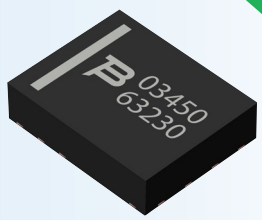
BOURNS®

PTVS03-450E-H

Power TVS Diode



*RoHS COMPLIANT

Features

- 300 A, 8/20 µs surge capability
- Unidirectional TVS
- Surface mount package
- RoHS compliant*

Applications

- DC bus protection
- 800 VDC distribution architecture, including AI deployment and rack protection
- Solid state circuit breaker

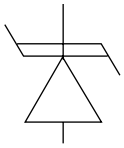
Sustainability

- Small size reduces material use
- Recyclable ESD-safe packaging
- ISO 14001, low-impact energy

Product Overview

Bourns® Model PTVS03-450E-H is a high voltage, unidirectional TVS diode for DC bus clamping applications.

This device is RoHS compliant* and also meets IEC 61000-4-5 8/20 µs current surge requirements.



Agency Recognition

UL	File Number: E215609

Contact Information

www.bourns.com	Phone	Email
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Mexico	+52 614 478 0400	mexicus@bourns.com
The Americas	+1-951 781-5500	americus@bourns.com

Absolute Maximum Ratings (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Repetitive Standoff Voltage	V_{WM}	450	V
Peak Current Rating per 8/20 µs IEC 61000-4-5	I_{PPM}	300	A
Operating Junction Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_S	-55 to +150	°C

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

Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_D Standby Current	$V_D = V_{WM}$				10	µA
$V_{(BR)}$ Breakdown Voltage	I_{BR} = 10 mA		455	480	500	V
V_C (1) Clamping Voltage	8/20 µs	I_{pp} = 50 A I_{pp} = 100 A I_{pp} = 200 A I_{pp} = 300 A			550 600 640 680	V
V_C (1) Clamping Voltage	2/10 µs	I_{pp} = 50 A I_{pp} = 100 A I_{pp} = 200 A I_{pp} = 300 A			540 570 610 640	V
$V_{(BR)}$ Temperature Coefficient				0.1		%/°C

(1) V_C measured at the time coinciding with the peak surge current.

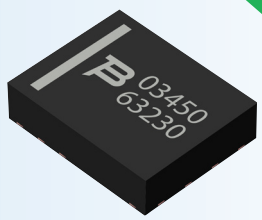
* RoHS Directive 2015/863, Mar 31, 2015 and Annex.
Specifications are subject to change without notice.
Users should verify actual device performance in their specific applications.

