

# Bourns® Military / Aerospace Commercial Off-The-Shelf (COTS) & Custom Components

## *Short Form Brochure*



**BOURNS®**

# Product Overview



## Introduction

For over 65 years, Bourns has been supplying high quality products to the military and the aerospace industry.

With a wide array of Commercial Off-The-Shelf (COTS) components and Mil Spec trimming potentiometers, Bourns provides military and aerospace manufacturers with a broad portfolio of products providing the opportunity to reduce approved vendor lists. Select from a vast array of precision position sensors, panel controls, magnetics, power resistors and a complete line of circuit protection products, all with a single point of purchase. Bourns, Inc. is ITAR registered and is a certified partner in the Customs-Trade Partnership Against Terrorism (C-TPAT) program. Bourns products are tested in accordance with established industry standards\*.

With a commitment to excellence, breadth of experience, and broad product portfolio, Bourns is uniquely positioned to provide the Mil-Aero industry with highly reliable solutions for a variety of applications. Some customized Bourns products may require U.S. export licenses.

## Measurement

- Rotary position feedback sensors
- Current sensors

## Control

- Circuit adjustment
- Panel controls

## Communications

- Port protection
- Surge protection
- Transient protection
- ESD suppression

## Circuit Conditioning

- EMC
- EMI filter
- Inrush
- Overcurrent

# Typical Applications

## Aerospace / Avionics

- Cockpit controls (volume, brightness, intensity)
- Data communications equipment
- Aileron position feedback sensors
- Feedback sensors for seat actuators
- Power supplies
- Surge Protective Devices (SPDs)



Civil Aerospace

## Military

- Munitions guidance platforms
- Cockpit controls (volume, brightness, intensity)
- Position feedback sensors
- Air, ground and naval data communications equipment
- Power supplies
- Surge Protective Devices (SPDs) for mobile installations



