



Features

- Lead free
- RoHS compliant*
- Low profile package
- Surface mount
- Very low forward voltage drop



This series is currently available, but not recommended for new designs. The [Model CD123D-B](#) Series is the recommended replacement.

CD1607-B140 / B140L Schottky Barrier Rectifier Chip 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 Schottky Rectifier Diodes for rectification applications, in compact chip package 1607 (Mini-SMA) size format, which offer PCB real estate savings and are considerably smaller than competitive parts. The Schottky Rectifier Diodes offer a forward current of 1 A with a repetitive peak reverse voltage of 40 V.

Bourns® Chip Diodes conform to JEDEC standards, easy to handle on standard pick and place equipment and their flat configuration makes roll away much more difficult.

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

Parameter	Symbol	CD1607-		Unit
		B140	B140L	
Forward Voltage (Max.) (I _f = 1 A)	V _F	0.5	0.4	V
Typical Junction Capacitance*	C _T	110	110	pF
Reverse Current (Max.) at Rated V _R	I _R	0.5	1.0	mA

* Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.

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

Parameter	Symbol	CD1607-		Unit
		B140	B140L	
Repetitive Peak Reverse Voltage	V _{RRM}	40	40	V
Reverse Voltage	V _R	40	40	V
Maximum RMS Voltage	V _{RMS}	28	28	V
Avg. Forward Current	I _O	1		A
Forward Current, Surge Peak (60 Hz, 1 cycle)	I _{surge}	* 0 3		A
Typical Thermal Resistance**	R _{θJL}	0 2		W / °C
Storage Temperature	T _{STG}	0 5 1 + o t 5 5 -		C °
Junction Temperature	T _J	5 2 1 + o t 5 5 -		C °

** Thermal resistance junction to lead.

* Condition: 8.3 ms single half sine-wave superimposed on rate load (JEDEC method).

How To Order

CD 1607 - B 1 40 L LF

Common Code _____
Chip Diode

Package _____
• 1607 = Mini-SMA

Model _____
B = Schottky Barrier Series

Average Forward Current (I_O) Code _____
1 = 1 A (Code x 1000 mA = Average Forward Current)

Reverse Voltage (V_R) Code _____
40 = 40 V

Forward Voltage Suffix _____
L = Low Forward Voltage V_f

Terminations _____
LF = 100 % Sn (lead free)



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

*RoHS Directive 2015/863, Mar 31, 2015 and Annex. Specifications are subject to change without notice.

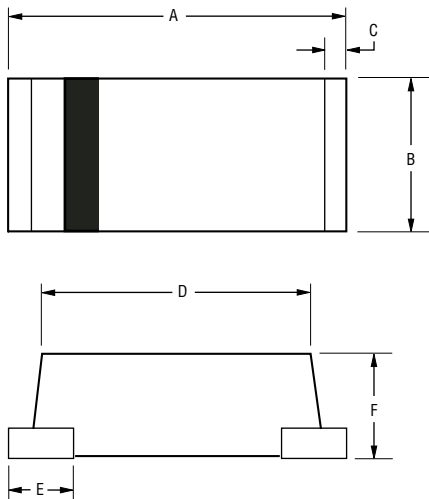
Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific disclaimers as set forth on the last page of this document, and at www.bourns.com/legal/disclaimer.pdf.

Applications

- Cellular phones
- PDAs
- Desktop PCs and notebooks
- Digital cameras
- MP3 players

