

Features

- RoHS compliant*
- Low profile
- Low power loss, high efficiency
- UL 94V-0 classification

Applications

- Switch Mode Power Supplies
- Portable equipment batteries
- High frequency rectification
- DC/DC Converters
- Telecommunications

CD214C-S3x Series Rectifier Chip Diode

General Information

Portable communications, computing and video equipment manufacturers are challenging the semiconductor industry to develop increasingly smaller electronic components.

Bourns offers Glass Passivated Rectifiers for rectification applications in a compact chip package compatible with DO-214AB (SMC) size format. The Glass Passivated Rectifier Diodes offer a forward current of 3 A with a choice of repetitive peak reverse voltage of 200 V up to 1000 V.



Absolute Maximum Ratings (@ T_A = 25 °C Unless Otherwise Noted)

| Parameter | Symbol | CD214C- | | | | | Unit |
|---|--------------------|-------------|-----|-----|-----|------|------|
| | | S3D | S3G | S3J | S3K | S3M | |
| Maximum Repetitive Peak Reverse Voltage | V _{RRM} | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Current | I _{F(AV)} | 3 | | | | | A |
| Maximum Peak Forward Surge Current (8.3 ms Single Half Sine-Wave) | I _{SM} | 100 | | | | | A |
| Operating Junction Temperature Range | T _{OPR} | -65 to +175 | | | | | °C |
| Storage Temperature Range | T _{STG} | -65 to +175 | | | | | °C |

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

| Parameter | Symbol | Condition | Min. | Typ. | Max. | Unit |
|--|---------------------|-----------------------------------|------|------|------|------|
| Maximum Instantaneous Forward Voltage (NOTE 1) | V _F | I _F = 3 A | | 0.96 | 1 | V |
| DC Reverse Current | I _R | V _R = V _{RRM} | | 0.1 | 5 | μA |
| Typical Thermal Resistance (NOTE 2) | Junction to Ambient | R _{θJA} | | 118 | | °C/W |
| | Junction to Lead | R _{θJL} | | 32 | | |

NOTES:

(1) Pulse width 300 microsecond, 1 % duty cycle.

(2) Mounted on PCB with 5.0 x 5.0 mm (0.2 x 0.2 inch) copper pad areas.



WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

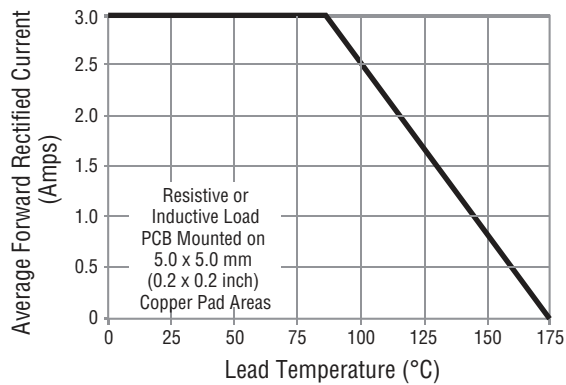
Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

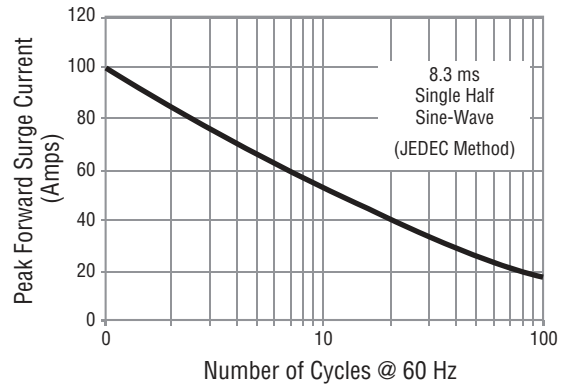
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Performance Graphs

