

## **Features**

- Low power loss and high efficiency
- Low forward voltage
- High surge capability
- High reverse robustness
- RoHS compliant\*

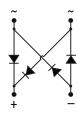
## **Applications**

- Switch Mode Power Supplies (SMPS)
- Bridge Full Wave Rectification
- Lighting Ballasts
- Battery Chargers

## CDT0269-BR1xL Surface Mount Bridge Rectifier Diode

#### **General Information**

The markets for portable communications, computing and video equipment are challenging the semiconductor industry to develop increasingly smaller electronic components. Bourns offers the Model CDTO269-BR1xL surface mount bridge rectifier diodes with overvoltage protection for rectification applications in a TO-269AA package, providing PCB real estate savings due to their considerable size difference compared to most competitive parts. The Model CDTO269-BR1xL surface mount bridge rectifier diodes with overvoltage protection offer a forward current of 1 A with a choice of repetitive peak reverse voltages of 190 V and 380 V.



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

Parameter	Symbol	CDT	Unit	
Parameter		BR1190L	BR1380L	Unit
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	190	380	V
Alternating Input Voltage	V <sub>RMS</sub>	140	280	V
Reverse Avalanche Energy	ERSM	20		mJ
Maximum Output Rectified Current (T <sub>A</sub> = 50 °C)	I <sub>FAV</sub>	1		А
Repetitive Peak Forward Current (F > 15 Hz) (NOTE 1)	IFRM	15		Α
Peak Forward Surge Current (50 Hz Half Sine-Wave)	IFSM	5	50	А
Peak Forward Surge Current (60 Hz Half Sine-Wave)	IFSM	5	55	А
Non-Repetitive Peak Forward Surge Current (10/1000 µS)	IFPM	75		А
ESD Rating (JESD22-A114)	V <sub>ESD</sub>	8		kV
Operating Temperature Range	TJ	-50 to	+150	°C
Storage Temperature Range	TSTG	-50 to	+150	°C

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

Bowenster.	Symbol	CDTO269-BR1xL				I I m i A
Parameter		Test Conditions	Min.	Тур.	Max.	Unit
Instantaneous Forward Voltage	VF	I <sub>F</sub> = 1 A			0.95	V
Reverse Leakage Current	IR	V <sub>WM</sub> = V <sub>RRM</sub>			5	μΑ
Davaraa Braakdayya Valtara	V <sub>BR</sub>	CDTO269-BR1190L	210			V
Reverse Breakdown Voltage		CDTO269-BR1380L	400			
Reverse Recovery Time	t <sub>rr</sub> ,	I <sub>F</sub> = 0.5 A and I <sub>R</sub> = 1 A to 0.25 A		1500		nS
Thermal Resistance, Junction to Ambient (NOTE 1)	R <sub>thA</sub>				60	K/W

NOTE 1: Measured when mounted on PCB with 25 mm² copper pad areas.

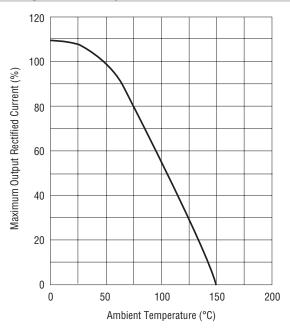
Users should verify actual device performance in their specific applications.

<sup>\*</sup>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.

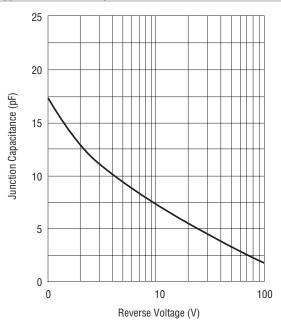
The products described herein and this document are subject to specific disclaimers as set forth on the last page of this document.

## **Rating and Characteristic Curves**

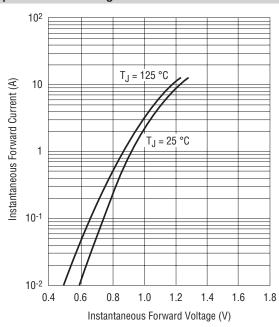
## **Derating Curve for Output Rectified Current**



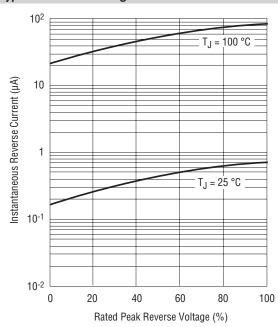
## **Typical Junction Capacitance**



## **Typical Forward Voltage Characteristics**



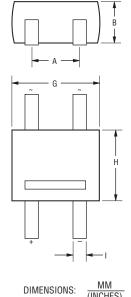
## Typical Reverse Leakage Characteristics