CD1607-B140 / B140L Schottky Barrier Rectifier Chip Diode **BOURNS®**

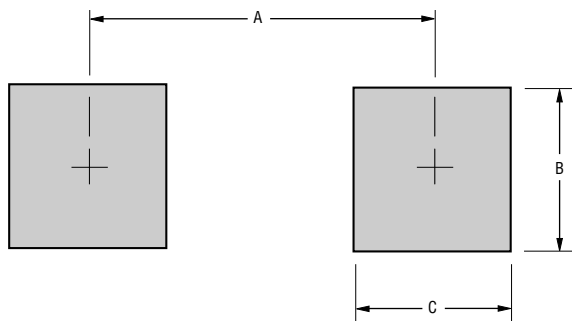
Product Dimensions



Dimension	Mini-SMA
A	$\frac{3.70 - 4.10}{(0.146 - 0.161)}$
B	$\frac{1.40 - 1.80}{(0.055 - 0.071)}$
C	$\frac{0.30}{(0.012)}$ TYP.
D	$\frac{2.40 - 2.80}{(0.094 - 0.110)}$
E	2 PLCS. $\frac{0.90}{(0.035)}$ TYP.
F	$\frac{1.40 - 1.60}{(0.055 - 0.063)}$

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

Recommended Pad Layout



Dimension	Mini-SMA
A (Max.)	$\frac{3.50}{(0.138)}$
B (Min.)	$\frac{1.50}{(0.059)}$
C (Min.)	$\frac{1.50}{(0.059)}$

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

Physical Specifications

Case.....1607 Molded plastic
 PolarityColor band denotes cathode end
 Terminals.....Solderable per MIL-STD-750, Method 206
 WeightApproximately 0.04 grams

