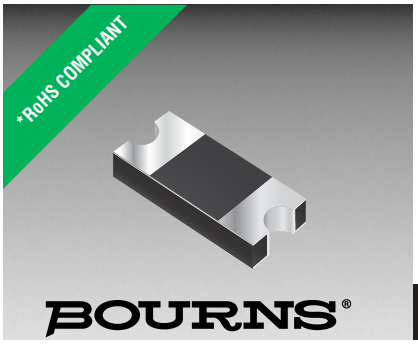


Features

- 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

CD214A-B1xR Series Schottky Barrier 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 Schottky Rectifier Diodes for rectification applications, in a compact chip package compatible with DO-214AC (SMA) size format. The Schottky Rectifier Diodes offer a forward current of 1 A with a choice of repetitive peak reverse voltage of 20 V up to 100 V.

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

Parameter	Symbol	CD214A-						Unit
		B120R	B120LR	B140R	B140LR	B160R	B1100R	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	20	40	40	60	100	V
Maximum Average Forward Current	$I_{F(AV)}$	1						A
Maximum Peak Forward Surge Current (8.3 ms Single Half Sine-Wave)	I_{FSM}	30						A
Operating Junction Temperature Range	T_{OPR}	-55 to +125				-55 to +150		°C
Storage Temperature Range	T_{STG}	-55 to +150						°C

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

Parameter		Symbol	Condition or Model		Min.	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage @1 A (NOTE 1)		V_F	CD214A-B120LR CD214A-B140LR			0.37	0.38	V
			CD214A-B120R CD214A-B140R			0.47	0.50	
			CD214A-B160R			0.60	0.70	
			CD214A-B1100R			0.76	0.85	
DC Reverse Current		I_R	V_R = V_{RRM}	CD214A-B120LR CD214A-B140LR		0.35	1.0	mA
				CD214A-B120R CD214A-B140R CD214A-B160R CD214A-B1100R		0.02	0.2	mA
Typical Junction Capacitance		C_J	V_R = 4 V, f = 1.0 MHz			110		pF
Typical Thermal Resistance (NOTE 2)	Junction to Ambient	$R_{\theta JA}$	CD214A-B120R CD214A-B140R CD214A-B160R CD214A-B1100R			88		°C/W
			CD214A-B120LR CD214A-B140LR			55		
	Junction to Lead	$R_{\theta JL}$	CD214A-B120R CD214A-B140R CD214A-B160R CD214A-B1100R			28		
			CD214A-B120LR CD214A-B140LR			17		

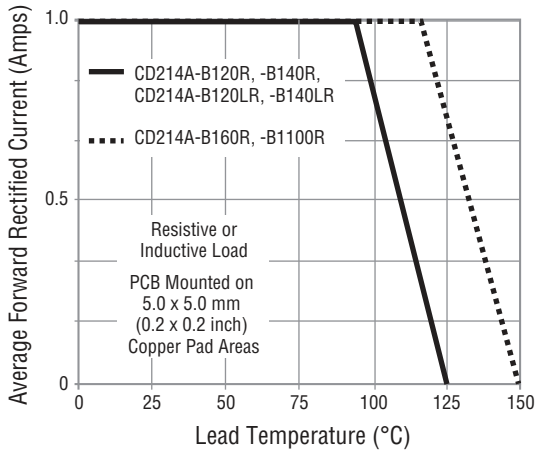
NOTES: (1) Pulse width 300 microsecond, 1 % duty cycle. (2) Mounted on PCB with 5.0 x 5.0 mm (0.2 x 0.2 inch) copper pad areas.

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

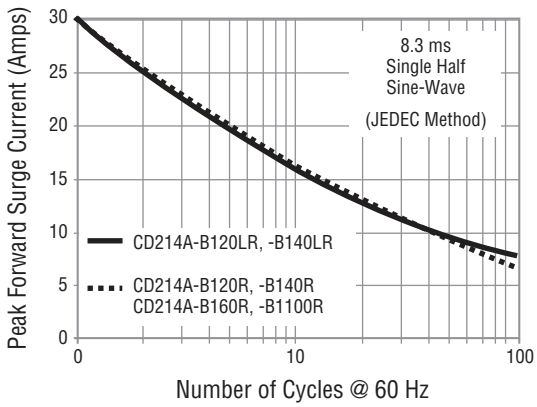
*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Performance Graphs

