



Features

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

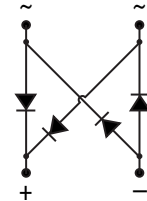
Applications

- 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 CDT0269-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 CDT0269-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_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	CDT0269-		Unit
		BR1190L	BR1380L	
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	190	380	V
Alternating Input Voltage	V _{RMS}	140	280	V
Reverse Avalanche Energy	E _{RSM}	20		mJ
Maximum Output Rectified Current (T _A = 50 °C)	I _{FAV}	1		A
Repetitive Peak Forward Current (F > 15 Hz) (NOTE 1)	I _{FRM}	15		A
Peak Forward Surge Current (50 Hz Half Sine-Wave)	I _{FSM}	50		A
Peak Forward Surge Current (60 Hz Half Sine-Wave)	I _{FSM}	55		A
Non-Repetitive Peak Forward Surge Current (10/1000 μS)	I _{FPM}	75		A
ESD Rating (JESD22-A114)	V _{ESD}	8		kV
Operating Temperature Range	T _J	-50 to +150		°C
Storage Temperature Range	T _{STG}	-50 to +150		°C

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

Parameter	Symbol	CDT0269-BR1xL			Unit	
		Test Conditions	Min.	Typ.		Max.
Instantaneous Forward Voltage	V _F	I _F = 1 A			0.95	V
Reverse Leakage Current	I _R	V _{WM} = V _{RRM}			5	μA
Reverse Breakdown Voltage	V _{BR}	CDT0269-BR1190L	210			V
		CDT0269-BR1380L	400			
Reverse Recovery Time	t _{rr}	I _F = 0.5 A and I _R = 1 A to 0.25 A		1500		nS
Thermal Resistance, Junction to Ambient (NOTE 1)	R _{thA}				60	K / W

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



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

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

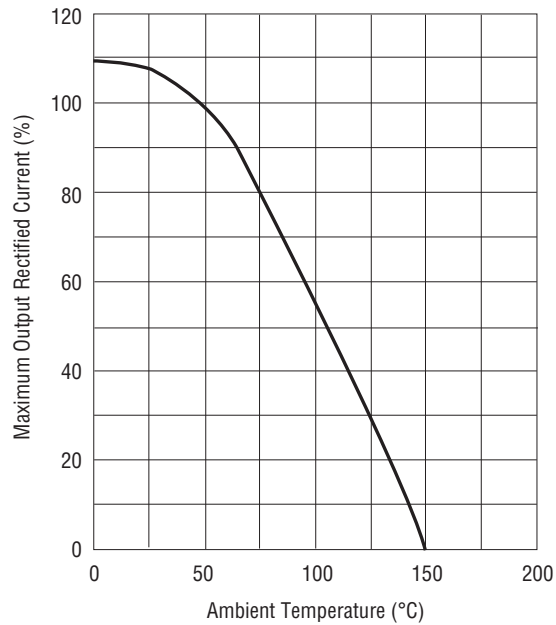
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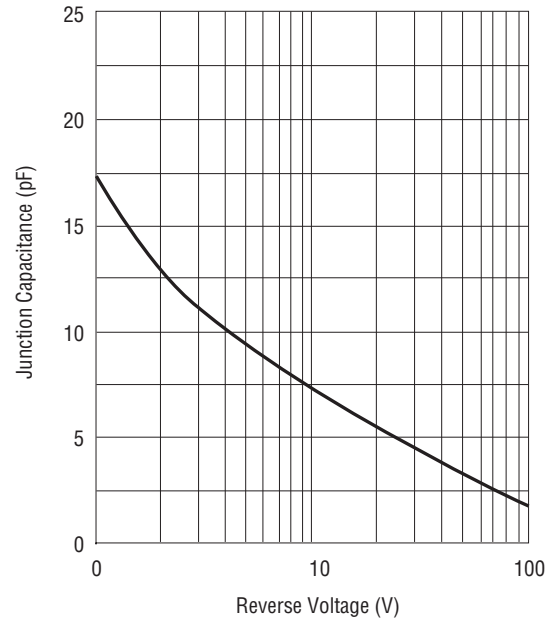


