

## Features

- 1000 V / 1 A rating
- Tiny DFN3538 package (3.5 x 3.8 mm)
- Low profile (1.15 mm)
- High thermal dissipation
- RoHS\* and Halogen Free\*\*

## Applications

- USB wall sockets
- AC/DC power supplies
- Battery chargers
- Medical equipment (low/medium risk)\*\*\*
- Industrial equipment

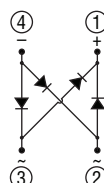
# CD-MMBL110S Surface Mount Bridge Rectifier Diode

## General Information

Manufacturers of consumer electronics, portable communication, medical and industrial equipment are challenging the semiconductor industry to develop innovated packaging technologies and component miniaturization.

Bourns® CD-MMBL110S Bridge Rectifier is housed in a tiny DFN3538 package (3.5 mm x 3.8 mm x 1.15 mm), minimizing PCB real estate and fitting into designs with height constraints. Besides the benefit of a compact footprint compared to a conventional gull-wing package, its flat no-leads package construction features superior coplanarity, improved solder joints, and virtually eliminates short circuit conditions during manufacturing.

Bourns® CD-MMBL110S Bridge Rectifier is rated at 1000 V / 1 A with enhanced thermal dissipation capability¹.



## Additional Information

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## Absolute Maximum Ratings (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

Parameter	Symbol	CD-MMBL110S	Unit
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	1000	V
Maximum Average Forward Rectified Current (T <sub>A</sub> = 55 °C)	I <sub>F(AV)</sub>	1	A
Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I <sub>FSM</sub>	30	A
Operating Temperature Range	T <sub>J</sub>	-55 to +150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

## Electrical Characteristics (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

Parameter	Symbol	CD-MMBL110S				Unit
		Test Conditions	Min.	Typ.	Max.	
Instantaneous Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 0.4 A		0.9	1.0	V
		I <sub>F</sub> = 1.0 A			1.1	
Repetitive Peak Reverse Current	I <sub>RRM</sub>	V <sub>R</sub> = V <sub>RRM</sub>	T <sub>A</sub> = +25 °C	0.08	5.0	μA
			T <sub>A</sub> = +125 °C		100	μA
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> = 4 V, f = 1.0 MHz		9		pF
Thermal Resistance, Junction to Air¹	R <sub>θJA</sub>			130		°C / W
Thermal Resistance, Junction to Case¹	R <sub>θJC</sub>			40		°C / W

NOTE 1: Measured when mounted on PCB with 1.3 mm x 1.3 mm (0.05 inch x 0.05 inch) copper pad areas.



## WARNING Cancer and Reproductive Harm

[www.P65Warnings.ca.gov](http://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.

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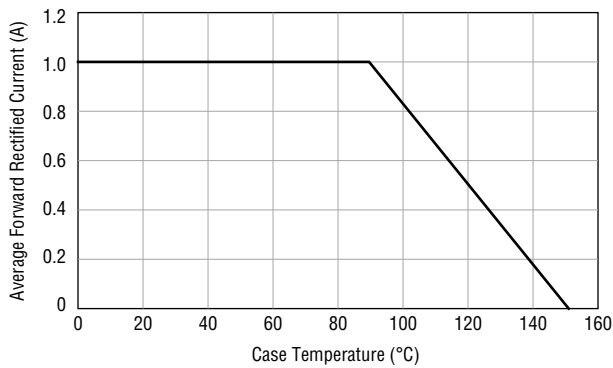
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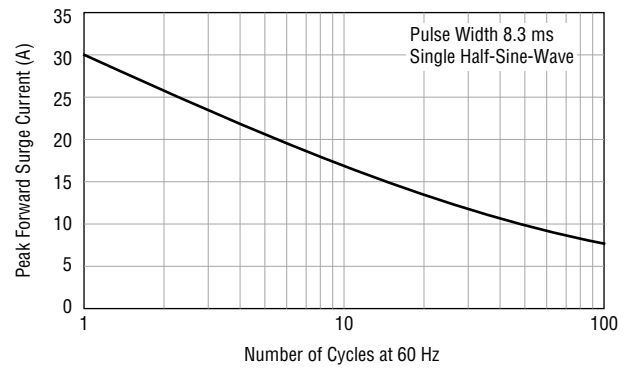
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## Rating and Characteristic Curves