Typical Part Marking

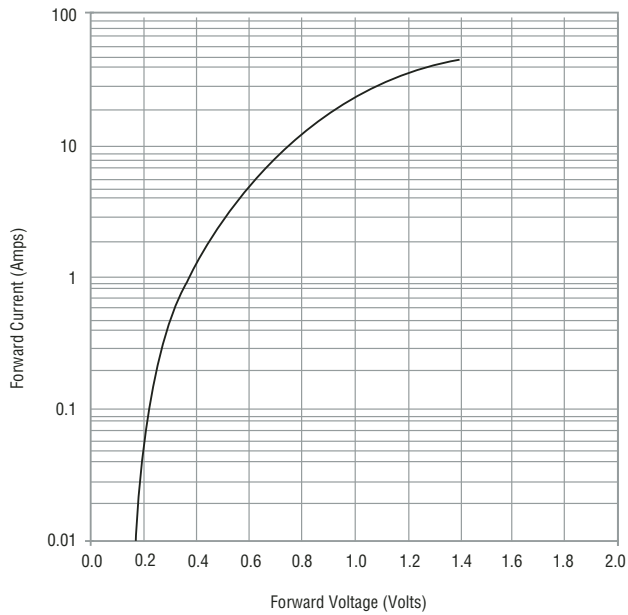
CD1607-B140L4
 CD1607-B140LL4

CD1607-B140 / B140L Schottky Barrier Rectifier Chip Diode

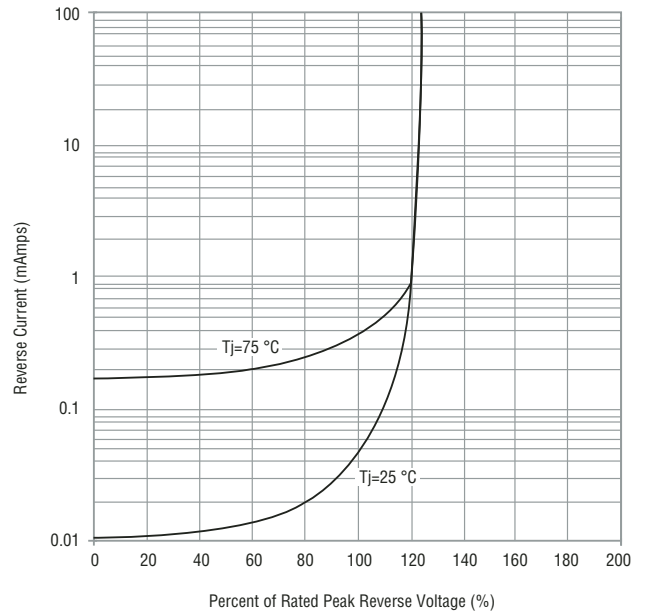


Rating and Characteristic Curves: CD1607-B140

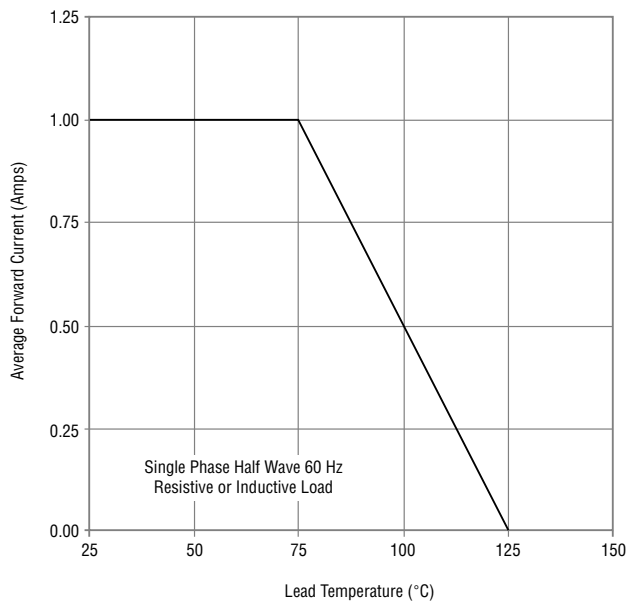
Forward Characteristics



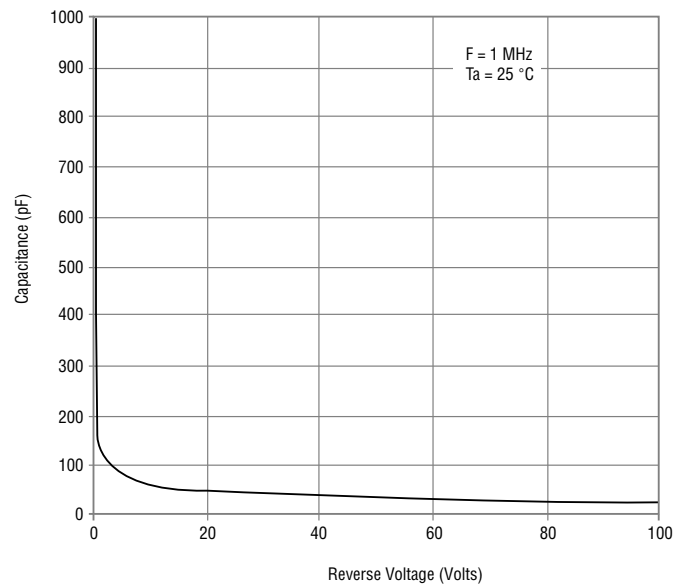
Reverse Characteristics



Derating Curve



Capacitance Between Terminals

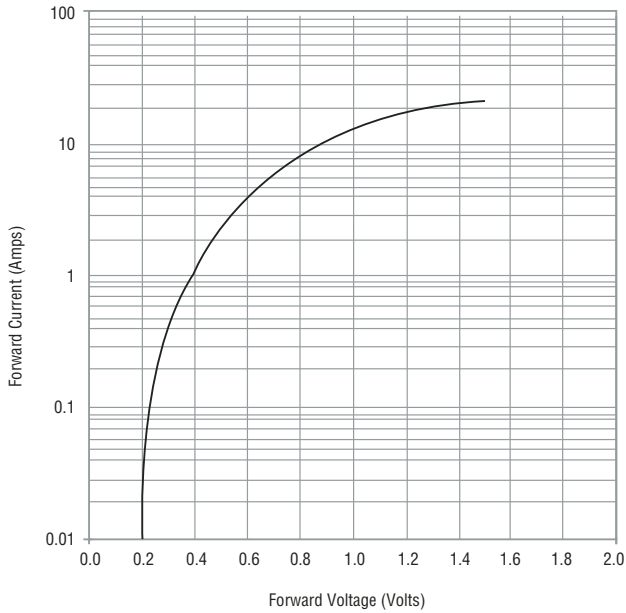


CD1607-B140 / B140L Schottky Barrier Rectifier Chip Diode

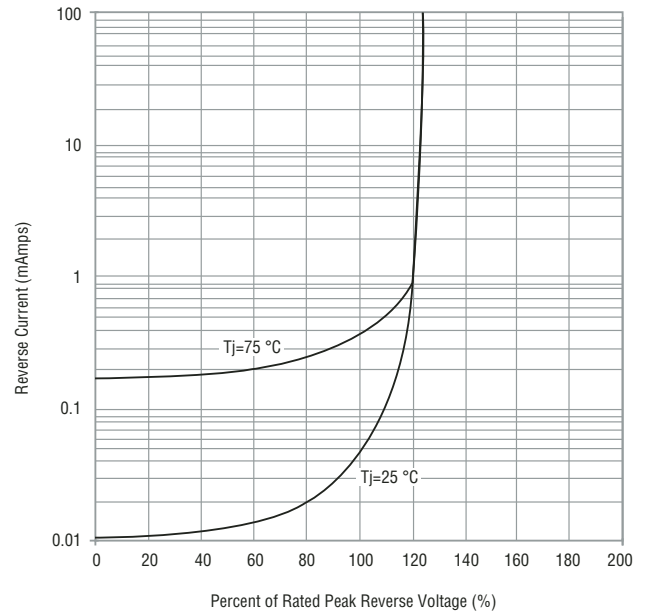


Rating and Characteristic Curves: CD1607-B140L

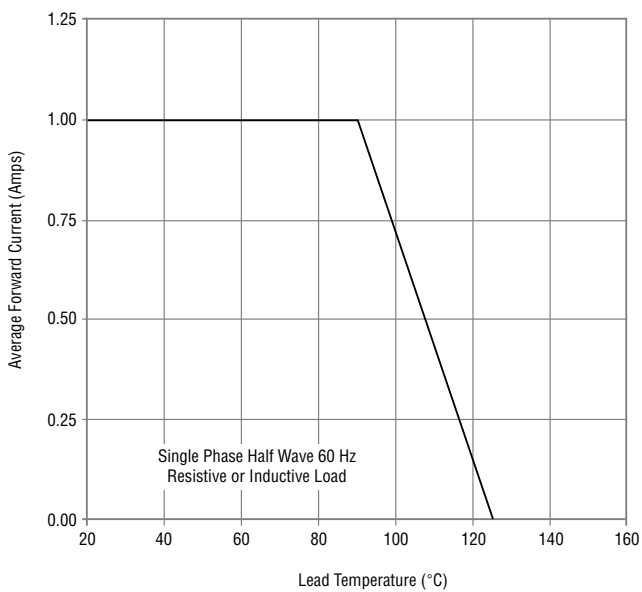
Forward Characteristics



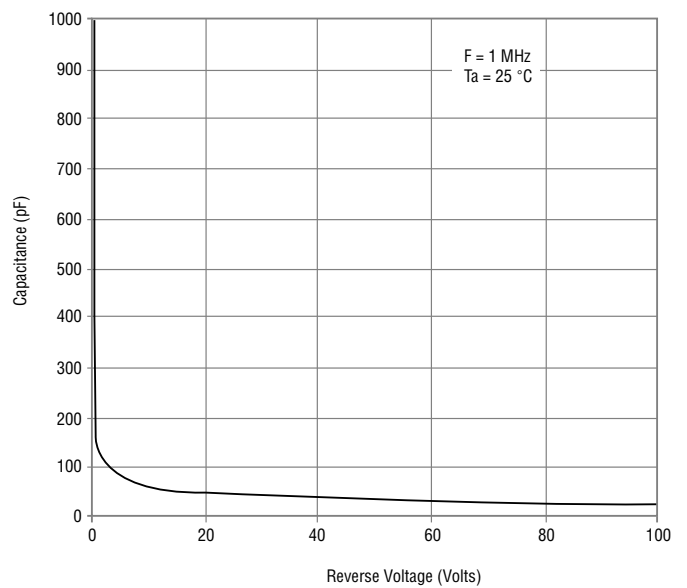
