

# Mini Devices

## Transorbs, Resistors, Diodes

22901 series      22902 Series      22903 Series  
 2.8 mm Plug-in Circuit Protection Components



**COOPER Bussmann**  
 Transportation Products

Cooper Bussmann offers a series of vehicle style electrical protection devices including transorbs, resistors, and diodes. These devices are packaged in compact rugged housings with bladed terminals, making it easy to install into commonly used transportation industry power distribution modules such as the Cooper Bussmann VEC and RTMR. These circuit protection devices provide voltage and electrical current limiting functionality for vehicle circuitry. These components have terminals with industry standard 2.8mm blades (also known as '280 series' or 'mini'), and are available in various ratings. Bussmann's unique design ensures a solid electrical and mechanical connection to the internal componentry (Transorb, Resistor, or Diode) – ensuring that they will hold up to rugged and high-vibration environments. These components are designed for on- and off-highway applications including those required by heavy trucking, RV, construction, agriculture, ATV and material handling manufacturers.



Clockwise from top right:  
 Transorb, Resistor, Diode, and Diode with extended 'wing' key option.

### FEATURES

#### Basic Features:

- Housing:** Thermoplastic
- Cover:** Brushed aluminum – crimp fit, covered with label
- Operating Temperature:** -40°C (-40°F) to 125°C (260°F)
- Voltage Rating:** 12VDC or 24VDC
- Terminals:** 2.8mm blades on 8.1mm centerline spacing

The housing used for transorbs, resistors, and diodes is moisture repellent; however, for prolonged exposures to adverse environments, an exterior covering/protection is recommended.

(Transorbs are fast acting devices used to clamp or protect circuitry from voltage spikes.)

**Power Rating:** 1500W

**Voltage Clamp Rating:** 27Vdc currently available. (Consult factory for other voltages.)

*Transorbs are typically bi-directional.*

#### Transorb:

22901 Series

#### Resistor:

22902 Series

(Resistors are used for various purposes including to drop the voltage in a circuit.)

**Power Rating:** 5W

**Resistance Rating:** Currently available at 68Ω, but many other ratings (.005Ω -40KΩ) are possible. (Consult factory.)

*Resistors are bi-directional.*

#### Diode:

22903 Series

(Diodes are used to prevent reverse current flow in circuitry.)

**Current Rating:** 6A currently available.

**Keying Options:** Standard longitudinal key on side; optional additional 'wing' on opposite side.

In addition to keying options, the labeling denotes proper orientation.

*Diodes are uni-directional.*

Part Number	Description	TVS	Resistor	Diode	Diode with wing
22901-1.5	Transorb - 1.5 KE/27V available now. Consult factory for other ratings.				
22902-XX	Resistor - XXΩ, 5 Watt				
22903-6	Diode - 6A (standard key)				
22903-6V	Diode - 6A (standard key and additional 'wing' key)				

Data sheets for components are available upon request.