

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-FS3x Series Fast Response 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 600 V.



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

Parameter	Symbol	CD214C-			Unit
		FS3D	FS3G	FS3J	
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	200	400	600	V
Maximum Average Forward Current	I _{F(AV)}	3			A
Maximum Peak Forward Surge Current (8.3 ms Single Half Sine-Wave)	I _{FSM}	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 or Model	Min.	Typ.	Max.	Unit	
Maximum Instantaneous Forward Voltage (NOTE 1)	V _F	I _F = 3 A	CD214C-FS3D		0.93	0.95	V
			CD214C-FS3G		1.2	1.25	
			CD214C-FS3J		1.4	1.7	
DC Reverse Current	I _R	V _R = V _{RRM}		0.2	5	μA	
Reverse Recovery Time	T _{rr}	I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A		35		nS	
Typical Junction Capacitance	C _J	V _R = 4 V, f = 1.0 MHz		19		pF	
Typical Thermal Resistance (NOTE 2)	Junction to Ambient	R _{θJA}		60		°C/W	
	Junction to Lead	R _{θJL}		10			

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.

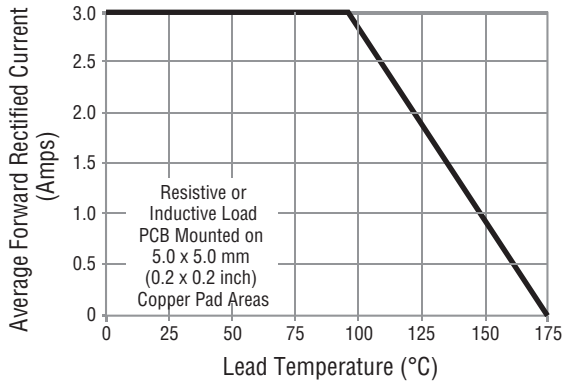
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CD214C-FS3x Series Fast Response Rectifier Chip Diode

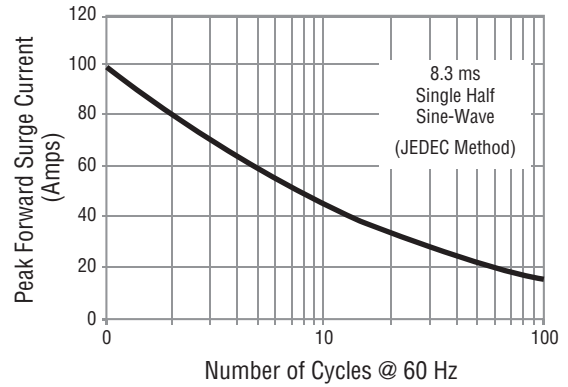
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Performance Graphs

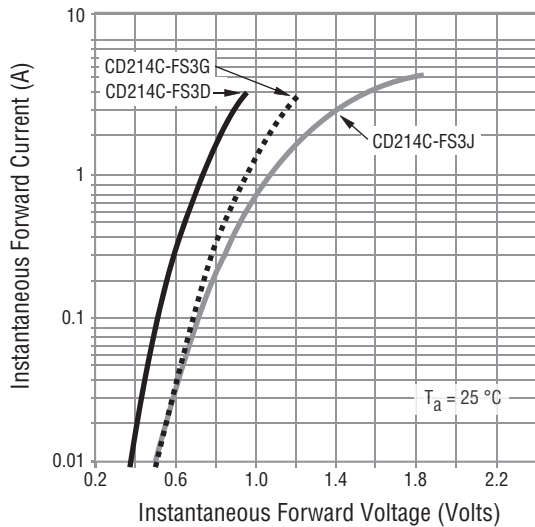
Forward Current Derating Curve



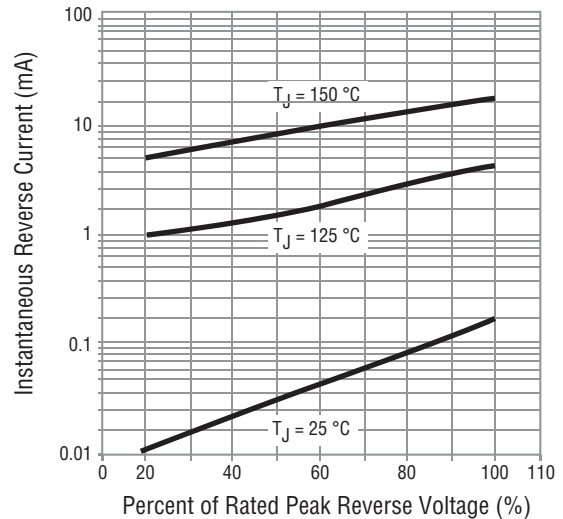
Maximum Peak Forward Surge Current



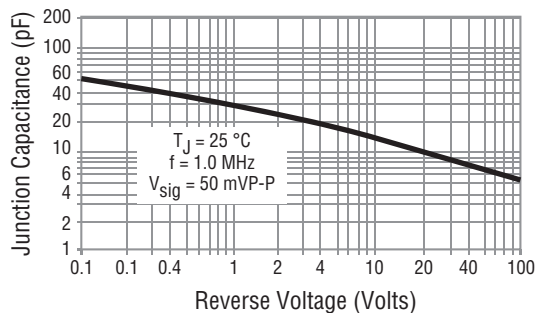
Typical Instantaneous Forward Characteristics



