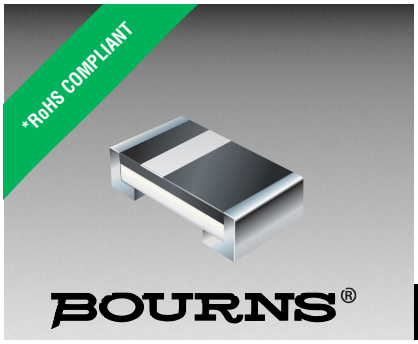



## Features

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

Model CD0603-S01575 is currently available, although 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 (@ $T_A$ = 25 °C Unless Otherwise Noted)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Repetitive Peak Reverse Voltage | $V_{RRM}$ | 100 | V |
| Reverse Voltage | $V_R$ | 80 | V |
| Average Forward Current | $I_{F(AV)}$ | 100 | mA |
| Repetitive Peak Forward Current | $I_{FRM}$ | 225 | mA |
| Non-repetitive Surge Forward Current<br>@t < 1 s<br>@t < 8.3 ms | $I_{FSM}$ | <br>400<br>800 | mA |
| Power Dissipation | $P_D$ | 150 | mW |
| Thermal Resistance Junction to Ambient Air | $R_{\Theta JA}$ | 375 | °C/W |
| Storage Temperature | $T_{STG}$ | -55 to +150 | °C |
| Operating Temperature | $T_J$ | -55 to +150 | °C |

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

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Forward Voltage (Max.) | $V_F$ | 1.00 ($I_f$ = 50 mA)<br>1.20 ($I_f$ = 100 mA) | V |
| Capacitance Between Terminals (Max.) | $C_T$ | 3<br>($V_r$ = 1 V, f = 1 MHz) | pF |
| Reverse Recovery Time (Max.) | $t_{rr}$ | 4<br>($I_F$ = $I_R$ = 10 mA, $R_L$ = 50 ohms) | nS |
| Reverse Current (Max.) | $I_R$ | 2.5<br>($V_R$ = 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 ($I_O$) Code
015 = 150 mA
*(Code x 1000 mA = Average Forward Current)*

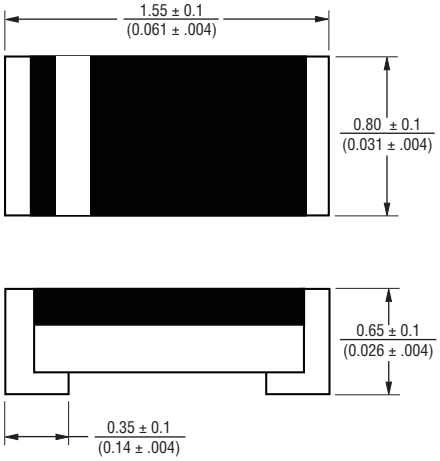
Reverse Voltage ($V_R$) Code
75 = 75 V

*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

# CD0603-S01575 Switching Chip Diode

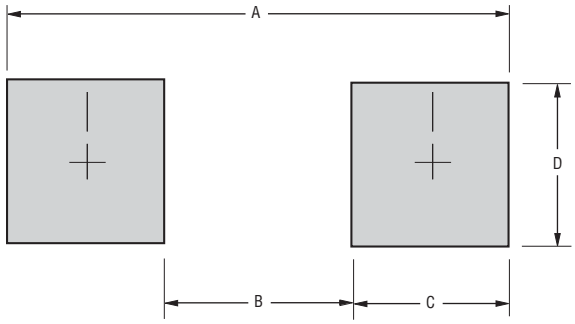
BOURNS®

## Product Dimensions




DIMENSIONS: MM / (INCHES)

## Recommended Pad Layout




| Dimensions | |
|---|---|
| A | 1.8 - 2.6 (0.075 - 0.102) |
| B | 0.8 (0.031) |
| C | 0.5 - 0.9 (0.020 - 0.035) |
| D | 0.8 - 1.0 (0.031 - 0.039) |

