



Features

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

Applications

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

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 @t < 1 s @t < 8.3 ms	I _{FSM}	400 800	mA
Power Dissipation	P _D	150	mW
Thermal Resistance Junction to Ambient Air	R _{θJA}	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) 1.20 (I _F = 100 mA)	V
Capacitance Between Terminals (Max.)	C _T	3 (V _r = 1 V, f = 1 MHz)	pF
Reverse Recovery Time (Max.)	t _{rr}	4 (I _F = I _R = 10 mA, R _L = 50 ohms)	nS
Reverse Current (Max.)	I _R	2.5 (V _R = 70 V)	μA

How to Order

Common Code	CD	0603	S	015	75
Chip Diode					
Package					
• 0603					
Model					
S = High-speed Switching					
Average Forward Current (I ₀) Code					
015 = 150 mA					
(Code x 1000 mA = Average Forward Current)					
Reverse Voltage (V _R) Code					
75 = 75 V					

BOURNS®

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EMEA: Tel: +36 88 520 390 • Fax: +36 88 520 211

The Americas: Tel: +1-951 781-5500 • Fax: +1-951 781-5700

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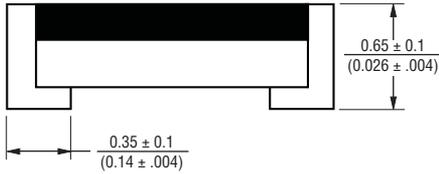
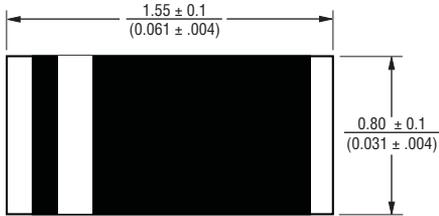
*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.
Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
Users should verify actual device performance in their specific applications.

CD0603-S01575 Switching Chip Diode

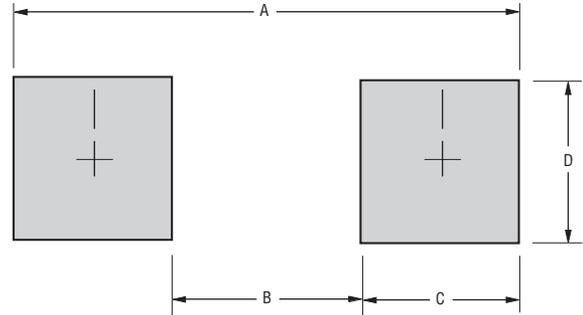


Product Dimensions



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

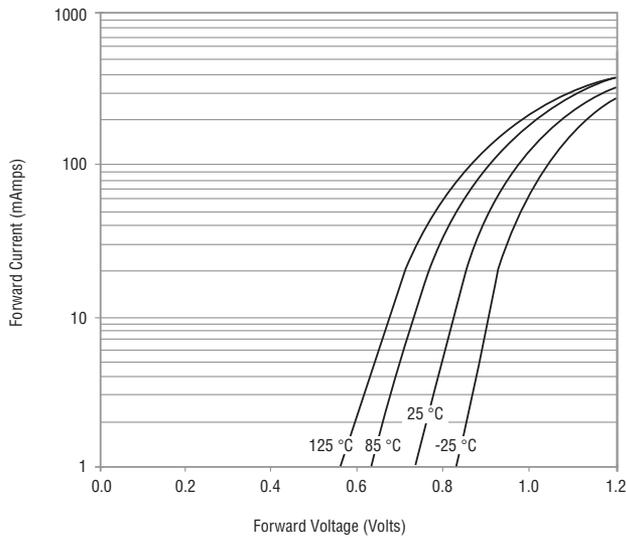
Physical Specifications

Case0603 (1608) Molded plastic
 Terminals Solder plated, solderable per MIL-STD-750,
 Method 2026
 Polarity..... Indicated by cathode band
 Mounting Position Any