Typical Reverse Characteristics



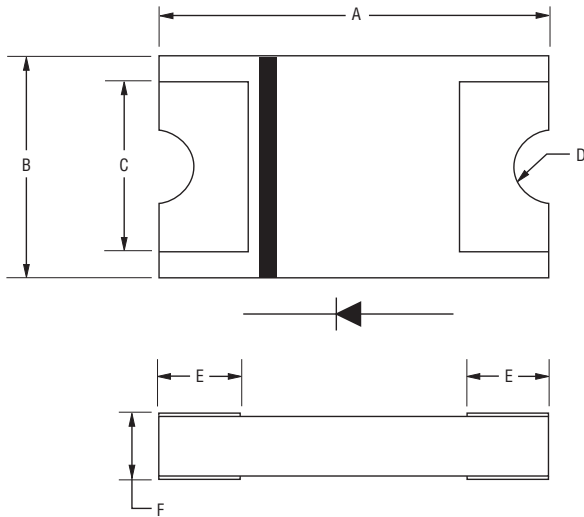
Typical Junction Capacitance



CD214C-FS3x Series Fast Response Rectifier Chip Diode



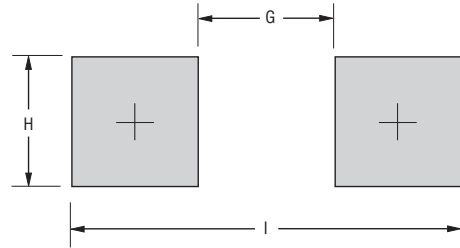
Product Dimensions



Dimension	CD214C-FS 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: $\frac{\text{MM}}{\text{(INCHES)}}$

Recommended Pad Layout



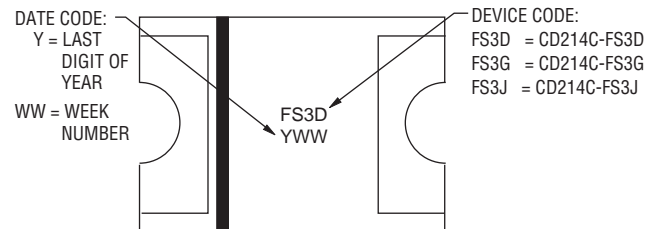
Dimension	CD214C-FS Series
G	$\frac{4.10}{(0.161)}$ MAX.
H	$\frac{3.90}{(0.154)}$ MIN.
I	$\frac{11.90}{(0.469)}$ REF.

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

Environmental Specifications

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

Typical Part Marking



How to Order

CD 214C - FS 3 D

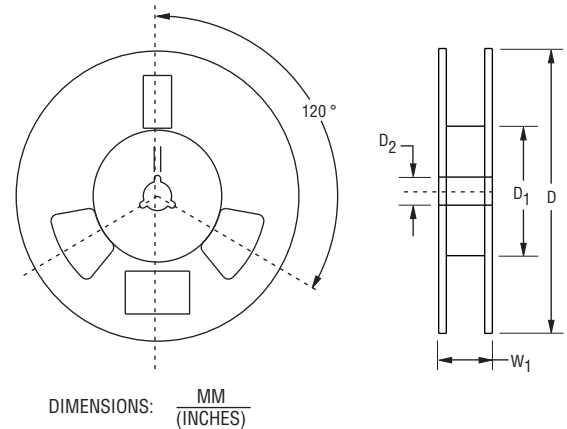
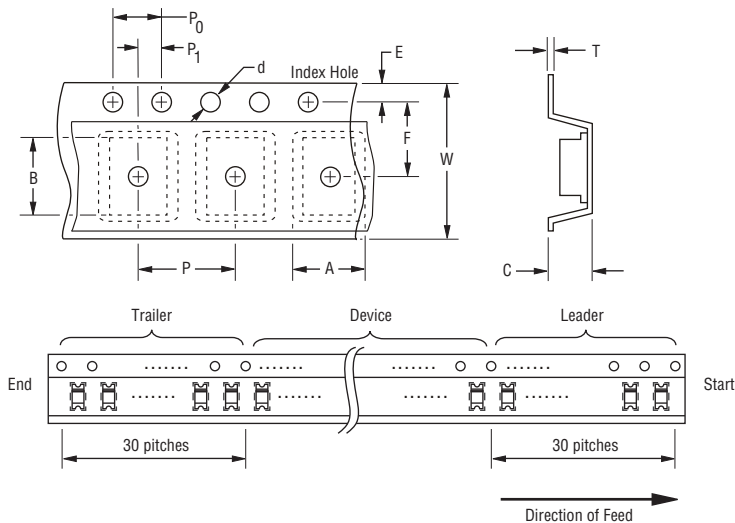
Common Code _____
 CD = Chip Diode
 Package _____
 214C = SMC/DO-214AB Compatible
 Model _____
 FS = Fast Response Rectifier
 Maximum Average Forward Rectified Current _____
 3 = 3 A
 Maximum Repetitive Peak Reverse Voltage _____
 D = 200 V
 G = 400 V
 J = 600 V

CD214C-FS3x Series Fast Response Rectifier Chip Diode

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Packaging Information

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



Item	Symbol	CD214C-FS3 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

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REV. 08/19

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