

Features

- Lead free device (RoHS compliant*)
- Glass passivated chip
- Low reverse leakage current
- Low forward voltage drop
- High current capability

CD214C-F350~F3600 Fast Response Rectifiers

General Information

The markets of portable communications, computing and video equipment are challenging the semiconductor industry to develop increasingly smaller electronic components. Bourns offers Glass Passivated Rectifiers for rectification applications, in compact chip DO-214AB (SMC) size format, which offers PCB real estate savings and are considerably smaller than competitive parts. The Glass Passivated Rectifier Diodes offer a forward current of 3.0 A with a choice of repetitive peak reverse voltage of 50 V up to 600 V.

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 (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	CD214C-					Unit
		F350	F3100	F3200	F3400	F3600	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	V
Maximum Average Forward Rectified Current (@ $T_L = 100^\circ\text{C}$) ¹	$I_{(AV)}$	3.0					A
DC Reverse Current @ Rated DC Blocking Voltage (@ $T_J = 25^\circ\text{C}$)	I_R	10.0					μA
DC Reverse Current @ Rated DC Blocking Voltage (@ $T_J = 125^\circ\text{C}$)	I_R	500.0					μA
Typical Junction Capacitance ²	C_J	45					pF
Maximum Instantaneous Forward Voltage @ 3 A	V_F	0.92			1.25	1.30	V
Typical Thermal Resistance ³	$R_{\theta JA}$	15					$^\circ\text{C/W}$
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	100					A
Maximum Reverse Recovery Time	T_{rr}	25					ns

Notes:

1 See Forward Derating Curve.

2 Measured at 1 MHz and an applied reverse voltage of 4.0 V.

3 Thermal resistance from junction to lead.

Thermal Characteristics (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	CD214C-F350~F3600	Unit
Operating Temperature Range	T_J	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

*RoHS Directive 2002/95/EC Jan 27 2003 including Annex.

Specifications are subject to change without notice.

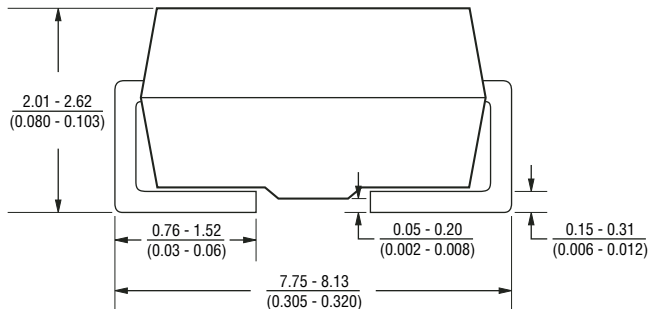
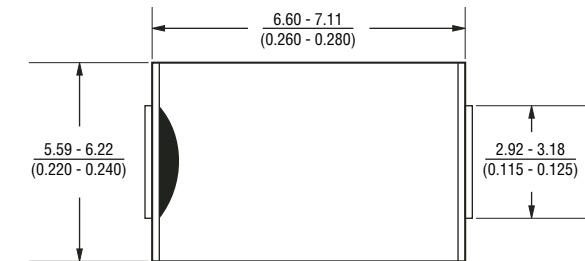
Customers should verify actual device performance in their specific applications.

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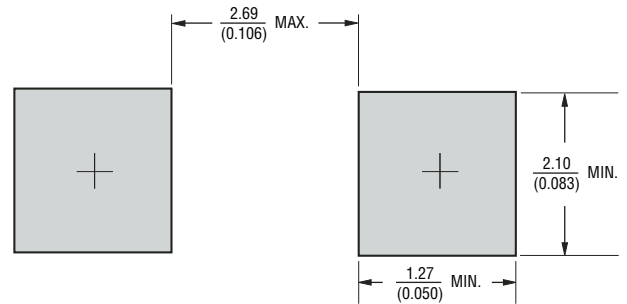
Product Dimensions

This is a lead free product using 100 % Sn termination. It is a molded plastic package. A cathode band indicates the polarity. The package weighs approximately 0.21 g. The package and dimensions are shown below.



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

Recommended Pad Layout



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

How To Order

Common Code	CD	214C	- F	3	50
CD = Chip Diode					
Package		214C = SMC/DO-214AB			
Model Series		F = Fast Rectifier			
Forward Current I_{AV}		3 = 3 A			
Reverse Voltage		50 = 50 V			
		100 = 100 V			
		200 = 200 V			
		400 = 400 V			
		600 = 600 V			

Typical Part Marking

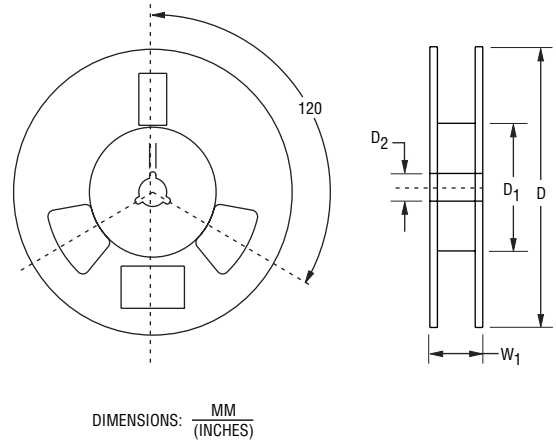
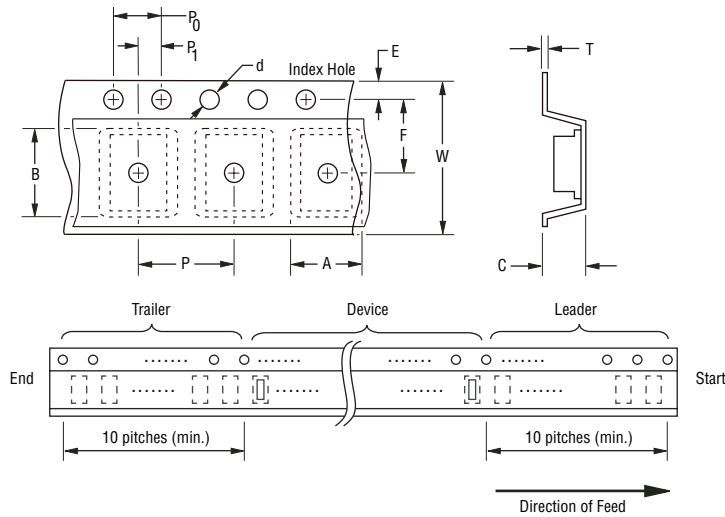
CD214C-F350	F3A
CD214C-F3100	F3B
CD214C-F3200	F3D
CD214C-F3400	F3G
CD214C-F3600	F3J