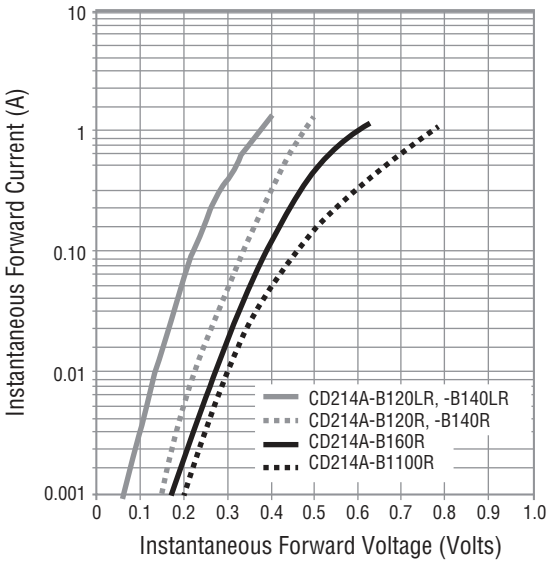
Forward Current Derating Curve



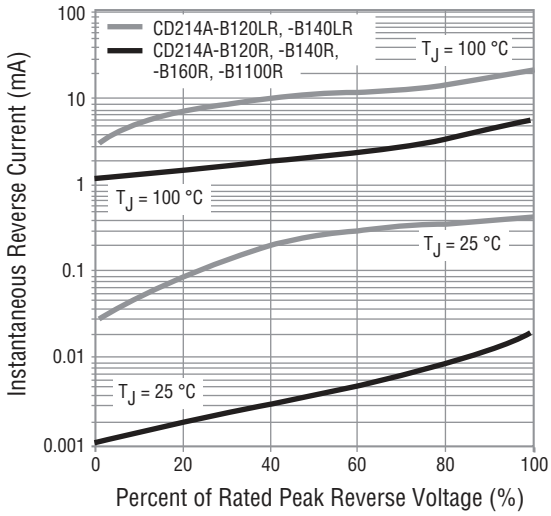
Maximum Peak Forward Surge Current



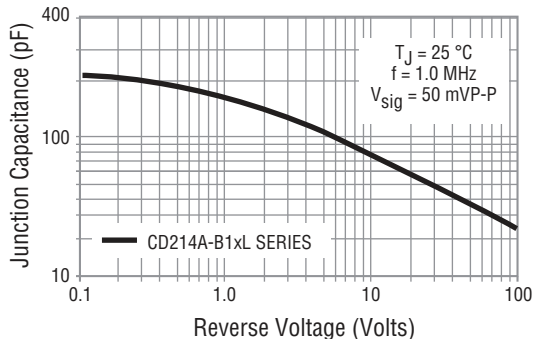
Typical Instantaneous Forward Characteristics



Typical Reverse Characteristics



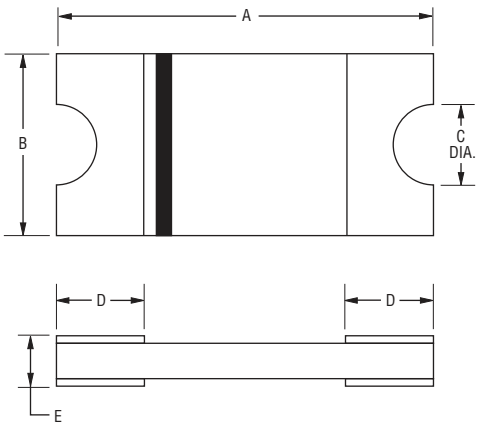
Typical Junction Capacitance



CD214A-B1xR Series Schottky Barrier Rectifier Chip Diode

BOURNS®

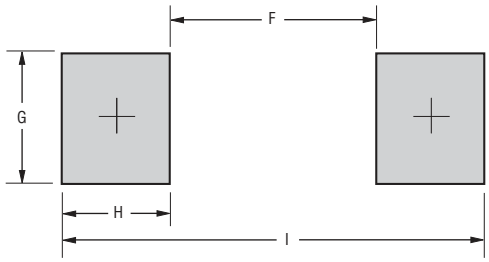
Product Dimensions



Dimension	CD214A-B1 Series
A	4.5 ± 0.10 (0.177 ± 0.004)
B	2.20 ± 0.10 (0.087 ± 0.004)
C (Dia.)	0.50 (0.020)
D	0.95 ± 0.20 (0.037 ± 0.008)
E	0.96 +0.20/-0.10 (0.038 +0.008/-0.004)

DIMENSIONS: MM (INCHES)

Recommended Pad Layout



Dimension	CD214A-B1 Series
F	2.60 (0.102) MAX.
G	1.47 (0.058) MIN.
H	1.27 (0.050) MIN.
I	5.14 (0.202) REF.

