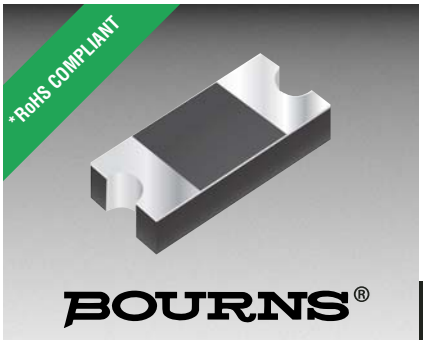



## Features

- Lead free device (RoHS compliant*)
- Low profile
- Low power loss, high efficiency
- UL 94V-0 classification

## Applications

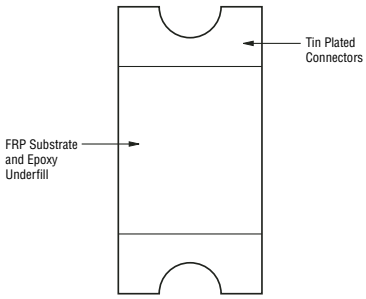
- High frequency switching power supplies
- Inverters
- Free wheeling
- Polarity protection

# CD1408-FU1200~FU1800 – Surface Mount Rectifier Diode

## General Information

The markets of portable communications, computing and video equipment are challenging the semiconductor industry to develop increasingly smaller electronic components. Bourns offers Rectifier Diodes for rectification applications, in compact chip package 1408 size format (compatible with SOD87, SOD123 formats), which offers PCB real estate savings and are considerably smaller than most competitive parts. The Glass Passivated Rectifier Diodes offer a forward current of 1 A with a choice of repetitive peak reverse voltage of 200 V up to 800 V, with a 35 nS maximum recovery time.

Bourns® Chip Diodes conform to JEDEC standards, are easy to handle on standard pick and place equipment and their flat configuration minimizes roll away.




## Electrical Characteristics (@ $T_A$ = 25 °C Unless Otherwise Noted)

| Parameter | Symbol | CD1408- | | | | Unit |
|---|---|---|---|---|---|---|
| | | FU1200 | FU1400 | FU1600 | FU1800 | |
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 200 | 400 | 600 | 800 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 140 | 280 | 420 | 560 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 200 | 400 | 600 | 800 | V |
| Max. Average Forward Rectified Current[1] | $I_{(AV)}$ | 1.0 | | | | A |
| DC Reverse Current @ Rated DC Blocking Voltage (@$T_a$ = 25 °C) | $I_R$ | 2.0 | 5.0 | | | µA |
| DC Reverse Current @ Rated DC Blocking Voltage (@$T_a$ = 125 °C) | $I_R$ | 50.0 | | | | µA |
| DC Reverse Current @ Rated DC Blocking Voltage (@$T_a$ = 150 °C) | $I_R$ | 50.0 | | | | µA |
| Typical Junction Capacitance[2] | $C_J$ | 10 | | | | pF |
| Instantaneous Forward Voltage @ $I_F$ = 1 A | $V_F$ | 0.93 | 1.05 | 1.25 | 2.50 | V |
| Maximum Reverse Recovery Time[3] | $T_{rr}$ | 35 | | | | ns |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 30.0 | | | 25.0 | A |
| Typical Thermal Resistance | Rj-a | 80 | | | | °C/Watt |
| Typical Thermal Resistance | Rj-l | 40 | | | | °C/Watt |

Notes:
1 See Forward Derating Curve.
2 Measured @ 1.0 MHz and applied reverse voltage of 4.0 VDC.
3 Reverse recovery test condition: IF = 0.5 A, IR = 1.0 A, Irr = 0.25 A

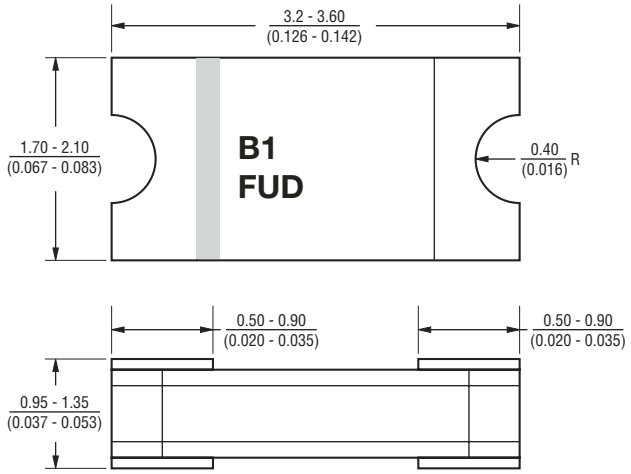
## Thermal Characteristics (@ $T_A$ = 25 °C Unless Otherwise Noted)

| Parameter | Symbol | CD1408-FU1200~FU1800 | Unit |
|---|---|---|---|
| Operating Temperature Range | $T_J$ | -65 to +175 | °C |
| Storage Temperature Range | $T_{STG}$ | -65 to +175 | °C |

*RoHS Directive 2002/95/EC Jan 27 2003 including Annex.
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

## Product Dimensions

This is a lead free product, packaged with FRP substrate and is epoxy underfilled. The terminals are pure tin plated and are solderable per MIL-STD-750, Method 2026. The package weighs approximately 0.02 g. The package and dimensions are shown below.