DIMENSIONS: MM / (INCHES)

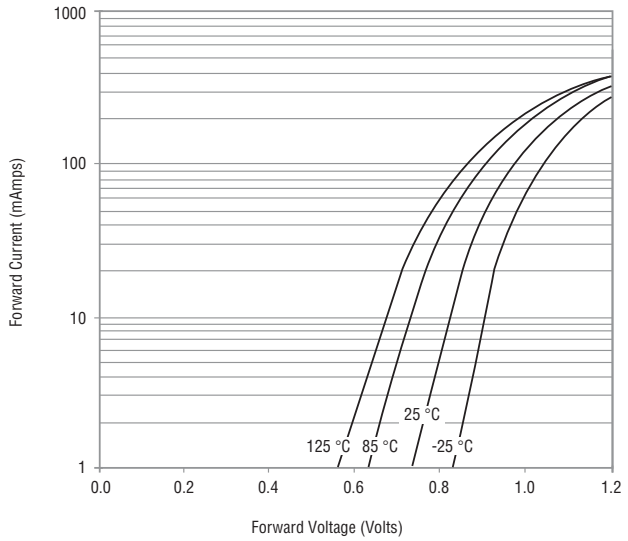
## Physical Specifications

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

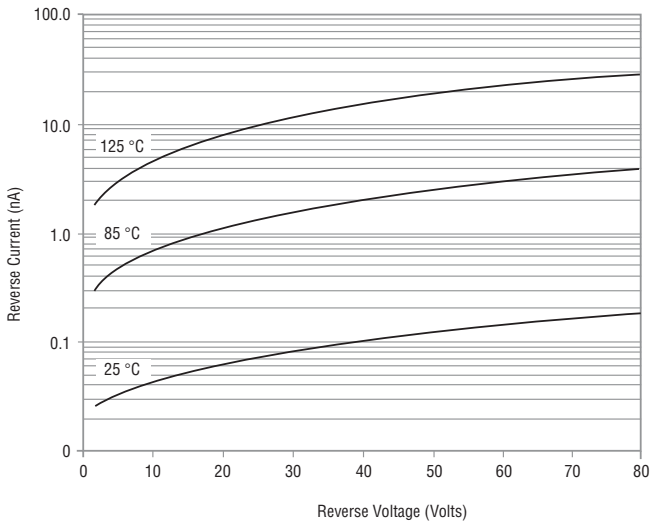
# CD0603-S01575 Switching Chip Diode

## Rating and Characteristic Curves: CD0603-S01575

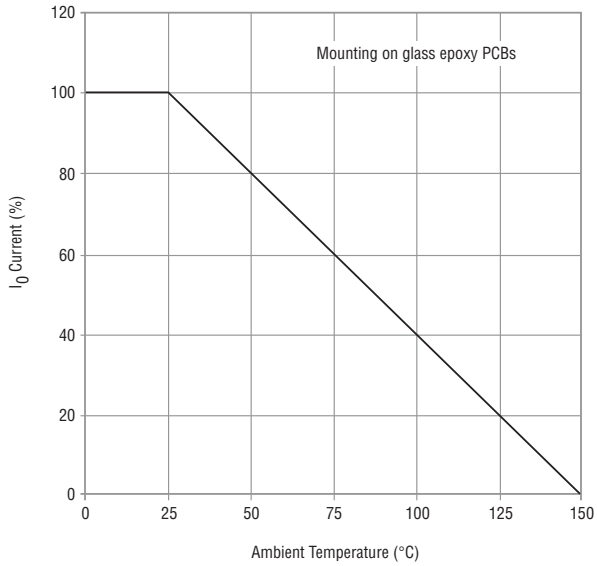
### Forward Characteristics



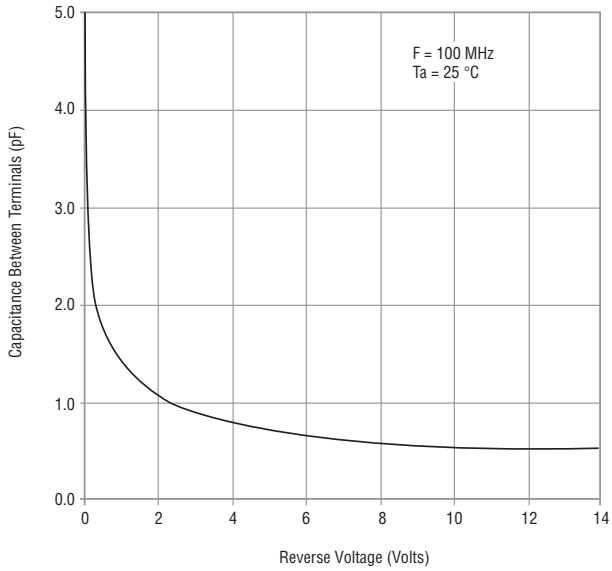

### Reverse Characteristics




### Derating Curve

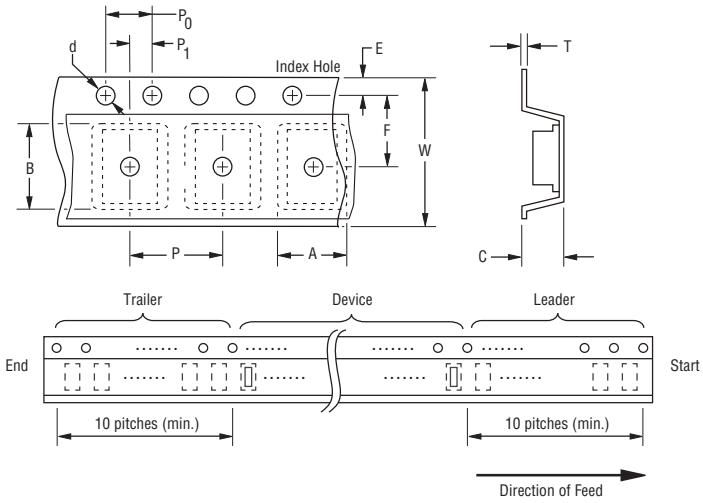


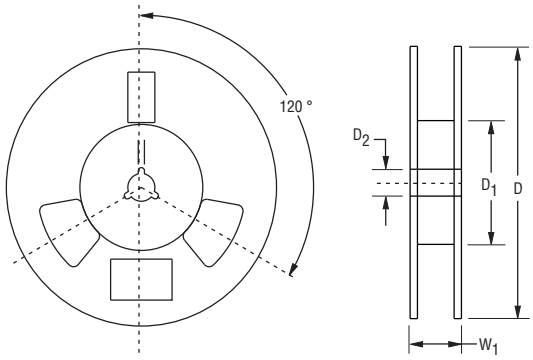

### Capacitance Between Terminals



## Packaging Information

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




DIMENSIONS: MM / (INCHES)

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

| Item | Symbol | 0603 |
|---|---|---|
| Carrier Width | A | 1.00 ± 0.10 (0.039 ± 0.004) |
| Carrier Length | B | 1.70 ± 0.10 (0.067 ± 0.004) |
| Carrier Depth | C | 1.00 ± 0.10 (0.039 ± 0.004) |
| Sprocket Hole | d | 1.55 ± 0.10 (0.061 ± 0.004) |
| Reel Outside Diameter | D | 178 (7.008) |
| Reel Inner Diameter | $D_1$ | 60.0 (2.362) 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 | 3.50 ± 0.05 (0.138 ± 0.002) |
| Punch Hole Pitch | P | 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 | T | 0.20 ± 0.05 (0.008 ± 0.002) |
| Tape Width | W | 8.00 ± 0.20 (0.315 ± 0.008) |
| Reel Width | $W_1$ | 13.5 (0.531) MAX. |
| Quantity per Reel | -- | 5,000 |

REV. 03/19

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