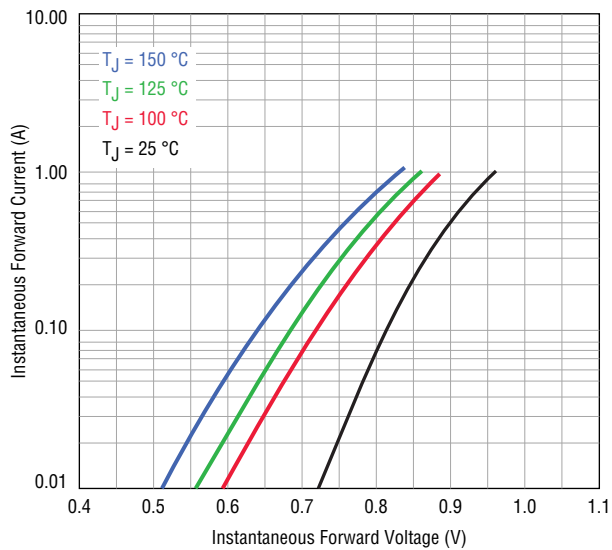
### Forward Current Derating Curve



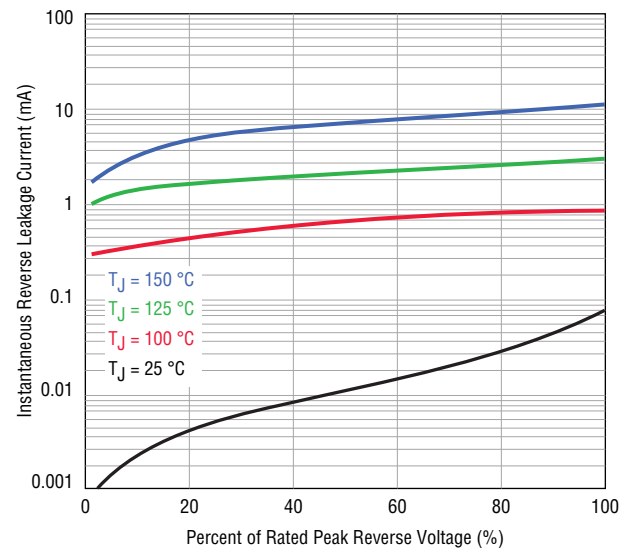
### Maximum Non-Repetitive Peak Forward Surge Current



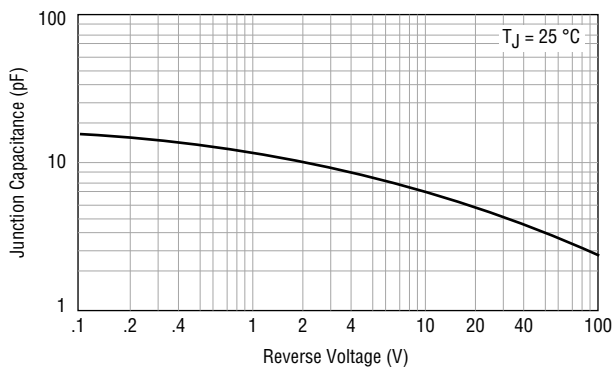
### Forward Characteristics



### Reverse Characteristics



### Typical Junction Capacitance



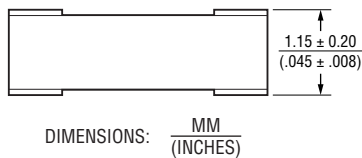
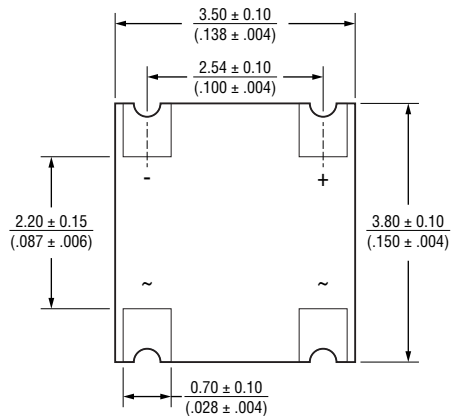
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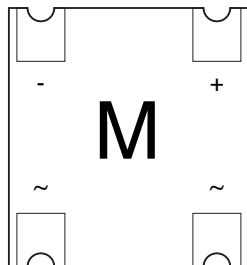
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## Product Dimensions