Rating and Characteristic Curves

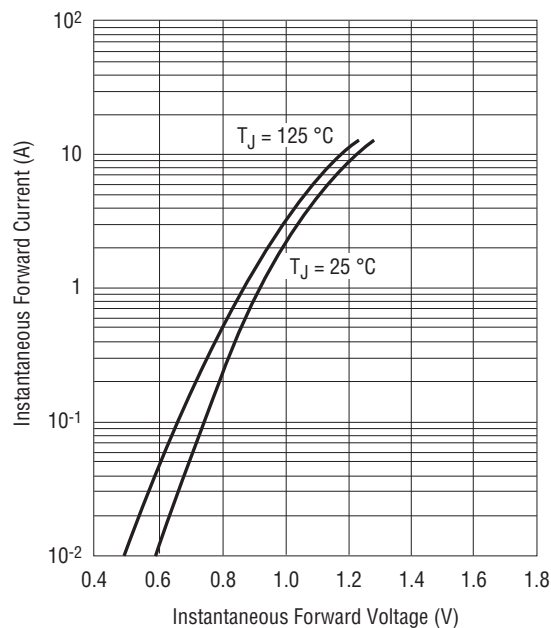
Derating Curve for Output Rectified Current



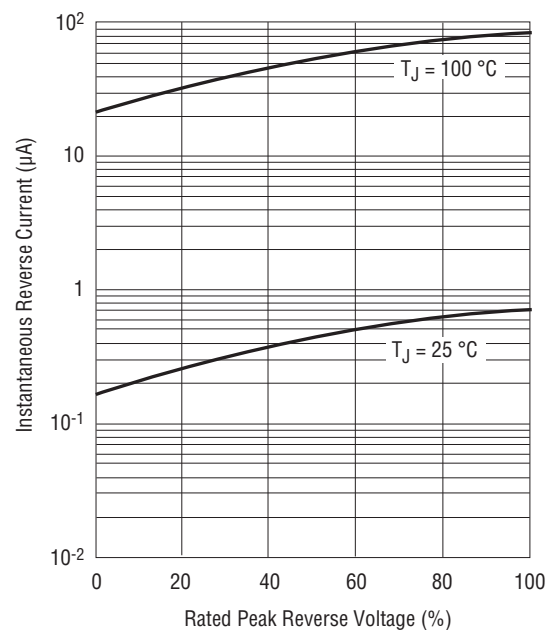
Typical Junction Capacitance



Typical Forward Voltage Characteristics



Typical Reverse Leakage Characteristics



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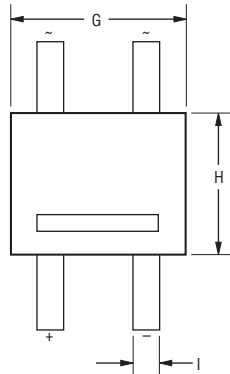
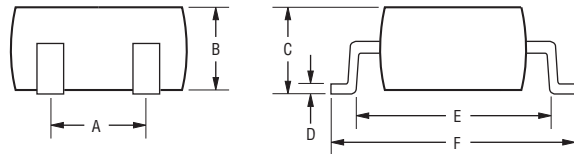
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Product Dimensions



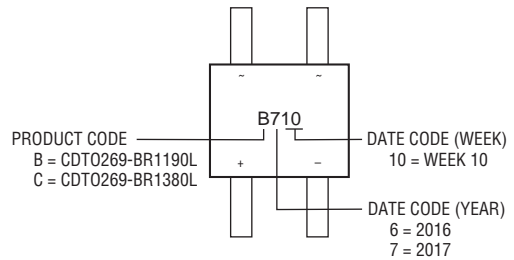
DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

Dim.	TO-269AA Package
A	$\frac{2.54}{(0.100)}$
B	$\frac{1.5 \pm 0.1}{(0.059 \pm 0.004)}$
C	$\frac{1.6 \pm 0.1}{(0.063 \pm 0.004)}$
D	$\frac{0.2}{(0.008)}$
E	$\frac{5.1 \pm 0.2}{(0.201 \pm 0.008)}$
F	$\frac{6.5 \pm 0.2}{(0.256 \pm 0.008)}$
G	$\frac{4.7 \pm 0.1}{(0.185 \pm 0.004)}$
H	$\frac{3.9 \pm 0.1}{(0.154 \pm 0.004)}$
I	$\frac{0.7}{(0.028)}$

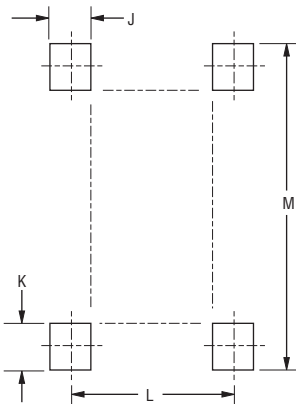
How to Order

Common Code CD TO269 - BR 1 190 L
 CD = Chip Diode
 Package TO269 = TO-269AA
 Diode Series BR = Bridge Rectifier
 Maximum Average Forward Rectified Current 1 = 1 A
 Maximum Repetitive Peak Reverse Voltage 190 = 190 V
380 = 380 V
 Suffix L = Low Forward Voltage

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	$\frac{2.54 \pm 0.1}{(0.100 \pm 0.004)}$
M	$\frac{6.9}{(0.272)}$ MAX.

