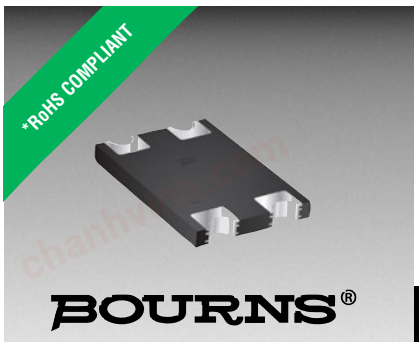
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Features

- RoHS compliant*
- Low power loss and high efficiency
- High current capability
- Low profile package

Applications

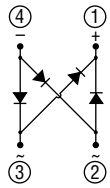
- AC operated products
- Computer monitors
- Set-top boxes
- Cable modems

CD-DF4xxS(L) Series Surface Mount Bridge Rectifier Diode

General Information

The markets of portable communications, computing and video equipment are challenging the semiconductor industry to develop increasingly smaller electronic components.

Bourns offers Bridge Rectifier Diodes for rectification applications in compact chip package 0.41 ″ x 0.32 ″ size format, which offers PCB real estate savings and are considerably smaller than standard parts. The Bridge Rectifier Diodes offer a forward current of 4 A with a choice of repetitive peak reverse voltages between 600 V and 1000 V.



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

Parameter	Symbol	CD-						Unit
		DF406S	DF408S	DF410S	DF406SL	DF408SL	DF410SL	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	600	800	1000	600	800	1000	V
Maximum Average Forward Rectified Current (T_A = 55 °C)	$I_{F(AV)}$	4.0						A
Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	150.0						A
Operating Temperature Range	T_J	-55 to +175						°C
Storage Temperature Range	T_{STG}	-55 to +175						°C

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

Parameter	Symbol	CD-DF4xxS(L)					Unit
		Test Conditions		Min.	Typ.	Max.	
Instantaneous Forward Voltage	V_F	I_F = 2 A	CD-DF4xxS		0.92	0.95	V
			CD-DF4xxSL		0.86	0.90	
Repetitive Peak Reverse Current	I_{RRM}	$V_R = V_{RRM}$	T_A = +25 °C		0.08	5.0	μA
Junction Capacitance	C_J	V_R = 4 V, f = 1.0 MHz	CD-DF4xxS		45		pF
			CD-DF4xxSL		45		
Thermal Resistance, Junction to Air (1)	$R_{\Theta JA}$		CD-DF4xxS		35		°C / W
			CD-DF4xxSL		35		
Thermal Resistance, Junction to Lead (1)	$R_{\Theta JL}$		CD-DF4xxS		15		°C / W
			CD-DF4xxSL		15		

NOTE 1: Thermal resistance, junction to ambient, measured on PC board with 50 mm^2 (0.03 mm thick) land areas.

*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.
Specifications are subject to change without notice.
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
Users should verify actual device performance in their specific applications.

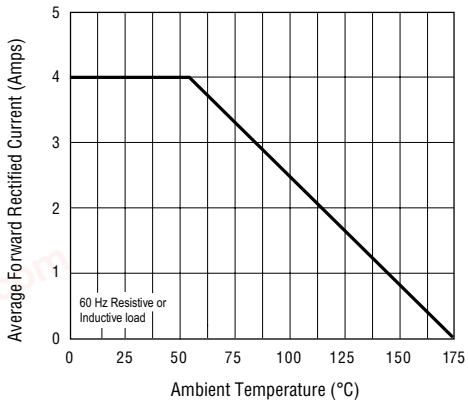
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CD-DF4xxS(L) Series Surface Mount Bridge Rectifier Diode

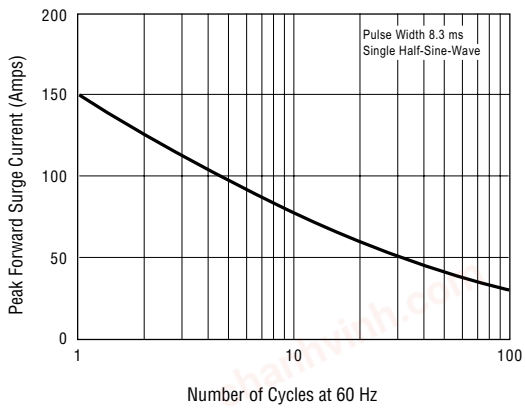
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Rating and Characteristic Curves

