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Features

- RoHS compliant*
- Low profile
- Low power loss, high efficiency
- UL 94V-0 rating
- Halogen free**

Applications

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

CD214A-S1x 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-214AC (SMA) size format. The Glass Passivated Rectifiers offer a forward current of 1 A with a choice of repetitive peak reverse voltage of 200 V up to 1600 V.



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

Parameter	Symbol	CD214A-							Unit
		S1D	S1G	S1J	S1K	S1M	S1Q	S1Y	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	200	400	600	800	1000	1200	1600	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}	-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 @ 1 A (NOTE 1)		V_F	CD214A-S1D ~ CD214A-S1M		0.94	1.00	V
			CD214A-S1Q ~ CD214A-S1Y			1.1	
DC Reverse Current		I_R	$V_R = V_{RRM}$		0.10	5	μA
Typical Junction Capacitance		C_J	V_R = 4 V, f = 1.0 MHz		12		pF
Typical Thermal Resistance (NOTE 2)	Junction to Ambient	$R_{\theta JA}$			115		°C/W
	Junction to Lead	$R_{\theta JL}$			21		

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

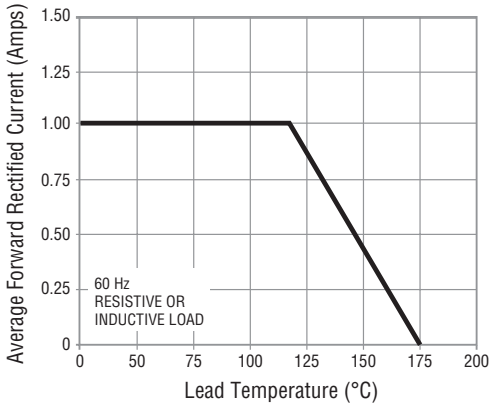
* RoHS Directive 2015/863, Mar 31, 2015 and Annex.
** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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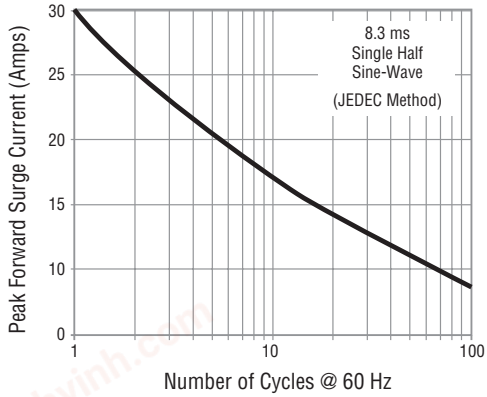
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Performance Graphs

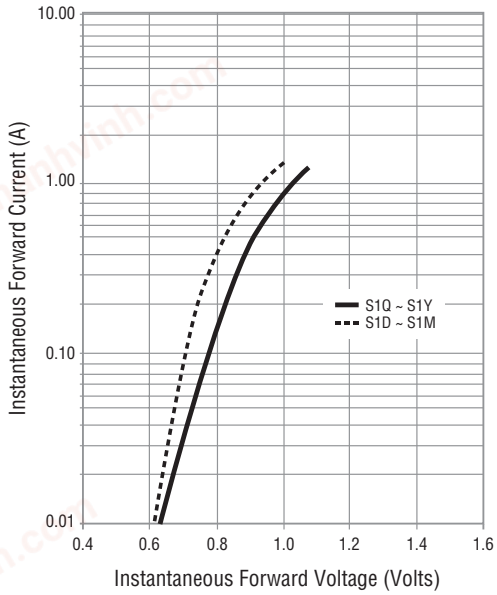
Forward Current Derating Curve



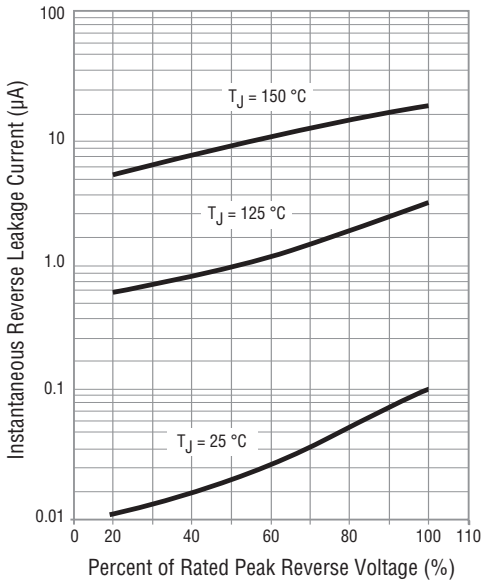
Maximum Peak Forward Surge Current



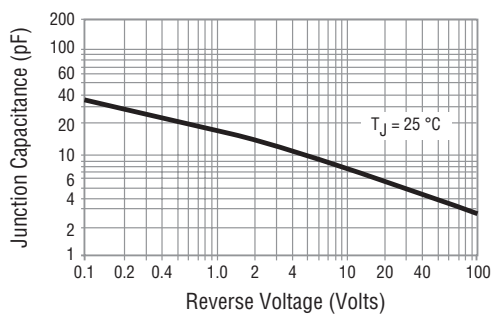
Typical Instantaneous Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