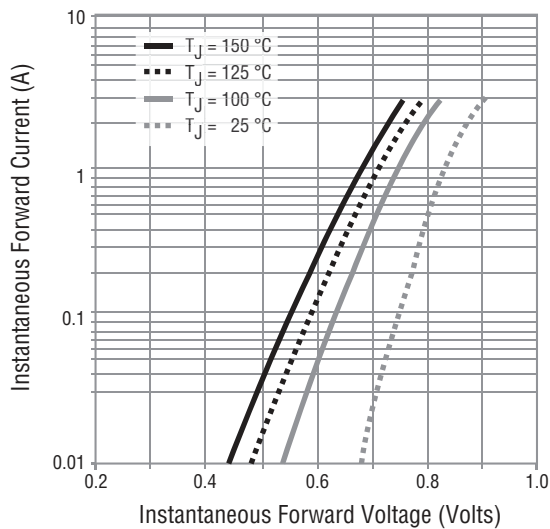
Forward Current Derating Curve



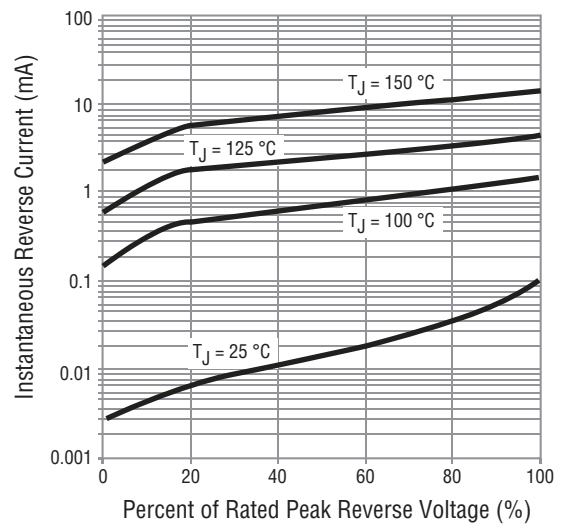
Maximum Peak Forward Surge Current



Typical Instantaneous Forward Characteristics



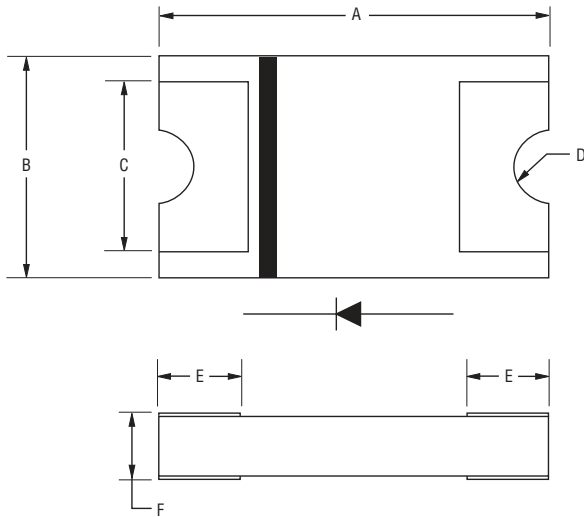
Typical Reverse Characteristics



CD214C-S3x Series Rectifier Chip Diode



Product Dimensions



| Dimension | CD214C-S3 Series |
|-----------|---|
| A | $\frac{8.0 \pm 0.10}{(0.315 \pm 0.004)}$ |
| B | $\frac{5.0 \pm 0.10}{(0.197 \pm 0.004)}$ |
| C | $\frac{3.90}{(0.154)}$ TYP. |
| D | $\frac{0.80 \pm 0.02}{(0.031 \pm 0.001)}$ |
| E | $\frac{1.95 \pm 0.10}{(0.077 \pm 0.004)}$ |
| F | $\frac{1.10 \pm 0.15}{(0.043 \pm 0.006)}$ |

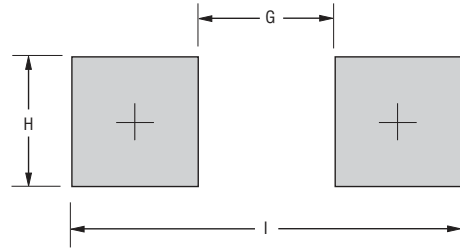
DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

How to Order

CD 214C - S 3 D

- Common Code _____
- CD = Chip Diode
- Package _____
- 214C = SMC/DO-214AB Compatible
- Model _____
- S = Glass Passivated Rectifier Series
- Maximum Average Forward Rectified Current _____
- 3 = 3 A
- Maximum Repetitive Peak Reverse Voltage _____
- D = 200 V
- G = 400 V
- J = 600 V
- K = 800 V
- M = 1000 V

Recommended Pad Layout



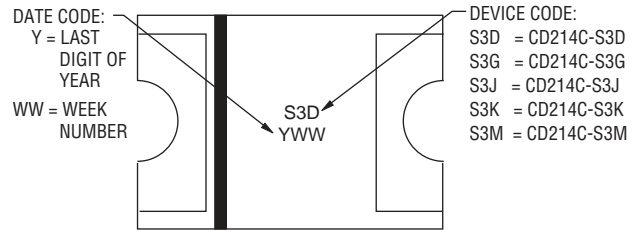
| Dimension | CD214C-S3 Series |
|-----------|------------------------------|
| G | $\frac{4.10}{(0.161)}$ MAX. |
| H | $\frac{3.90}{(0.154)}$ MIN. |
| I | $\frac{11.90}{(0.469)}$ REF. |

DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

Environmental Specifications

Moisture Sensitivity Level..... 1
 ESD Classification (HBM)..... 3B

Typical Part Marking



DATE CODE:
 Y = LAST
 DIGIT OF
 YEAR
 WW = WEEK
 NUMBER

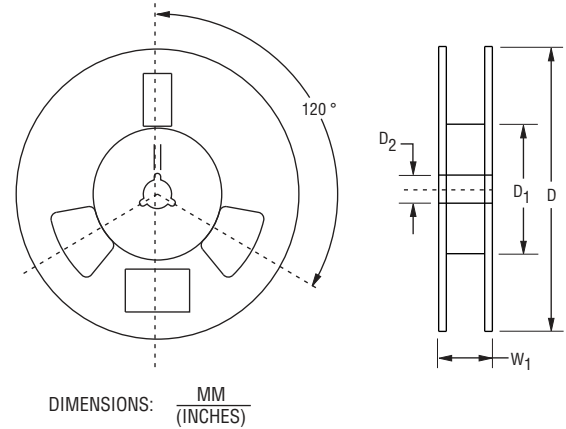
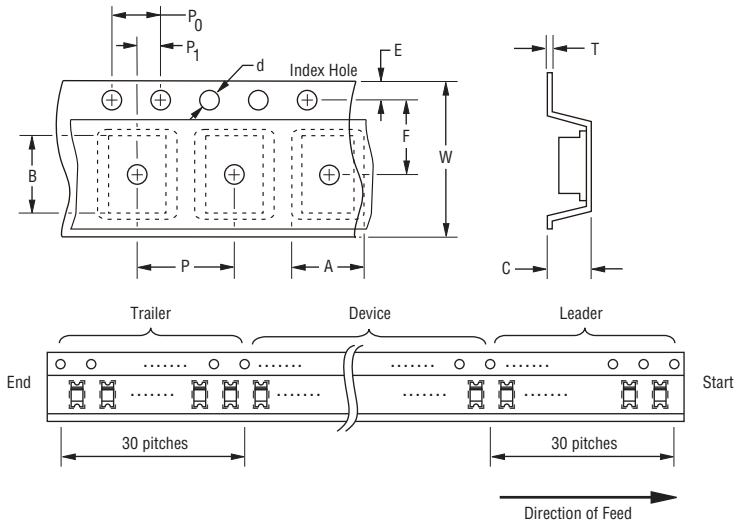
DEVICE CODE:
 S3D = CD214C-S3D
 S3G = CD214C-S3G
 S3J = CD214C-S3J
 S3K = CD214C-S3K
 S3M = CD214C-S3M

CD214C-S3x Series Rectifier Chip Diode

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Packaging Information

The product is dispensed in tape and reel format (see diagram below).



| Item | Symbol | CD214C-S3 Series |
|------------------------|----------------|--|
| Carrier Width | A | $\frac{5.56 \pm 0.10}{(0.219 \pm 0.004)}$ |
| Carrier Length | B | $\frac{8.18 \pm 0.10}{(0.322 \pm 0.004)}$ |
| Carrier Depth | C | $\frac{2.50}{(0.098)}$ MAX. |
| Sprocket Hole | d | $\frac{1.55 \pm 0.05}{(0.061 \pm 0.002)}$ |
| Reel Outside Diameter | D | $\frac{330 \pm 2.0}{(12.992 \pm 0.079)}$ |
| Reel Inner Diameter | D ₁ | $\frac{50.0}{(1.969)}$ MIN. |
| Feed Hole Diameter | D ₂ | $\frac{13.0 \pm 0.50}{(0.512 \pm 0.020)}$ |
| Sprocket Hole Position | E | $\frac{1.75 \pm 0.10}{(0.069 \pm 0.004)}$ |
| Punch Hole Position | F | $\frac{7.50 \pm 0.10}{(0.295 \pm 0.004)}$ |
| Punch Hole Pitch | P | $\frac{8.00 \pm 0.10}{(0.315 \pm 0.004)}$ |
| Sprocket Hole Pitch | P ₀ | $\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$ |
| Embossment Center | P ₁ | $\frac{2.00 \pm 0.10}{(0.079 \pm 0.004)}$ |
| Overall Tape Thickness | T | $\frac{0.40}{(0.016)}$ MAX. |
| Tape Width | W | $\frac{16.00 \pm 0.30}{(0.630 \pm 0.012)}$ |
| Reel Width | W ₁ | $\frac{22.7}{(0.893)}$ MAX. |
| Quantity per Reel | -- | 3,000 |

BOURNS®

Asia-Pacific:
Tel: +886-2 2562-4117
Email: asiacus@bourns.com

Europe:
Tel: +36 88 885 877
Email: eurocus@bourns.com

The Americas:
Tel: +1-951 781-5500
Email: americus@bourns.com
www.bourns.com

REV. 08/19

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