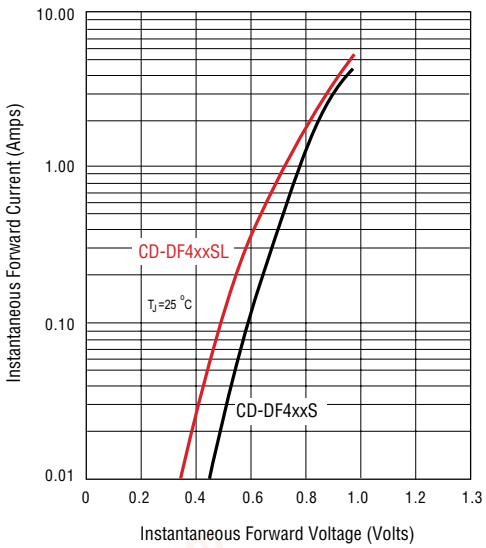
Forward Current Derating Curve



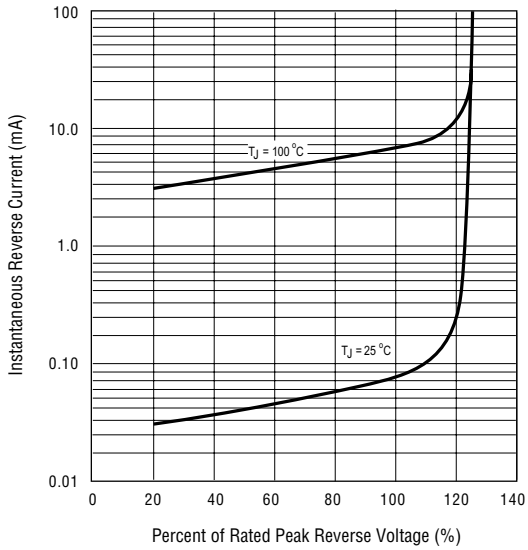
Maximum Non-Repetitive Peak Forward Surge Current



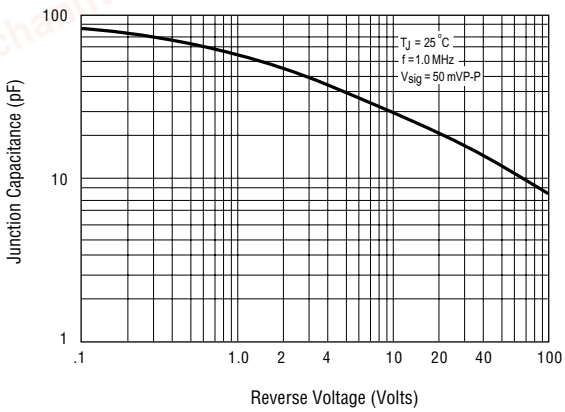
Forward Characteristics



Reverse Characteristics



Typical Junction Capacitance



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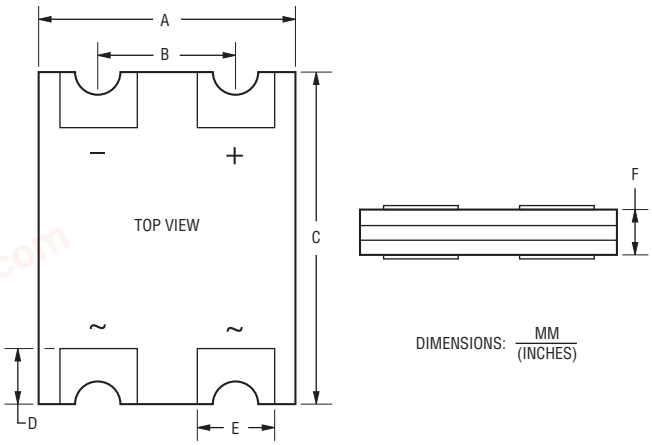
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CD-DF4xxS(L) Series Surface Mount Bridge Rectifier Diode

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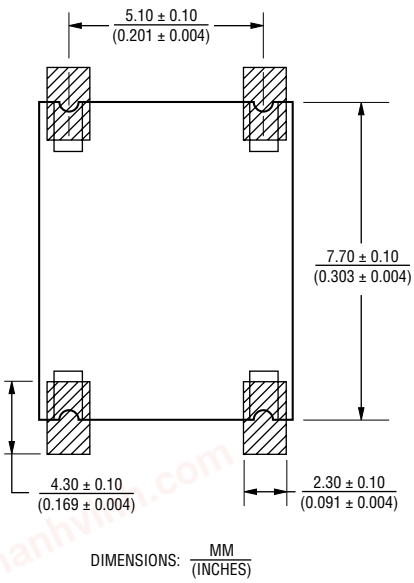
Product Dimensions

This is an RoHS2 compliant product, packaged with FRP substrate and is epoxy underfilled. The terminals are pure tin plated (lead free) and are solderable per MIL-STD-750, Method 2026. The package and dimensions are shown below.