DIMENSIONS: MM (INCHES)

Environmental Specifications

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

How to Order

CD 214A - B 1 20 L R

Common Code
CD = Chip Diode

Package
214A = SMA/DO-214AC Compatible

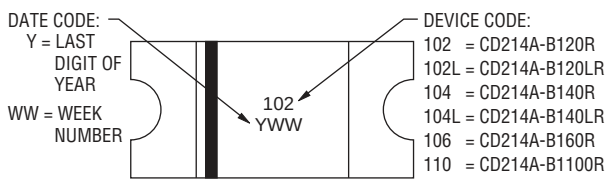
Model
B = Schottky Barrier Series

Maximum Average Forward Rectified Current
1 = 1 A

Maximum Repetitive Peak Reverse Voltage
20 = 20 V
40 = 40 V
60 = 60 V
100 = 100 V

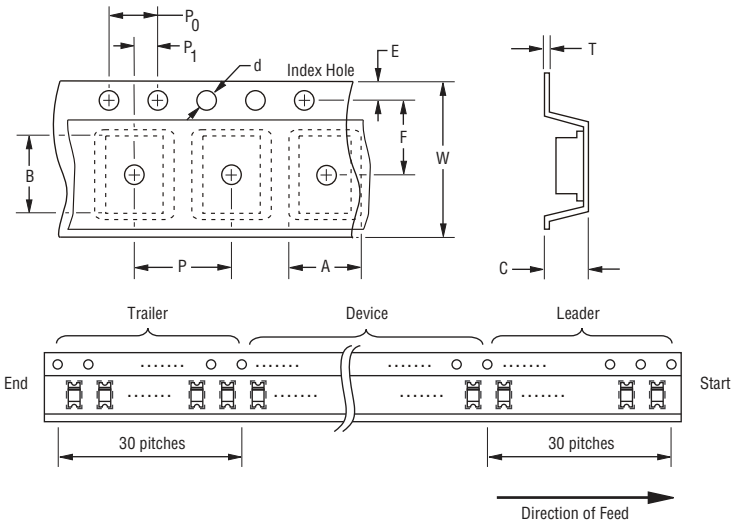
Forward Voltage Suffix
L = Low Forward Voltage

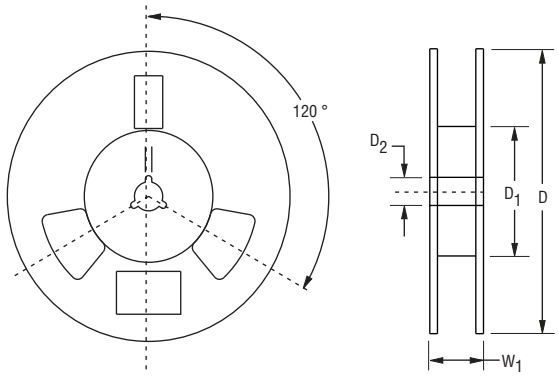
Typical Part Marking



Packaging Information

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





DIMENSIONS: MM / (INCHES)

Item	Symbol	CD214A-B1 Series
Carrier Width	A	2.45 ± 0.10 (0.096 ± 0.004)
Carrier Length	B	4.75 ± 0.10 (0.187 ± 0.004)
Carrier Depth	C	1.51 ± 0.10 (0.059 ± 0.004)
Sprocket Hole	d	1.50 ± 0.10 (0.059 ± 0.004)
Reel Outside Diameter	D	178 ± 2.0 (7.008 ± 0.079)
Reel Inner Diameter	D_1	50.0 (1.969) MIN.
Feed Hole Diameter	D_2	13.0 ± 0.50 (0.512 ± 0.020)
Sprocket Hole Position	E	1.75 ± 0.10 (0.069 ± 0.004)
Punch Hole Position	F	5.50 ± 0.05 (0.217 ± 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 ± 0.10 (0.079 ± 0.004)
Overall Tape Thickness	T	0.40 (0.016) MAX.
Tape Width	W	12.00 ± 0.30 (0.472 ± 0.012)
Reel Width	W_1	18.7 (0.736) MAX.
Quantity per Reel	--	3,000

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