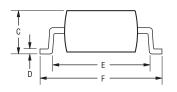


## CDT0269-BR1xL Surface Mount Bridge Rectifier Diode

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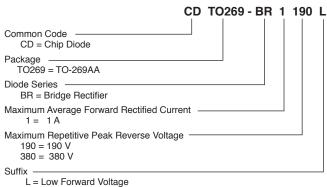
#### **Product Dimensions**



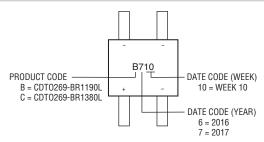


Dim.	TO-269AA Package
А	2.54 (0.100)
В	$\frac{1.5 \pm 0.1}{(0.059 \pm 0.004)}$
С	$\frac{1.6 \pm 0.1}{(0.063 \pm 0.004)}$
D	0.2 (0.008)
Е	$\frac{5.1 \pm 0.2}{(0.201 \pm 0.008)}$
F	$\frac{6.5 \pm 0.2}{(0.256 \pm 0.008)}$
G	$\frac{4.7 \pm 0.1}{(0.185 \pm 0.004)}$
Н	$\frac{3.9 \pm 0.1}{(0.154 \pm 0.004)}$
ı	<u>0.7</u> (0.028)

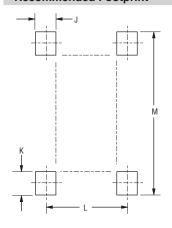
## **How to Order**



## **Typical Part Marking**



#### **Recommended Footprint**



Dim.	TO-269AA Package
J	$\frac{1.0 \pm 0.2}{(0.039 \pm 0.008)}$
K	$\frac{1.1 \pm 0.2}{(0.043 \pm 0.008)}$
L	$\frac{2.54 \pm 0.1}{(0.100 \pm 0.004)}$
М	$\frac{6.9}{(0.272)}$ MAX.

MM DIMENSIONS: (INCHES)

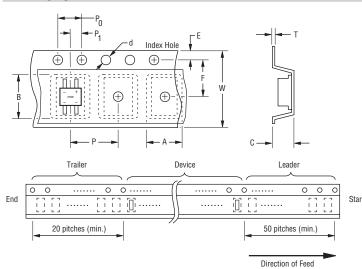
### **Environmental Specifications**

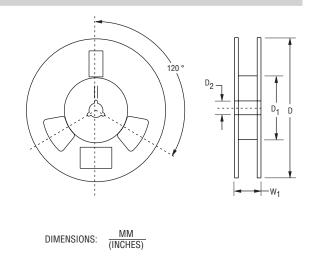
Moisture Sensitivity Level ......1 

# CDT0269-BR1xL Surface Mount Bridge Rectifier Diode

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#### **Packaging Information**





Item	Symbol	TO269-AA
Carrier Width	А	<u>5.0</u> (0.197)
Carrier Length	В	7.3 (0.287)
Carrier Depth	С	1.8 (0.071)
Sprocket Hole	d	$\frac{1.5 \pm 0.1}{(0.059 \pm 0.004)}$
Reel Outside Diameter	D	330 (12.992)
Reel Inner Diameter	D <sub>1</sub>	<u>60.0</u> MIN.
Feed Hole Diameter	D <sub>2</sub>	$\frac{0.51 \pm 0.020}{(0.059 \pm 0.008)}$
Sprocket Hole Position	E	1.75 (0.069)
Punch Hole Position	F	$\frac{5.5 \pm 0.1}{(0.217 \pm 0.004)}$
Punch Hole Pitch	Р	$\frac{8.0 \pm 0.1}{(0.315 \pm 0.004)}$
Sprocket Hole Pitch	P <sub>0</sub>	$\frac{4.0 \pm 0.1}{(0.157 \pm 0.004)}$
Embossment Center	P <sub>1</sub>	$\frac{2.0 \pm 0.05}{(0.079 \pm 0.002)}$
Overall Tape Thickness	Т	$\frac{2.0 \pm 0.1}{(0.079 \pm 0.004)}$
Tape Width	W	12.0 (0.472)
Reel Width	W <sub>1</sub>	17.6 (0.693) MAX.
Quantity per Reel		5,000

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