

Features

- Lead free device (RoHS compliant*)
- Low profile
- Low power loss, high efficiency
- UL 94V-0 classification

Applications

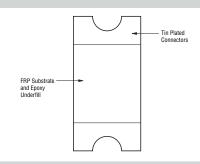
- High frequency switching power supplies
- Inverters
- Free wheeling
- Polarity protection

CD1408-FF1200~FF11500 - Surface Mount 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 Rectifier Diodes for rectification applications, in compact chip package 1408 size format (compatible with SOD87, SOD123 formats), which offers PCB real estate savings and are considerably smaller than most competitive parts. The Glass Passivated Rectifier Diodes offer a forward current of 1 A with a choice of repetitive peak reverse voltage of 200 V up to 1500 V, with a 75 nS maximum recovery time.

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 (@ TA = 25 °C Unless Otherwise Noted)

		CD1408-						
Parameter	Symbol	FF1200	FF1400	FF1600	FF1800	FF11000	FF11500	Unit
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	200	400	600	800	1000	1500	V
Maximum RMS Voltage	V _{RMS}	140	280	420	560	700	1000	V
Maximum DC Blocking Voltage	V _{DC}	200	400	600	800	1000	1500	V
Max. Average Forward Rectified Current ¹	I _(AV)	1.0				А		
DC Reverse Current @ Rated DC Blocking Voltage $(@T_a = 25 \ ^{\circ}C)$	IR	I _R 5.0			μΑ			
DC Reverse Current @ Rated DC Blocking Voltage (@T _a = 125 °C)	I _R	50.0		μА				
DC Reverse Current @ Rated DC Blocking Voltage (@T _a = 150 °C)	ge I _R 50.0		μΑ					
Typical Junction Capacitance ²	СЈ	10			pF			
Instantaneous Forward Voltage @ IF = 1 A	VF	1.7 6.0			V			
Maximum Reverse Recovery Time ³	T _{rr}			50)	75	50	ns
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	IFSM			30.	0	25.0	15.0	А
Typical Thermal Resistance	Rj-a	95			°C/Watt			
Typical Thermal Resistance	Rj-l			40				°C/Watt

Notes:

- 1 See Forward Derating Curve.
- 2 Measured @ 1.0 MHz and applied reverse voltage of 4.0 VDC.
- 3 Reverse recovery test condition: IF = 0.5 A, IR = 1.0 A, Irr = 0.25 A

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

Parameter	Symbol	DI CD1408-FF1200~FF11500	
Operating Temperature Range	TJ	-65 to +175	°C
Storage Temperature Range	Тѕтс	-65 to +175	°C

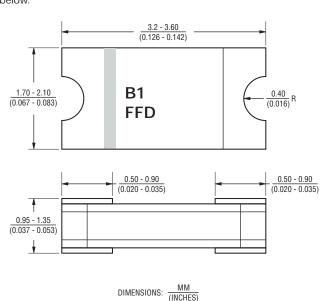


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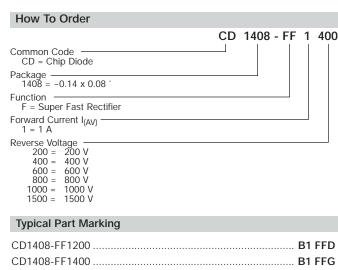
Product Dimensions

This is a lead free product, packaged with FRP substrate and is epoxy underfilled. The terminals are pure tin plated and are solderable per MIL-STD-750, Method 2026. The package weighs approximately 0.02 g. The package and dimensions are shown below.



Recommended Footprint

The device will mount onto existing JEDEC SOD-87 footprint.



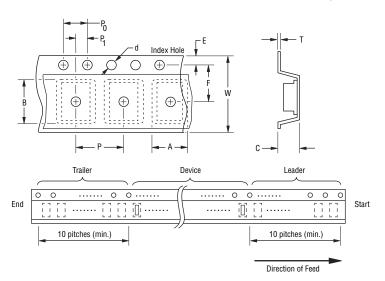
Typical Lait Marking	
CD1408-FF1200	B1 FFD
CD1408-FF1400	B1 FFG
CD1408-FF1600	B1 FFJ
CD1408-FF1800	B1 FFK
CD1408-FF11000	B1 FFM
CD1408-FF11500	B1 FFW

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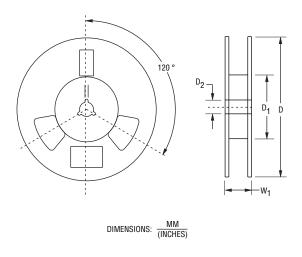
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Packaging Information

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



Item	Symbol	1408
Carrier Width	А	1.90 ±0.10 (0.075 - 0.004)
Carrier Length	В	4.30 ±0.10 (0.169 - 0.004)
Carrier Depth	С	1.80 ±0.10 (0.071 - 0.004)
Sprocket Hole	d	1.55 ±0.05 (0.061 - 0.002)
Reel Outside Diameter	D	178 (7.008)
Reel Inner Diameter	D ₁	80.0 (3.150) Min.
Feed Hole Diameter	D ₂	13.0 ±0.20 (0.512 - 0.008)
Sprocket Hole Position	Е	1.75 ±0.10 (0.069 - 0.004)
Punch Hole Position	F	3.50 ±0.05 (0.138 - 0.002)
Punch Hole Pitch	Р	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 ±0.05 (0.079 - 0.002)
Overall Tape Thickness	Т	0.20 ±0.10 (0.008 - 0.004)
Tape Width	W	8.00 ±0.20 (0.315 - 0.008)
Reel Width	W ₁	$\frac{13.5}{(0.531)}$ Max.
Quantity per Reel	_	3,000



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

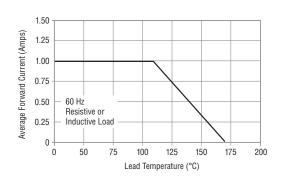
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Users should verify actual device performance in their specific applications.
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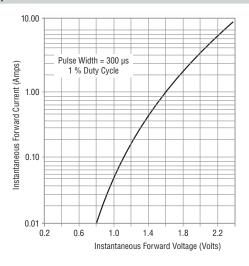
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Performance Graphs

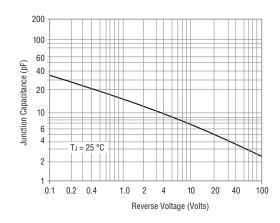
Forward Current Derating Curve



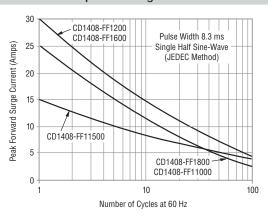
Typical Forward Characteristics



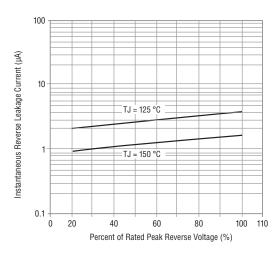
Typical Junction Capacitance



Maximum Non-Repetitive Surge Current



Typical Reverse Characteristics



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