DIMENSIONS: MM / (INCHES)

## Recommended Footprint

The device will mount onto existing JEDEC SOD-87 footprint.

## How To Order

**CD 1408 - FU 1 400**

Common Code
CD = Chip Diode

Package
1408 = ~0.14 x 0.08 ˝

Function
FU = Ultra Fast Rectifier

Forward Current $I_{(AV)}$
1 = 1 A

Reverse Voltage
200 = 200 V
400 = 400 V
600 = 600 V
800 = 800 V

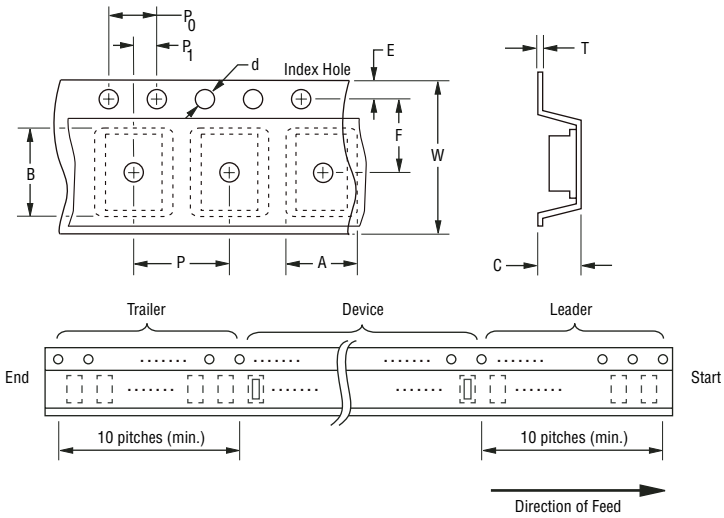
## Typical Part Marking

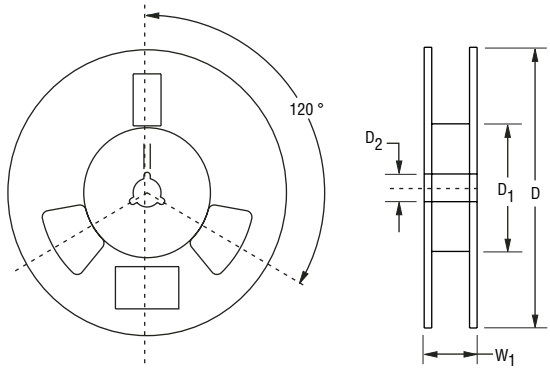
| | |
|---|---|
| CD1408-FU1200 | **B1 FUD** |
| CD1408-FU1400 | **B1 FUG** |
| CD1408-FU1600 | **B1 FUJ** |
| CD1408-FU1800 | **B1 FUK** |

Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

## Packaging Information

The product will be dispensed in Tape and Reel format (see diagram below).




DIMENSIONS: MM / (INCHES)

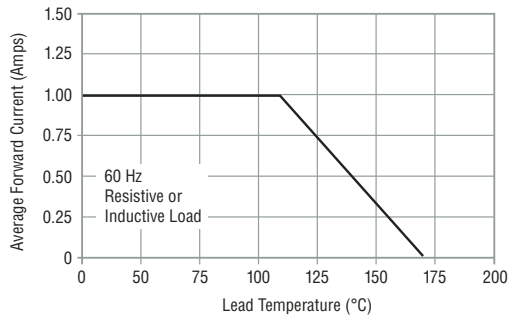
Devices are packed in accordance with EIA standard RS-481-A and specifications shown here.