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

Environmental Specifications

Moisture Sensitivity Level.....1
 ESD Classification (HBM).....3B

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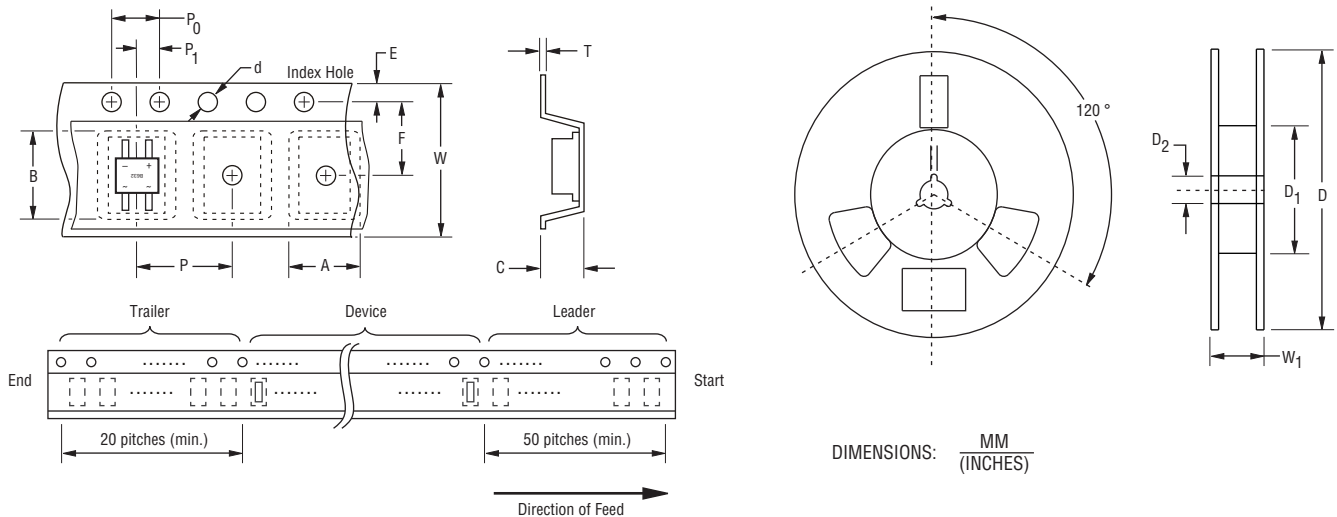
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Packaging Information



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

Item	Symbol	TO269-AA
Carrier Width	A	$\frac{5.0}{(0.197)}$
Carrier Length	B	$\frac{7.3}{(0.287)}$
Carrier Depth	C	$\frac{1.8}{(0.071)}$
Sprocket Hole	d	$\frac{1.5 \pm 0.1}{(0.059 \pm 0.004)}$
Reel Outside Diameter	D	$\frac{330}{(12.992)}$
Reel Inner Diameter	D ₁	$\frac{60.0}{(2.362)}$ MIN.
Feed Hole Diameter	D ₂	$\frac{0.51 \pm 0.020}{(0.059 \pm 0.008)}$
Sprocket Hole Position	E	$\frac{1.75}{(0.069)}$
Punch Hole Position	F	$\frac{5.5 \pm 0.1}{(0.217 \pm 0.004)}$
Punch Hole Pitch	P	$\frac{8.0 \pm 0.1}{(0.315 \pm 0.004)}$
Sprocket Hole Pitch	P ₀	$\frac{4.0 \pm 0.1}{(0.157 \pm 0.004)}$
Embossment Center	P ₁	$\frac{2.0 \pm 0.05}{(0.079 \pm 0.002)}$
Overall Tape Thickness	T	$\frac{2.0 \pm 0.1}{(0.079 \pm 0.004)}$
Tape Width	W	$\frac{12.0}{(0.472)}$
Reel Width	W ₁	$\frac{17.6}{(0.693)}$ MAX.
Quantity per Reel	--	5,000

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