

# APPLICATION BRIEF

## Bourns® Power Transient Voltage Suppressor (PTVS) Diodes



### INTRODUCTION

Bourns® Power TVS (PTVS) Diodes are designed to protect sensitive electronic components from high-energy, high-voltage, and high-current transients. PTVS diodes offer a powerful and reliable overvoltage protection solution by conducting when experiencing a voltage higher than a specific breakdown voltage.

These products protect from excessive voltage resulting from power line transients, voltage spikes due to electrostatic discharge, motor arching, and even nearby lightning strikes. The Bourns® PTVS product family supports a wide variety of applications, with peak surge current ratings from 1 kA to 20 kA and supporting voltages from 15 V to 470 V.

### FEATURES

- 1, 2, 3, 6, 10, 15, & 20 kA peak current rating
- Voltages from 15 V to 470 V
- Axial lead and surface mount packages
- IEC Certified and UL compliant

PACKAGES AVAILABLE		VOLTAGE RATING
Axial Lead		15 - 470 V
Gull Wing		58 - 76 V
Surface Mount		58 - 240 V
DFN*		15 - 86 V

\*Highest surge in the smallest package

### BENEFITS

- Robust lightning protection
- Rigid voltage clamp
- Simple design and easy to use
- Common footprint for all axial lead products

### APPLICATIONS

- AC line protection
- Exposed PoE ports
- Energy storage systems
- High power DC bus protection
- Industrial/Commercial infrastructure
- Industrial automation and controllers
- Robust lightning protection
- Small cell, Remote Radio & Baseband units

### APPLICATION MATRIX

SEGMENT	APPLICATION	PTVS1 22 - 380 V	PTVS2 22 - 86 V	PTVS3 15 - 430 V	PTVS6 58 - 430 V	PTVS10 58 - 470 V	PTVS15 58 - 76 V	PTVS20 15 V
<b>Home Appliances</b>	Washers & Dryers	X						
<b>Battery Systems</b>	Battery Management Systems		X	X	X	X	X	X
<b>Battery Energy Storage Systems</b>	Energy Storage Systems	X	X	X	X	X		
<b>Power Supplies</b>	AC/DC Power Supplies					X	X	
<b>Renewable Energy</b>	Micro Inverters	X	X	X		X		
	Smart Meters	X						
	Factory Automation	X						
<b>Industrial Automation Controls</b>	Industrial Controllers	X	X	X		X	X	X
	Motor Controls	X		X				
<b>Elevators</b>	Elevators	X		X	X			
<b>HVAC</b>	HVAC Units	X		X	X			
<b>Industrial Equipment</b>	Industrial Power Tools	X						
	5G Infrastructure	X	X	X		X		
<b>Network Infrastructure</b>	Antennae			X	X			
	Base Station Infrastructure	X	X					
	Data Station Infrastructure	X	X					
<b>Wireless &amp; IoT</b>	GbE/PoE	X	X	X				
	Routers	X						
<b>EV Charging</b>	On-board Chargers	X	X	X				
<b>Recreational Vehicles</b>	Boats	X	X	X				
	2-Wheelers	X	X	X		X		

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