| Item | Symbol | 1408 |
|---|---|---|
| Carrier Width | A | 1.90 ±0.10 (0.075 - 0.004) |
| Carrier Length | B | 4.30 ±0.10 (0.169 - 0.004) |
| Carrier Depth | C | 1.80 ±0.10 (0.071 - 0.004) |
| Sprocket Hole | d | 1.55 ±0.05 (0.061 - 0.002) |
| Reel Outside Diameter | D | 178 (7.008) |
| Reel Inner Diameter | $D_1$ | 80.0 (3.150) Min. |
| Feed Hole Diameter | $D_2$ | 13.0 ±0.20 (0.512 - 0.008) |
| Sprocket Hole Position | E | 1.75 ±0.10 (0.069 - 0.004) |
| Punch Hole Position | F | 3.50 ±0.05 (0.138 - 0.002) |
| Punch Hole Pitch | P | 4.00 ±0.10 (0.157 - 0.004) |
| Sprocket Hole Pitch | $P_0$ | 4.00 ±0.10 (0.157 - 0.004) |
| Embossment Center | $P_1$ | 2.00 ±0.05 (0.079 - 0.002) |
| Overall Tape Thickness | T | 0.20 ±0.10 (0.008 - 0.004) |
| Tape Width | W | 8.00 ±0.20 (0.315 - 0.008) |
| Reel Width | $W_1$ | 13.5 (0.531) Max. |
| Quantity per Reel | — | 3,000 |

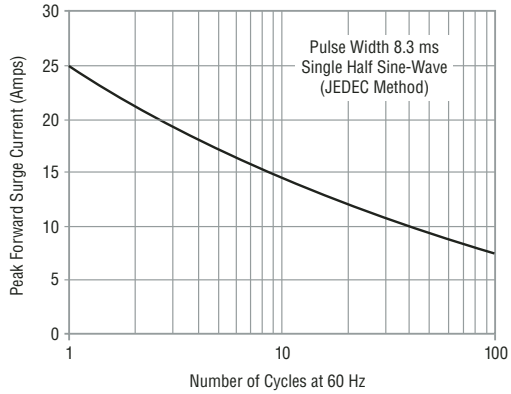
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

## Performance Graphs

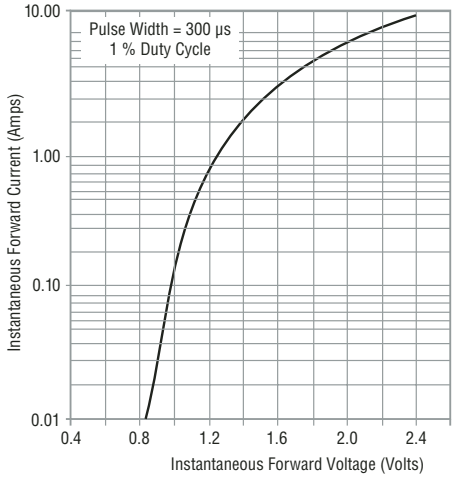
### Forward Current Derating Curve



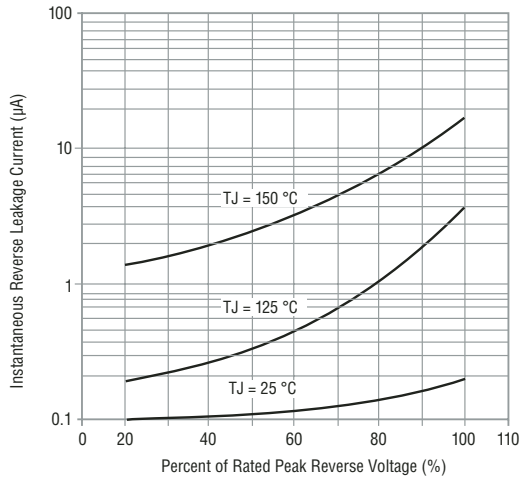

### Maximum Non-Repetitive Surge Current



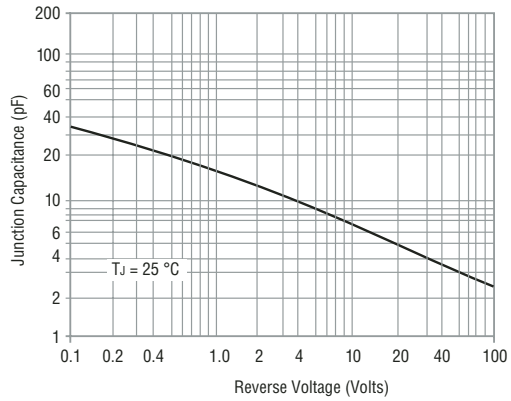

### Typical Forward Characteristics




### Typical Reverse Characteristics




### Typical Junction Capacitance




BOURNS®

*Reliable Electronic Solutions*

**Asia-Pacific:**
Tel: +886-2 2562-4117 • Fax: +886-2 2562-4116
**Europe:**
Tel: +41-41 768 5555 • Fax: +41-41 768 5510
**The Americas:**
Tel: +1-951 781-5500 • Fax: +1-951 781-5700
**www.bourns.com**

03/07

Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001
Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

**Данный компонент на территории Российской Федерации**

**Вы можете приобрести в компании MosChip.**

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

http://moschip.ru/get-element

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

**Офис по работе с юридическими лицами:**

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:
moschip.ru
moschip.ru_4
moschip.ru_6
moschip.ru_9