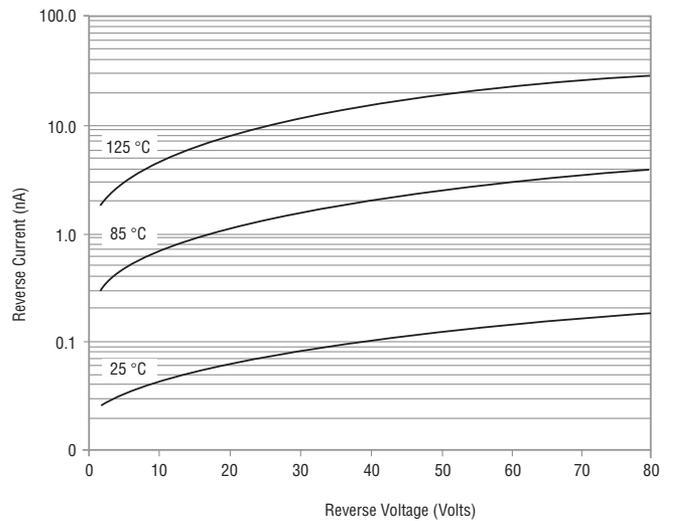
CD0603-S01575 Switching Chip Diode

Rating and Characteristic Curves: CD0603-S01575

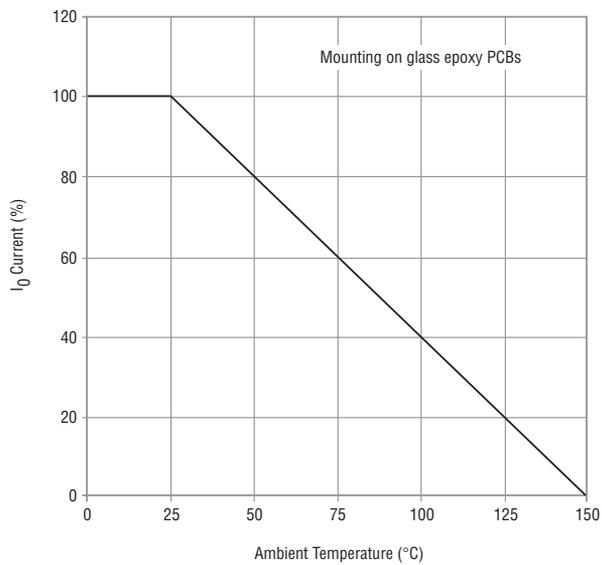
Forward Characteristics



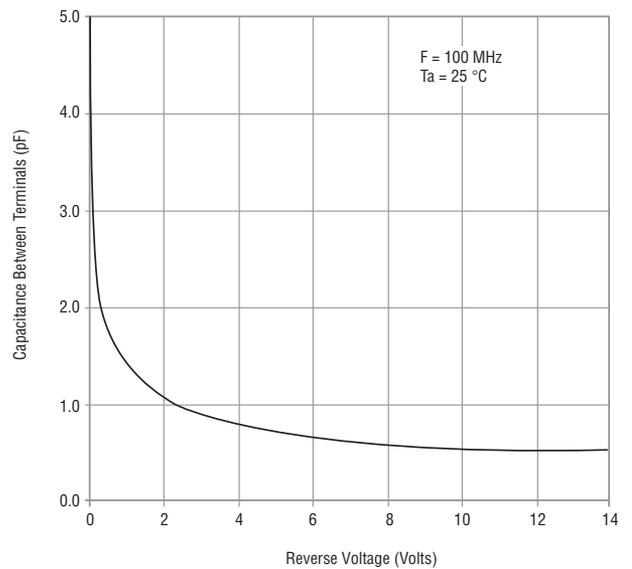
Reverse Characteristics



Derating Curve



Capacitance Between Terminals



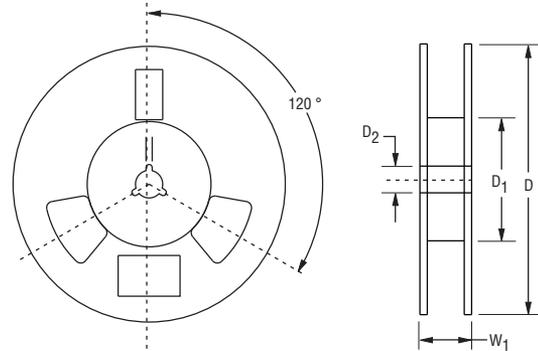
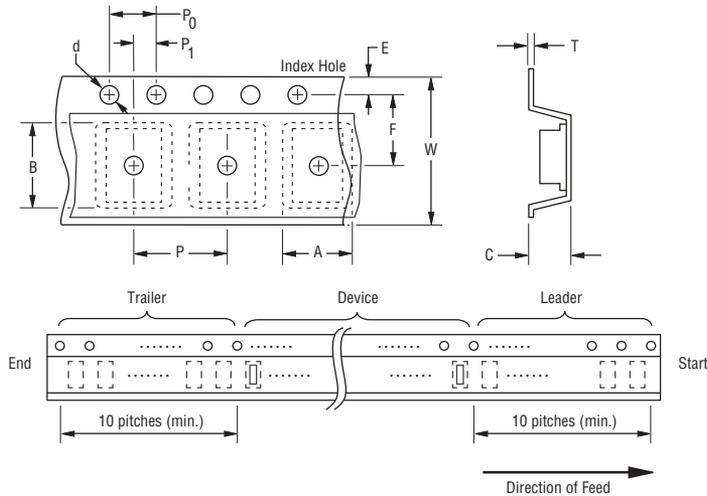
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Packaging Information

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



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

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

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 ₁	$\frac{60.0}{(2.362)}$ MIN.
Feed Hole Diameter	D ₂	$\frac{13.0 \pm 0.20}{(0.512 \pm 0.008)}$
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 ₀	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Embossment Center	P ₁	$\frac{2.00 \pm 0.05}{(0.079 \pm 0.002)}$
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 ₁	$\frac{13.5}{(0.531)}$ MAX.
Quantity per Reel	--	5,000

REV. 02/15

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