Munitions Guidance & Control



Ground Defense Vehicles

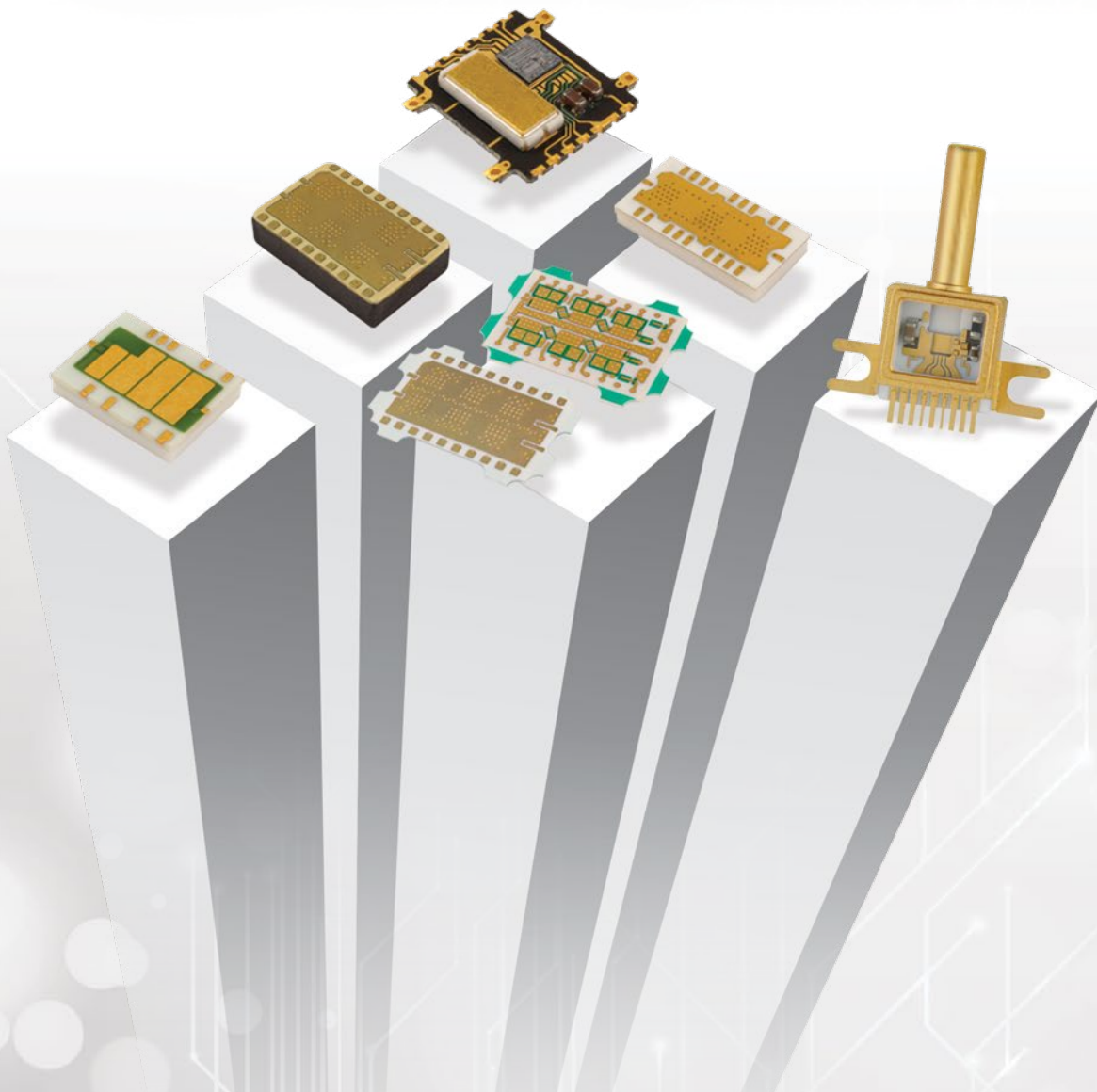


Secure Communications

# Specialty Engineering & Manufacturing Service (SEMS)

Bourns SEMS Group offers expertise in mixed technology integration, assembly processes and packaging technology for custom microelectronic modules and hybrids. SEMS specializes in “Gold Box” or “Hermetically Sealed MCM Packaging.” Knowledgeable, US-based Bourns engineers and project management provide a valuable, efficient and

cost-effective resource from the design stage through manufacturing. Bourns, Inc. currently has a manufacturing license agreement governing the manufacturing of certain products customized for military applications, manufactured at our cost-effective site located in Tijuana, Mexico.



# Industrial Grade Panel Controls

Bourns® industrial panel controls have been integrated in many applications for generations and continue to be part of applications that require reliable Human to Machine Interface (HMI). Bourns has mastered the manufacturing of industrial panel controls through innovation and technology.

Bourns offers a wide variety of industrial panel controls to meet market demands. Common package sizes include 1/2", 5/8", and 3/4" in cermet, conductive polymer, wirewound, and Bourns' own Hybritron® elements.

Features and options include long rotational life, a variety of tapers and terminal styles, a variety of shaft and bushing sizes, and other commonly-requested features.