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Packaging Information

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



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

Item	Symbol	SMC (DO-214AB)
Carrier Width	A	$\frac{7.22 \pm 0.10}{(0.284 \pm 0.004)}$
Carrier Length	B	$\frac{8.11 \pm 0.10}{(0.319 \pm 0.004)}$
Carrier Depth	C	$\frac{2.36 \pm 0.10}{(0.093 \pm 0.004)}$
Sprocket Hole	d	$\frac{1.55 \pm 0.05}{(0.061 \pm 0.002)}$
Reel Outside Diameter	D	$\frac{330}{(12.992)}$
Reel Inner Diameter	D ₁	$\frac{50.0}{(1.969)}$ Min.
Feed Hole Diameter	D ₂	$\frac{13.0 \pm 0.20}{(0.512 \pm 0.008)}$
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	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
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	$\frac{0.30 \pm 0.10}{(0.012 \pm 0.004)}$
Tape Width	W	$\frac{16.00 \pm 0.20}{(0.630 \pm 0.008)}$
Reel Width	W ₁	$\frac{22.4}{(0.882)}$ Max.
Quantity per Reel	—	3,000

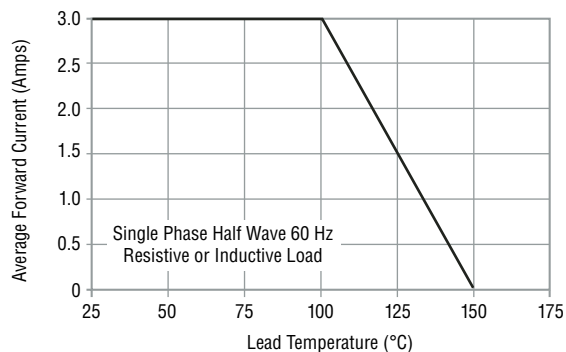
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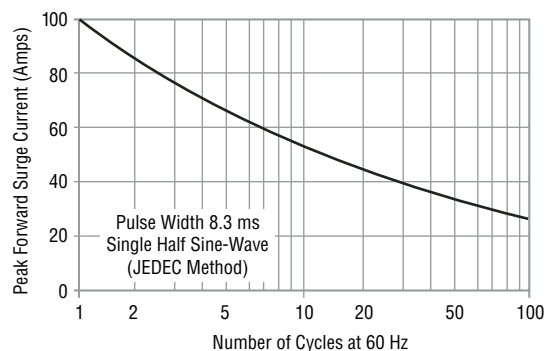
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Performance Graphs

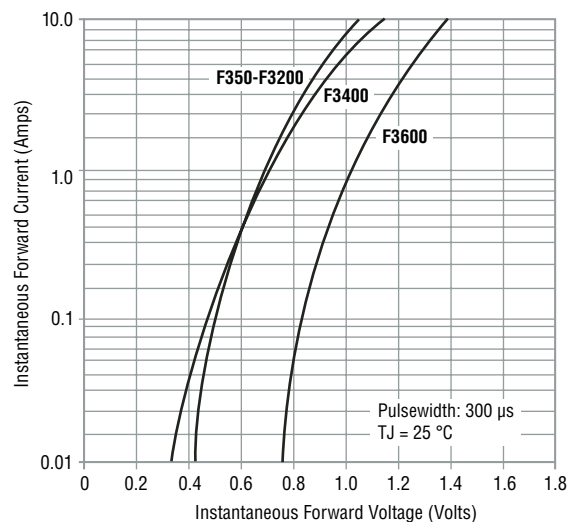
Forward Current Derating Curve



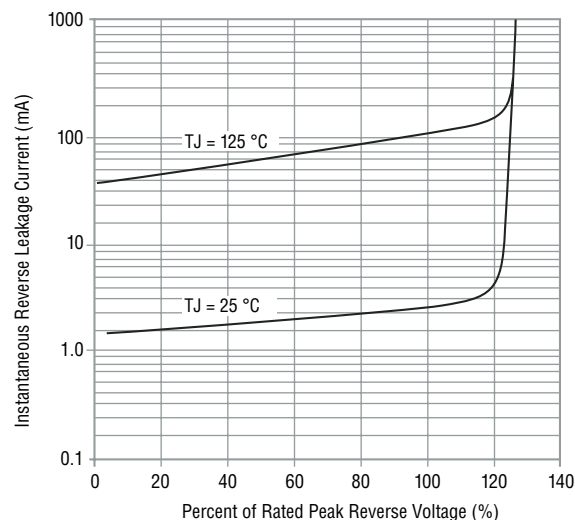
Maximum Non-Repetitive Surge Current



Typical Forward Characteristics



Typical Reverse Characteristics



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

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