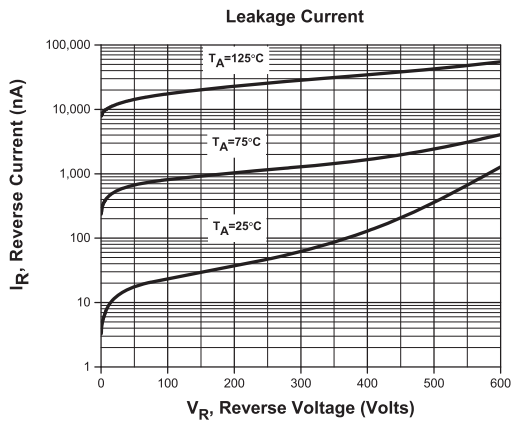
	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	$V_{RRM}$	600	V
DC Blocking Voltage	$V_R$	600	V
RMS Reverse Voltage	$V_{R(RMS)}$	420	V
Average Forward Current	$I_O$	10	A
Peak Forward Surge Current, $t_p=8.3\text{ms}$	$I_{FSM}$	150	A
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_R$	$V_R=600\text{V}$			10	$\mu\text{A}$
$BV_R$	$I_R=500\mu\text{A}$	600			V
$V_F$	$I_F=10\text{A}$			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
$t_{rr}$	$I_F=10\text{A}, V_R=400\text{V}, di/dt=200\text{A}/\mu\text{s}$			25	ns

# CPD21-CTLHR10-06

## Typical Electrical Characteristics



## BARE DIE PACKING OPTIONS

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### BARE DIE IN TRAY (WAFFLE) PACK

**CT:** Singulated die in tray (waffle) pack.  
(example: CP211-PART NUMBER-CT)

**CM:** Singulated die in tray (waffle) pack 100% visually inspected as per MIL-STD-750, (method 2072 transistors, method 2073 diodes).  
(example: CP211-PART NUMBER-CM)

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### UNSAWN WAFER

**WN:** Full wafer, unsawn, 100% tested with reject die inked.  
(example: CP211-PART NUMBER-WN)

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### SAWN WAFER ON PLASTIC RING

**WR:** Full wafer, sawn and mounted on plastic ring,  
100% tested with reject die inked.  
(example: CP211-PART NUMBER-WR)

Please note: Sawn Wafer on Metal Frame (WS) is possible as a special order. Please contact your Central Sales Representative at 631-435-1110.



Visit the Central website for a complete listing of specifications:  
[www.centrasemi.com/bdspecs](http://www.centrasemi.com/bdspecs)

## 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

#### Corporate Headquarters & Customer Support Team

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