

## Features

- RoHS compliant\*
- Leadless 0603 (1608) chip
- High speed switching



Model CD0603-S01575 is obsolete and not recommended for new designs.

## CD0603-S01575 Switching 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 small-signal high-speed Switching Diodes for switching digital signal applications, in compact chip package 0603 size format, which offers PCB real estate savings and are considerably smaller than competitive parts. The Switching Diodes offer a Repetitive Peak Forward Current of 200 mA and a reverse voltage of 75 V. The diodes are RoHS compliant and are compatible with lead-free manufacturing processes, conforming to many industry and government regulations on lead-free components. Bourns® Chip Diodes conform to JEDEC standards, are easy to handle on standard pick and place equipment and their flat configuration minimizes roll away.

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

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	100	V
Reverse Voltage	V <sub>R</sub>	80	V
Average Forward Current	I <sub>F(AV)</sub>	100	mA
Repetitive Peak Forward Current	I <sub>FRM</sub>	225	mA
Non-repetitive Surge Forward Current @t < 1 s @t < 8.3 ms	I <sub>FSM</sub>	400 800	mA
Power Dissipation	P <sub>D</sub>	150	mW
Thermal Resistance Junction to Ambient Air	R <sub>θJA</sub>	375	°C/W
Storage Temperature	T <sub>STG</sub>	-55 to +150	°C
Operating Temperature	T <sub>J</sub>	-55 to +150	°C

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

Parameter	Symbol	Value	Unit
Forward Voltage (Max.)	V <sub>F</sub>	1.00 (I <sub>f</sub> = 50 mA) 1.20 (I <sub>f</sub> = 100 mA)	V
Capacitance Between Terminals (Max.)	C <sub>T</sub>	3 (V <sub>r</sub> = 1 V, f = 1 MHz)	pF
Reverse Recovery Time (Max.)	t <sub>rr</sub>	4 (I <sub>F</sub> = I <sub>R</sub> = 10 mA, R <sub>L</sub> = 50 ohms)	nS
Reverse Current (Max.)	I <sub>R</sub>	2.5 (V <sub>R</sub> = 70 V)	μA

### How to Order

CD 0603 S 015 75

Common Code \_\_\_\_\_  
Chip Diode

Package \_\_\_\_\_  
• 0603

Model \_\_\_\_\_  
S = High-speed Switching

Average Forward Current (I<sub>0</sub>) Code \_\_\_\_\_  
015 = 150 mA  
(Code x 1000 mA = Average Forward Current)

Reverse Voltage (V<sub>R</sub>) Code \_\_\_\_\_  
75 = 75 V



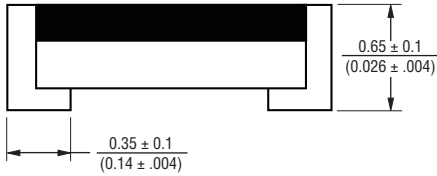
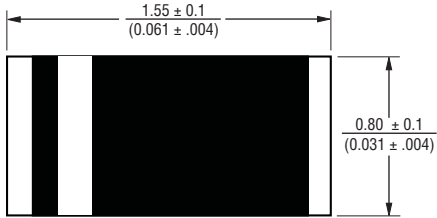
**WARNING**  
**Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\*RoHS Directive 2015/863, Mar 31, 2015 and Annex.  
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# CD0603-S01575 Switching Chip Diode

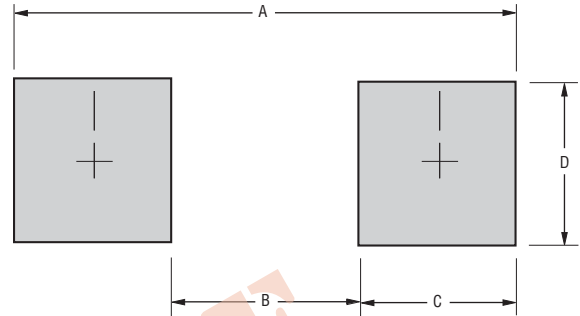
**BOURNS®**

## Product Dimensions



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

## Recommended Pad Layout



Dimensions	
A	$\frac{1.8 - 2.6}{(0.075 - 0.102)}$
B	$\frac{0.8}{(0.031)}$
C	$\frac{0.5 - 0.9}{(0.020 - 0.035)}$
D	$\frac{0.8 - 1.0}{(0.031 - 0.039)}$

