

Features

- RoHS compliant*
- Leadless chip form
- High current capability
- Low forward voltage
- Halogen free**

Applications

- Switch Mode Power Supplies (SMPS)
- Portable equipment batteries
- High frequency rectification
- DC/DC converters
- Telecommunications

CD0603-B0xR Schottky Barrier Chip Diode Series

General Information

Portable communications, computing and video equipment manufacturers are challenging the semiconductor industry to develop increasingly smaller electronic components.



Bourns offers small-signal Schottky Barrier Diodes for switching and rectification applications, in a compact chip package compatible with 0603 (1608 metric) size format. The Schottky Barrier Diodes offer a repetitive peak reverse voltage of 40 V with a choice of forward current of 200 mA and 300 mA.

Additional Information

Click these links for more information:











PRODUCT TECHNICAL INVENTORY SAMPLES LIBRARY

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

Parameter	Symbol	CD06	l lmit	
Parameter		B0240R	B0340R	Unit
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	40)	V
Maximum Average Forward Rectified Current (T _A = 55 °C)	I _{F(AV)}	200	300	mA
Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	2		A
Operating Temperature Range	T_J	-40 to	+125	°C
Storage Temperature Range	T _{STG}	-40 to	+125	°C

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

Parameter	Symbol	Test Condition		Min.	Тур.	Max.	Unit	
Instantaneous Forward Voltage	V _F	$I_F = 50 \text{ mA}$	CD0603-B0240R		0.35		V	
		I _F = 100 mA			0.38			
		I _F = 200 mA			0.43	0.5		
		I _F = 100 mA			0.38			
		I _F = 200 mA	CD0603-B0340R		0.43			
		I _F = 300 mA			0.47	0.5		
Repetitive Peak Reverse Current	I _{RRM}	V _R = 10 V	CD0603-B0240R		0.5	1	μΑ	
			CD0603-B0340R		3	50		
Junction Capacitance	CJ	V _R = 4 V, f = 1.0 MHz			35		pF	
Thermal Resistance	$R_{\theta JA}$	Junction to Ambient			160		°C/W	
Herrial nesistance	$R_{\theta JL}$	Junction to Lead			110]	



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

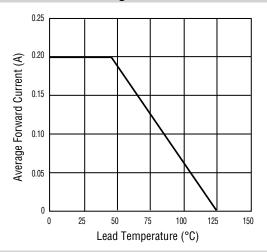
- RoHS Directive 2015/863, Mar 31, 2015 and Annex.
- Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (CI) content is 1500 ppm or less.

Specifications are subject to change without notice.

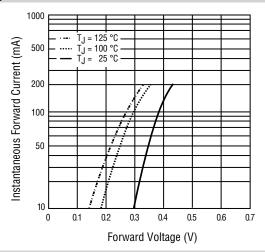
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Performance Graphs - Model CD0603-B0240R

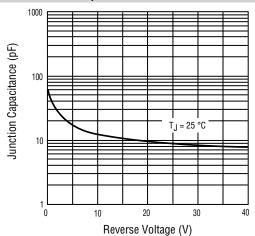
Forward Current Derating Curve



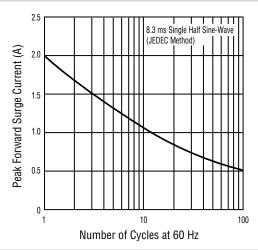
Typical Forward Characteristics



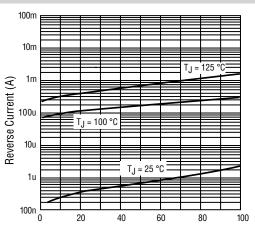
Typical Junction Capacitance



Maximum Non-Repetitive Peak Forward Surge Current



Typical Reverse Characteristics



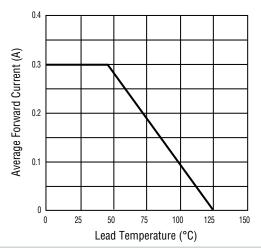
Percent of Rated Peak Reverse Voltage (%)

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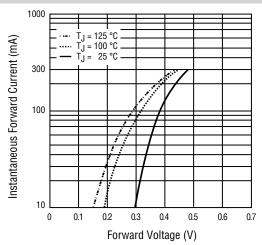
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Performance Graphs - Model CD0603-B0340R