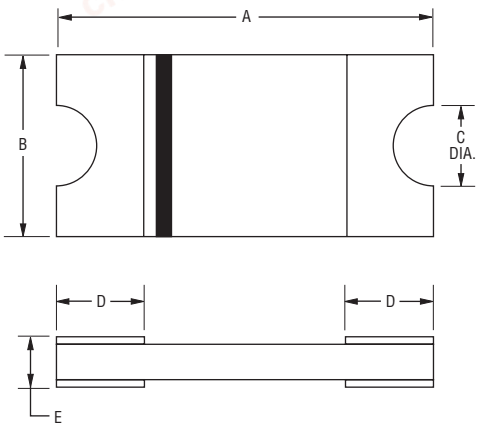
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CD214A-S1x Series Rectifier Chip Diode

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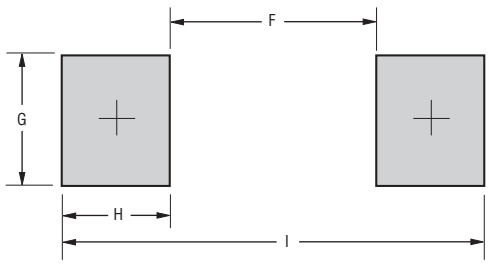
Product Dimensions



Dimension	CD214A-S1 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-S1 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) 1C

How to Order

CD 214A - S 1 D

Common Code
CD = Chip Diode

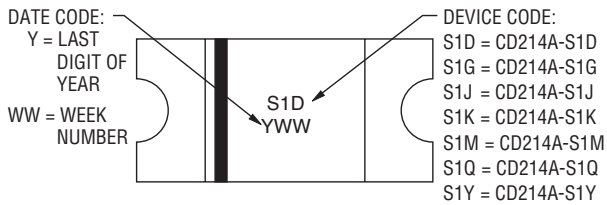
Package
214A = SMA/DO-214AC Compatible

Model
S = Glass Passivated Rectifier Series

Maximum Average Forward Rectified Current
1 = 1 A

Maximum Repetitive Peak Reverse Voltage
D = 200 V
G = 400 V
J = 600 V
K = 800 V
M = 1000 V
Q = 1200 V
Y = 1600 V

Typical Part Marking

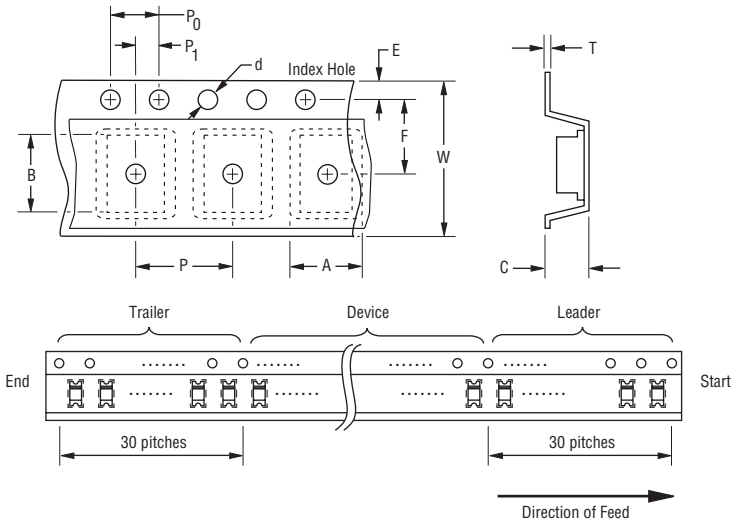


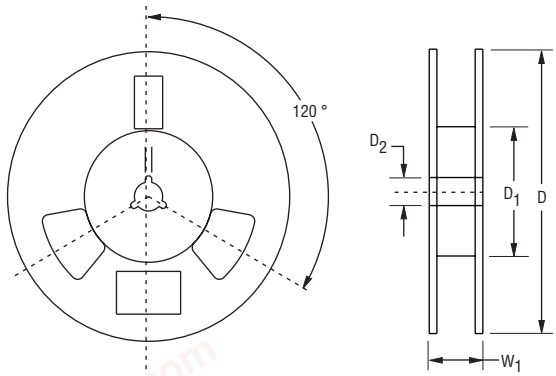
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Packaging Information

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





DIMENSIONS: MM / (INCHES)

Item	Symbol	CD214A-S1 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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REV. 03/20

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