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

## Physical Specifications

Case .....0603 (1608) Molded plastic  
 Terminals ..... Solder plated, solderable per MIL-STD-750,  
 Method 2026  
 Polarity..... Indicated by cathode band  
 Mounting Position..... Any

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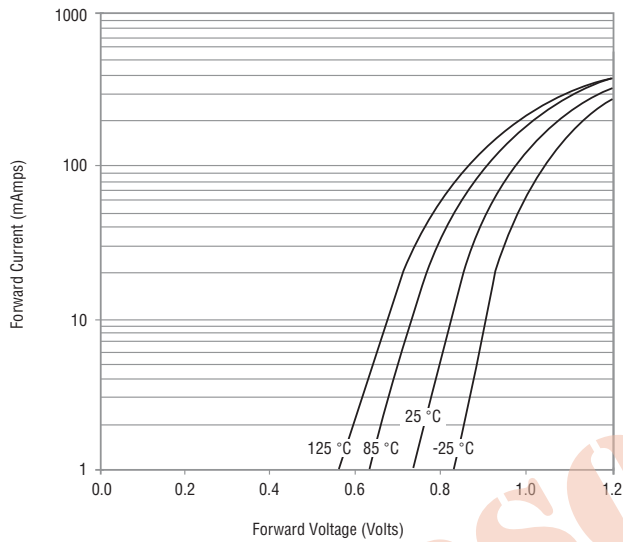
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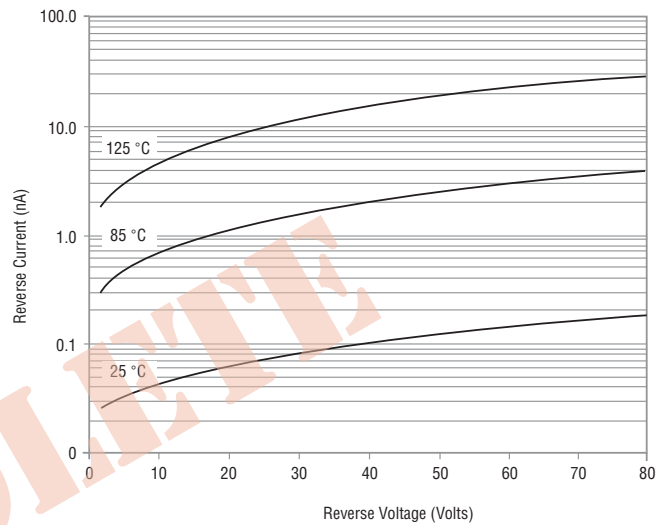
# CD0603-S01575 Switching Chip Diode