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BOURNS®

PTVS03-450E-H

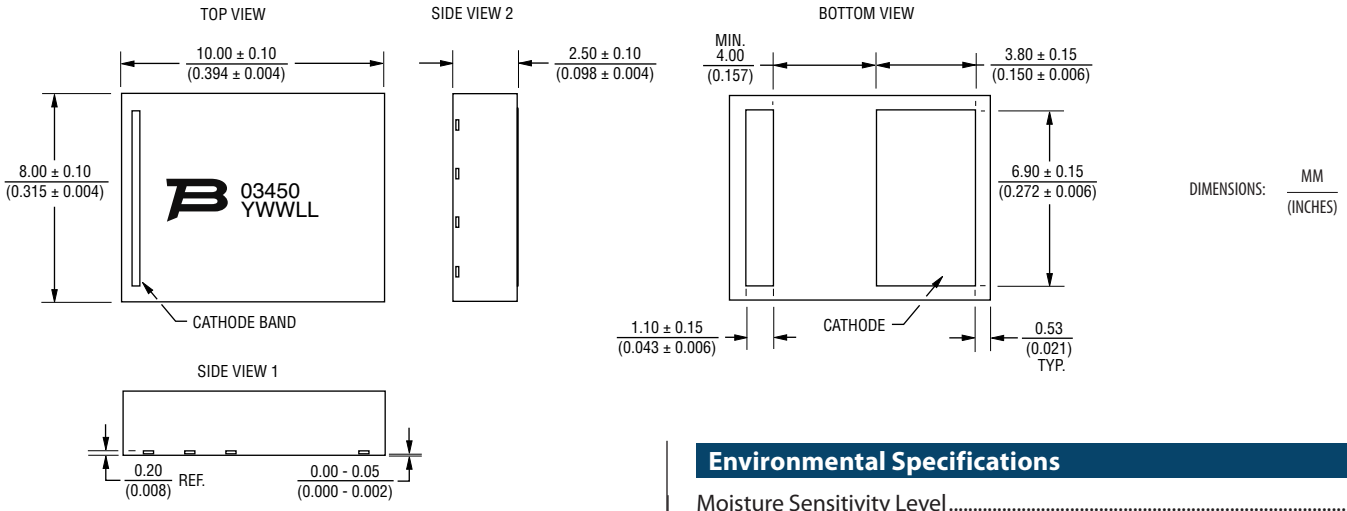
Power TVS Diode



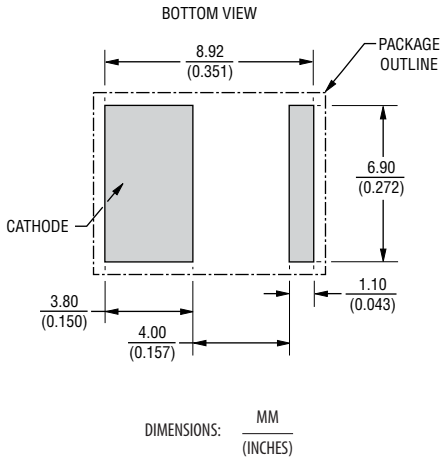
*RoHS COMPLIANT

Product Dimensions

This is an RoHS compliant molded package with 100 % Sn on the terminations, and a flammability rating of UL 94-V-0.



Recommended Footprint



Environmental Specifications

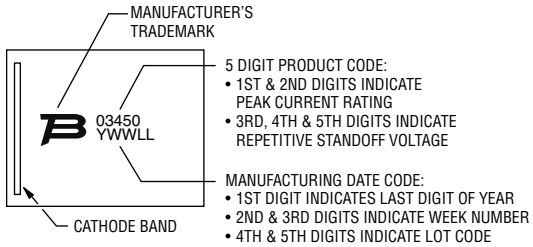
Moisture Sensitivity Level 1
ESD Classification (HBM) 3B

How to Order

PTVS 03 - 450E - H

Series
PTVS = Power TVS Diode
Peak Current Rating
03 = 300 A
Repetitive Standoff Voltage
450E = 450 V
Package
H = DFN Package

Typical Part Marking



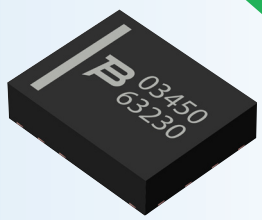
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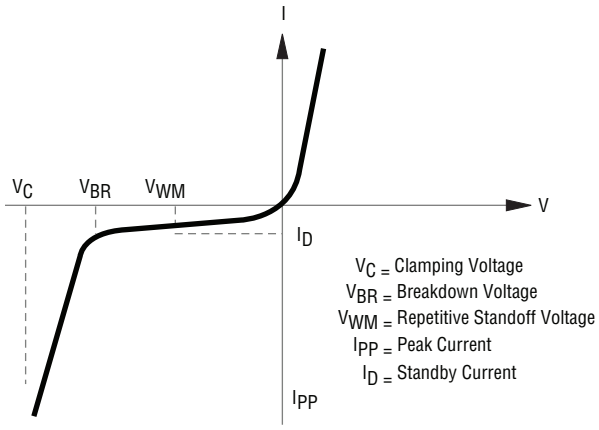
Power TVS Diode



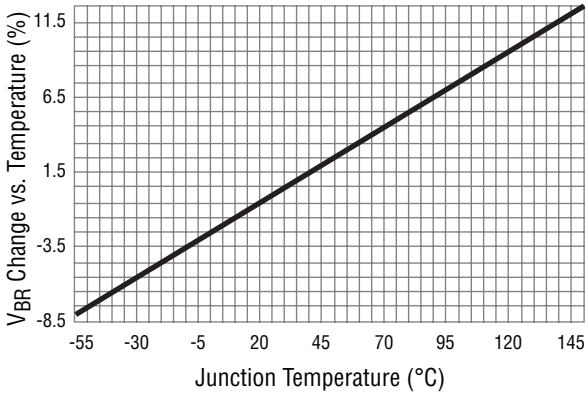
*RoHS COMPLIANT

Performance Graphs

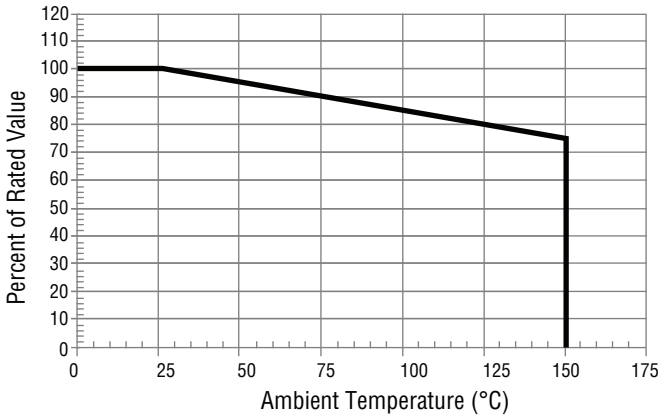
V-I Characteristics



Typical V_{BR} vs. Junction Temperature

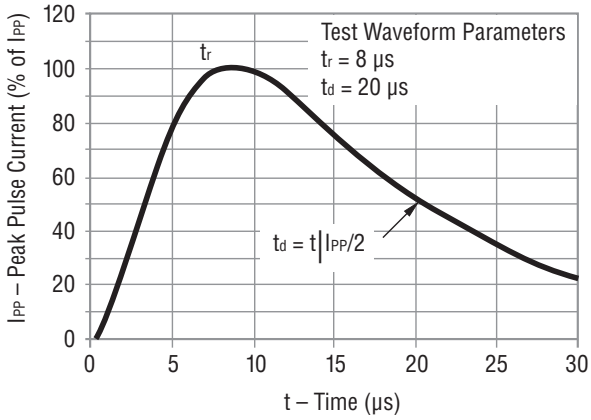


Typical Surge Current Derating



This graph shows the typical device surge current derating versus ambient temperature when subjected to the 8/20 µs current waveform per the IEC 61000-4-5 specification.