Dimensions	
A	8.00 - 8.20 (0.315 - 0.323)
B	5.00 - 5.20 (0.197 - 0.205)
C	10.40 - 10.60 (0.409 - 0.417)
D	1.85 - 2.15 (0.073 - 0.085)
E	2.10 - 2.30 (0.083 - 0.091)
F	1.25 - 1.55 (0.049 - 0.061)

Recommended Footprint

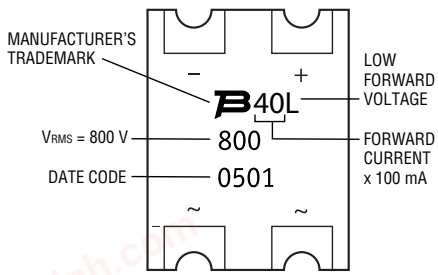


How to Order

CD - DF 4 06 SL

- Common Code: Chip Diode
- Model: DF = DF Bridge Series
- Average Forward Current: 4 = 4 A
- Reverse Voltage: 06 = 600 V; 08 = 800 V; 10 = 1000 V
- Forward Voltage Suffix: S = Standard Forward Voltage; SL = Low Forward Voltage

Typical Part Marking



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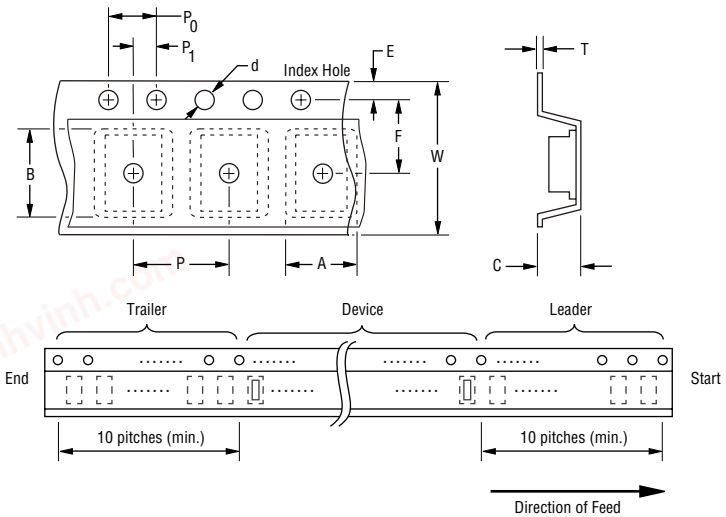
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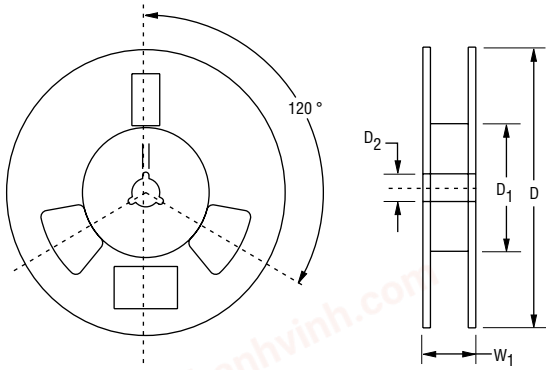
CD-DF4xxS(L) Series Surface Mount Bridge Rectifier Diode

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Packaging Information

The surface mount product is packaged in a 16 mm x 12 mm tape and reel format per EIA-481 standard.





DIMENSIONS: MM / (INCHES)

Item	Symbol	CD-DF4xxS(L)
Carrier Width	A	8.63 ± 0.38 (0.34 ± 0.01)
Carrier Length	B	11.03 ± 0.38 (0.43 ± 0.01)
Carrier Depth	C	1.93 ± 0.38 (0.08 ± 0.004)
Sprocket Hole	d	1.55 ± 0.05 (0.061 ± 0.002)
Reel Outside Diameter	D	330 (12.992)
Reel Inner Diameter	D_1	50.0 (1.969) MIN.
Feed Hole Diameter	D_2	13.0 ± 0.20 (0.512 ± 0.008)
Sprocket Hole Position	E	1.75 ± 0.10 (0.069 ± 0.004)
Punch Hole Position	F	7.50 ± 0.10 (0.295 ± 0.004)
Punch Hole Pitch	P	12.00 ± 0.10 (0.472 ± 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	16.00 ± 0.30 (0.630 ± 0.012)
Reel Width	W_1	22.7 (0.893) MAX.
Quantity per Reel	--	3,000

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