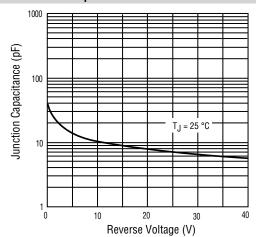
Forward Current Derating Curve



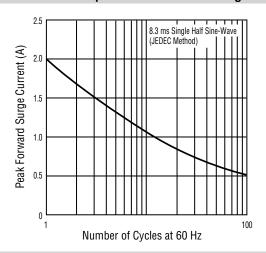
Typical Forward Characteristics



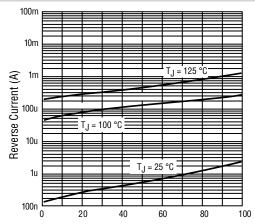
Typical Junction Capacitance



Maximum Non-Repetitive Peak Forward Surge Current



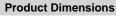
Typical Reverse Characteristics

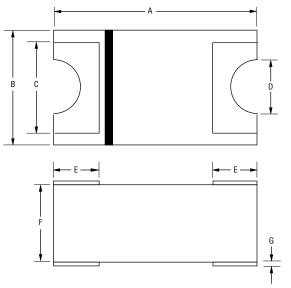


Percent of Rated Peak Reverse Voltage (%)

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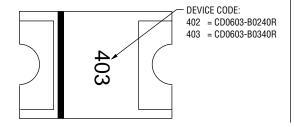




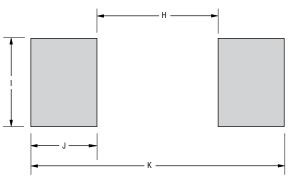
Dimension	CD0603-B0xR
А	$\frac{1.6 \pm 0.10}{(0.063 \pm 0.004)}$
В	$\frac{0.9 \pm 0.10}{(0.035 \pm 0.004)}$
С	$\frac{0.7 \pm 0.10}{(0.028 \pm 0.004)}$
D	0.20 (0.008) R
E	$\frac{0.35 \pm 0.05}{(0.014 \pm 0.002)}$
F	0.6 +0.2/-0.1 (0.024 +0.008/-0.004)
G	0.03 (0.001)

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

Typical Part Marking



Recommended Pad Layout



Dimension	CD0603-B0xR
н	$\frac{1.10}{(0.043)}$ MAX.
I	0.80 (0.031) MIN.
J	0.60/(0.024) MIN.
К	2.30 (0.091) REF.

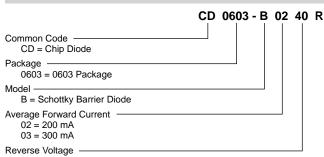
DIMENSIONS: $\frac{MM}{(INCHES)}$

Physical Specifications

Environmental Specifications

How to Order

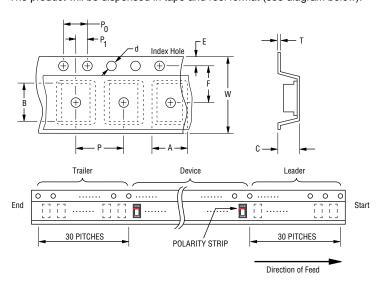
40 = 40 V

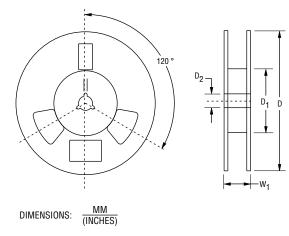


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Packaging Information

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





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

Item	Symbol	CD0603
Carrier Width	А	$\frac{0.99 \pm 0.08}{(0.039 \pm 0.003)}$
Carrier Length	В	$\frac{1.82 \pm 0.08}{(0.072 \pm 0.003)}$
Carrier Depth	С	$\frac{1.00 \pm 0.10}{(0.039 \pm 0.004)}$
Sprocket Hole	d	$\frac{1.50 \pm 0.10}{(0.059 \pm 0.004)}$
Reel Outside Diameter	D	$\frac{178 \pm 2.0}{(7.008 \pm 0.079)}$
Reel Inner Diameter	D ₁	$\frac{60 \pm 0.5}{(2.362 \pm 0.020)}$
Feed Hole Diameter	D ₂	$\frac{13.50 \pm 0.5}{(0.532 \pm 0.020)}$
Sprocket Hole Position	E	$\frac{1.75 \pm 0.10}{(0.069 \pm 0.004)}$
Punch Hole Position	F	$\frac{3.50 \pm 0.05}{(0.138 \pm 0.002)}$
Punch Hole Pitch	Р	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Sprocket Hole Pitch	P ₀	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Embossment Center	P ₁	$\frac{2.00 \pm 0.10}{(0.079 \pm 0.004)}$
Overall Tape Thickness	Т	0.40 (0.016) MAX.
Tape Width	W	$\frac{8.00 \pm 0.30}{(0.315 \pm 0.012)}$
Reel Width	W ₁	$\frac{12.00 \pm 0.50}{(0.472 \pm 0.020)}$
Quantity per Reel		3000

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REV. 08/19

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