Reverse Characteristics



Derating Curve



Capacitance Between Terminals



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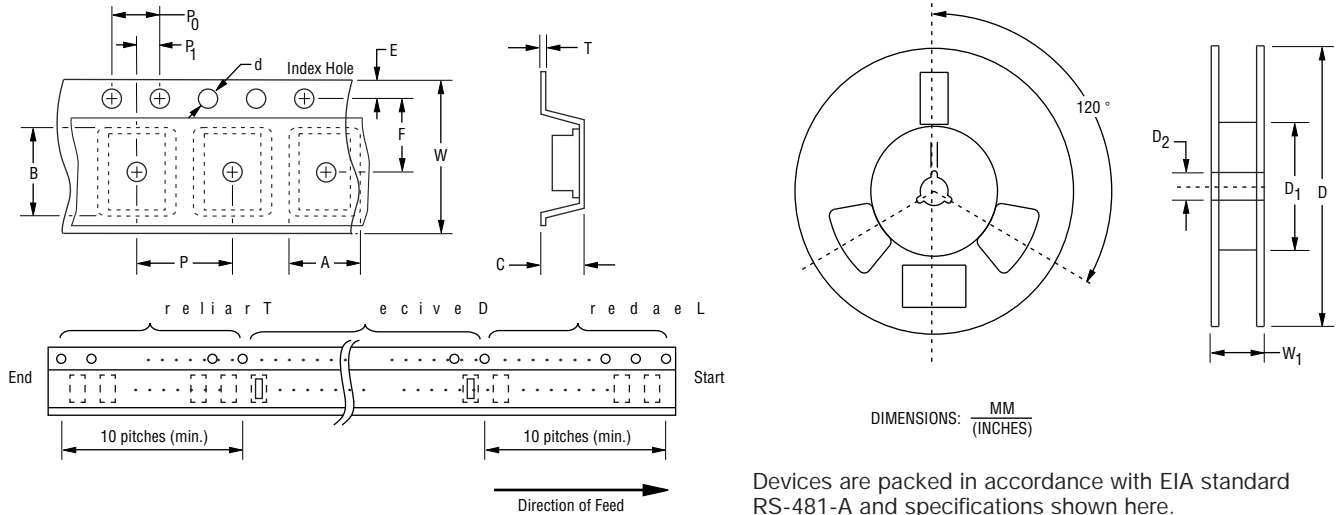
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CD1607-B140 / B140L Schottky Barrier Rectifier Chip Diode

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Packaging Information

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



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

Item	Symbol	1607
Carrier Width	A	$\frac{1.90 \pm 0.10}{(0.075 - 0.004)}$
Carrier Length	B	$\frac{4.30 \pm 0.10}{(0.169 - 0.004)}$
Carrier Depth	C	$\frac{1.80 \pm 0.10}{(0.071 - 0.004)}$
Sprocket Hole	d	$\frac{1.55 \pm 0.05}{(0.061 - 0.002)}$
Reel Outside Diameter	D	$\frac{178}{(7.008)}$
Reel Inner Diameter	D ₁	$\frac{80.0}{(3.150)}$ MIN.
Feed Hole Diameter	D ₂	$\frac{13.0 \pm 0.20}{(0.512 - 0.008)}$
Sprocket Hole Position	E	$\frac{1.75 \pm 0.10}{(0.069 - 0.004)}$
Punch Hole Position	F	$\frac{3.50 \pm 0.05}{(0.138 - 0.002)}$
Punch Hole Pitch	P	$\frac{4.00 \pm 0.10}{(0.157 - 0.004)}$
Sprocket Hole Pitch	P ₀	$\frac{4.00 \pm 0.10}{(0.157 - 0.004)}$
Embossment Center	P ₁	$\frac{2.00 \pm 0.05}{(0.079 - 0.002)}$
Overall Tape Thickness	T	$\frac{0.20 \pm 0.10}{(0.008 - 0.004)}$
Tape Width	W	$\frac{8.00 \pm 0.20}{(0.315 - 0.008)}$
Reel Width	W ₁	$\frac{13.5}{(0.531)}$ MAX.
Quantity per Reel	--	2,500

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