Current 8/20 µs Waveform per IEC 61000-4-5



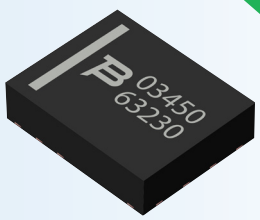
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PTVS03-450E-H

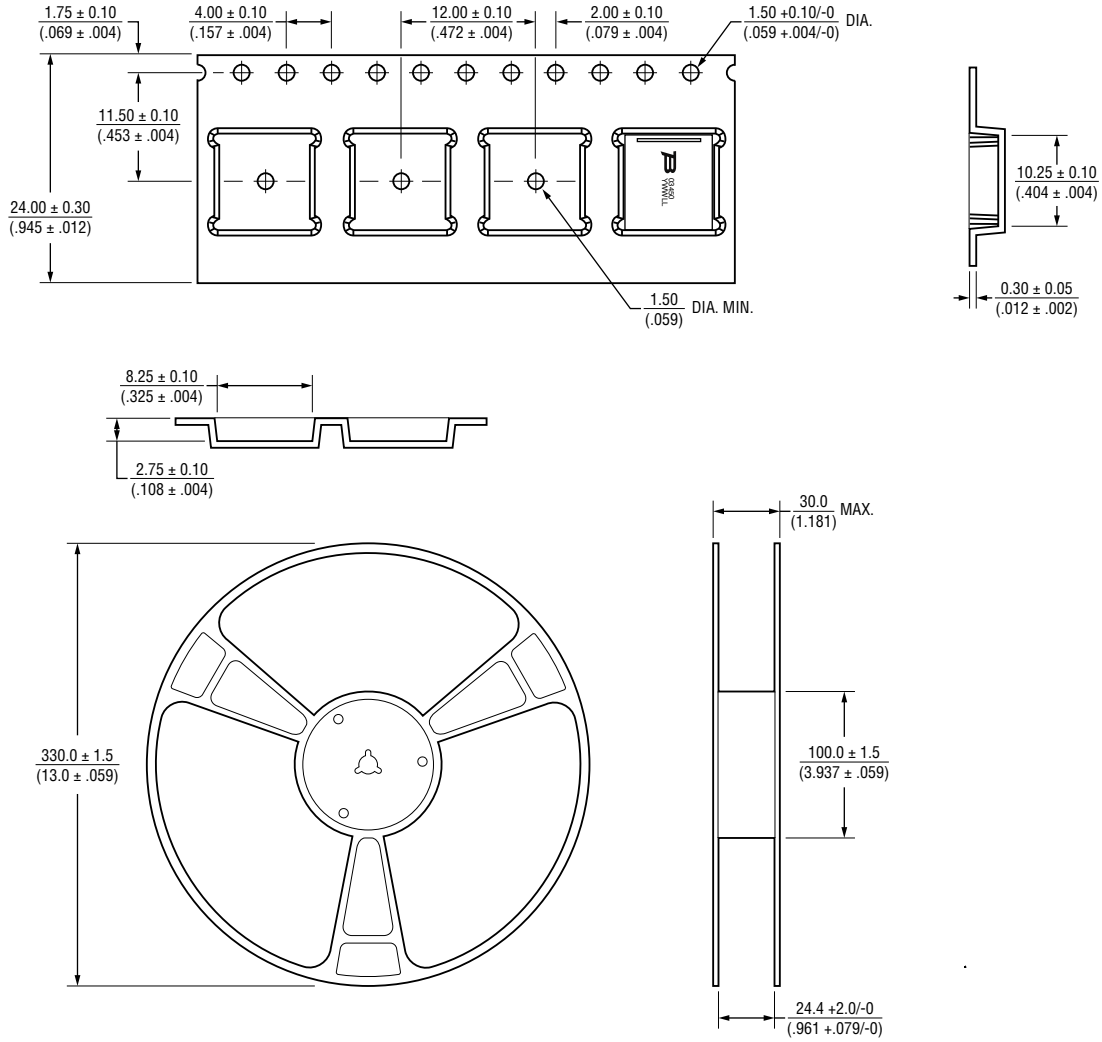
Power TVS Diode



*RoHS COMPLIANT

Packaging Specifications

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



1700 PIECES PER REEL

DIMENSIONS: MM / (INCHES)

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