## Rating and Characteristic Curves: CD0603-S01575

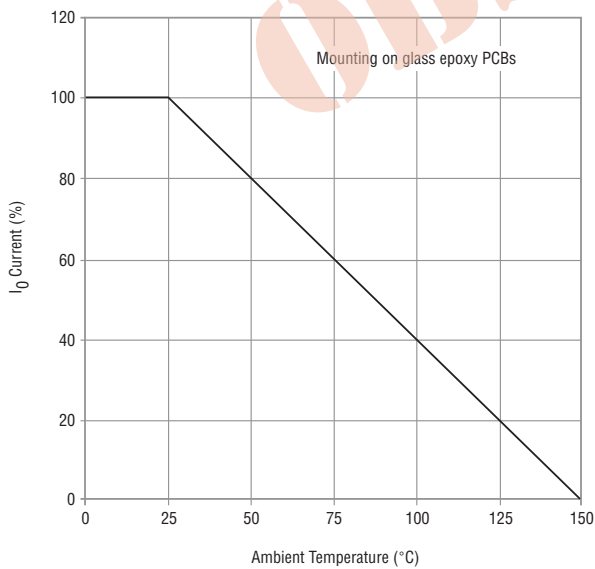
### Forward Characteristics



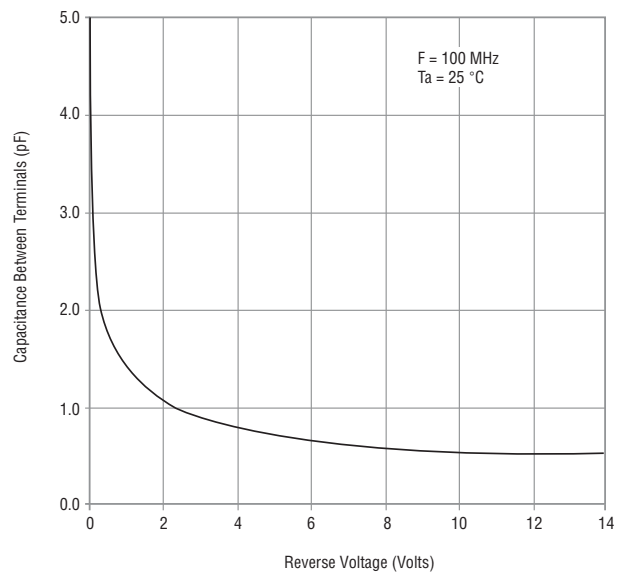
### Reverse Characteristics



### Derating Curve



### Capacitance Between Terminals



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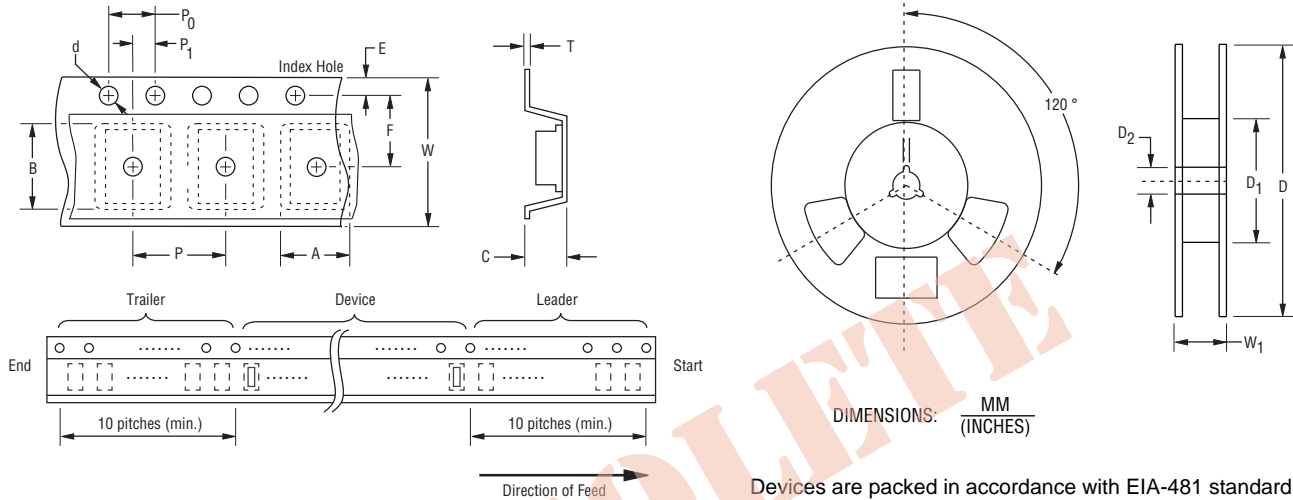
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# CD0603-S01575 Switching Chip Diode

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## Packaging Information

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



Item	Symbol	0603
Carrier Width	A	$\frac{1.00 \pm 0.10}{(0.039 \pm 0.004)}$
Carrier Length	B	$\frac{1.70 \pm 0.10}{(0.067 \pm 0.004)}$
Carrier Depth	C	$\frac{1.00 \pm 0.10}{(0.039 \pm 0.004)}$
Sprocket Hole	d	$\frac{1.55 \pm 0.10}{(0.061 \pm 0.004)}$
Reel Outside Diameter	D	$\frac{178}{(7.008)}$
Reel Inner Diameter	D <sub>1</sub>	$\frac{60.0}{(2.362)}$ MIN.
Feed Hole Diameter	D <sub>2</sub>	$\frac{13.0 \pm 0.20}{(0.512 \pm 0.008)}$
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	P	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Sprocket Hole Pitch	P <sub>0</sub>	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Embossment Center	P <sub>1</sub>	$\frac{2.00 \pm 0.05}{(0.079 \pm 0.002)}$
Overall Tape Thickness	T	$\frac{0.20 \pm 0.05}{(0.008 \pm 0.002)}$
Tape Width	W	$\frac{8.00 \pm 0.20}{(0.315 \pm 0.008)}$
Reel Width	W <sub>1</sub>	$\frac{13.5}{(0.531)}$ MAX.
Quantity per Reel	--	5,000

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REV. 08/21

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