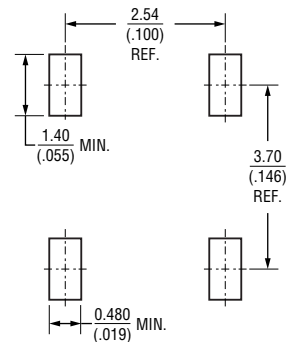
Package: DFN3538



## Typical Part Marking



## Recommended Footprint



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

## How to Order

**CD - MMBL1 10 S - H**

Common Code \_\_\_\_\_

Chip Diode \_\_\_\_\_

Model \_\_\_\_\_

MMBL = MMBL Bridge Series

Average Forward Current \_\_\_\_\_

1 = 1 A

Reverse Voltage \_\_\_\_\_

10 = 1000 V

Forward Voltage Suffix \_\_\_\_\_

S = Standard Forward Voltage

Reel \_\_\_\_\_

(blank) = 13-inch Reel

-H = 7-inch Reel

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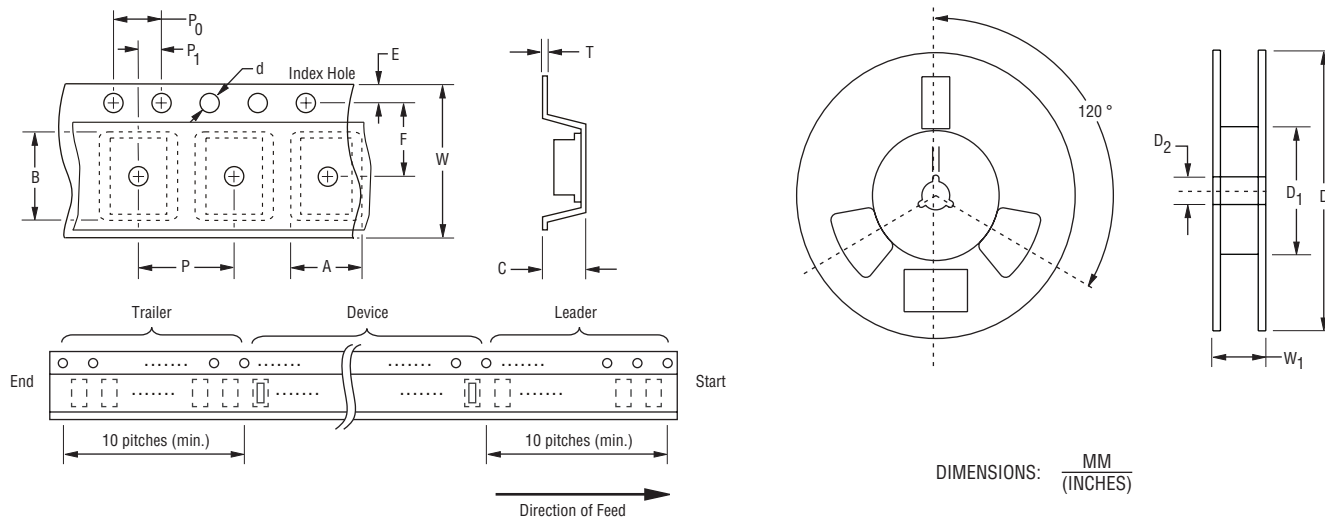
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# CD-MMBL110S Surface Mount Bridge Rectifier Diode

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## Packaging Information

The surface mount product is packaged in a 12 mm x 8 mm tape and reel format per EIA-481 standard.



Item	Symbol	CD-MMBL110S	CD-MMBL110S-H
Carrier Width	A	$5.90 \pm 0.10$ (0.232 ± 0.004)	$3.78 \pm 0.10$ (0.149 ± 0.004)
Carrier Length	B	$6.50 \pm 0.10$ (0.256 ± 0.004)	$4.16 \pm 0.10$ (0.164 ± 0.004)
Carrier Depth	C	$1.50 \pm 0.10$ (0.059 ± 0.004)	$1.52 \pm 0.10$ (0.060 ± 0.004)
Sprocket Hole	d	$1.55 \pm 0.05$ (0.061 ± 0.002)	$1.55 \pm 0.05$ (0.061 ± 0.002)
Reel Outside Diameter	D	330 (12.992)	178 ± 2.0 (7.008 ± 0.079)
Reel Inner Diameter	D <sub>1</sub>	50.0 (1.969) MIN.	50.0 (1.969) MIN.
Feed Hole Diameter	D <sub>2</sub>	$13.0 \pm 0.20$ (0.512 ± 0.008)	$13.0 \pm 0.5$ (0.512 ± 0.020)
Sprocket Hole Position	E	$1.75 \pm 0.10$ (0.069 ± 0.004)	$1.75 \pm 0.10$ (0.069 ± 0.004)
Punch Hole Position	F	$5.50 \pm 0.05$ (0.217 ± 0.002)	$5.50 \pm 0.05$ (0.217 ± 0.002)
Punch Hole Pitch	P	$8.00 \pm 0.10$ (0.315 ± 0.004)	$8.00 \pm 0.10$ (0.315 ± 0.004)
Sprocket Hole Pitch	P <sub>0</sub>	$4.00 \pm 0.10$ (0.157 ± 0.004)	$4.00 \pm 0.10$ (0.157 ± 0.004)
Embossment Center	P <sub>1</sub>	$2.00 \pm 0.05$ (0.079 ± 0.002)	$2.00 \pm 0.05$ (0.079 ± 0.002)
Overall Tape Thickness	T	$0.20 \pm 0.10$ (0.008 ± 0.004)	$0.23 \pm 0.10$ (0.009 ± 0.004)
Tape Width	W	$12.00 \pm 0.20$ (0.472 ± 0.008)	$12.0 \pm 0.30$ (0.472 ± 0.012)
Reel Width	W <sub>1</sub>	18.7 (0.736) MAX.	18.7 (0.736) MAX.
Quantity per Reel	--	5,000	1,400

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10/21

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