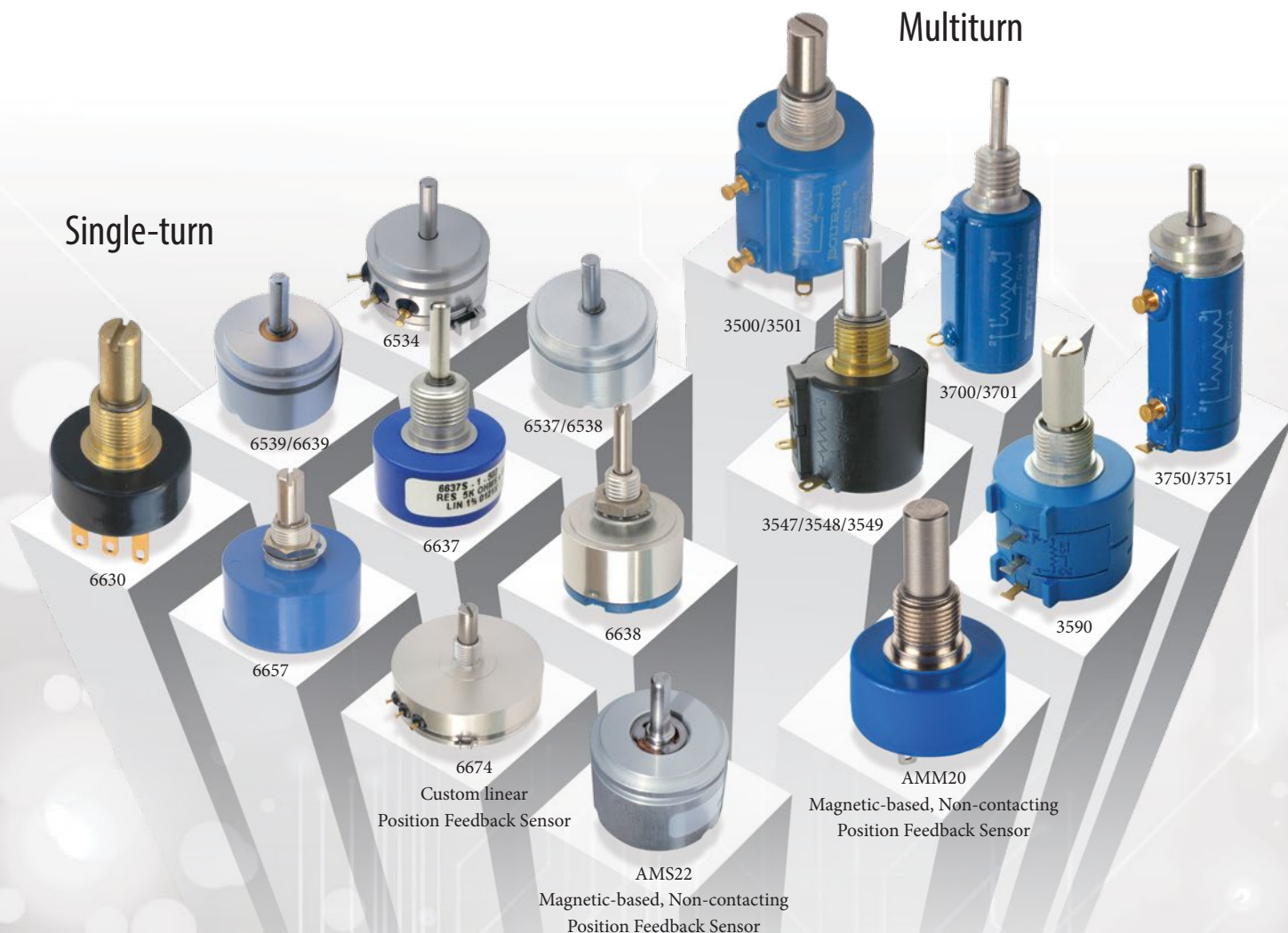
# Precision Grade Position Sensors

Bourns has been a pioneer in both wirewound and non-wirewound resistive technology for over half a century and continues to lead the way in terms of product innovation and lean manufacturing. Bourns offers an assortment of precision potentiometers in sizes ranging from 22 mm to 51 mm. Both single-turn and multiturn options are available with bushing and servo mount styles. Some models are available with Ingress Protection (IP rating) up to IP 68.

These precision technologies are also available in custom packaging solutions. If the standard selection is not appropriate for your application, contact your local Sales Representative or Field Application Engineer for further information.

## Single-turn

## Multiturn



# High Reliability Rotary Encoders

Bourns has continued to expand its encoder product offering with a wide variety of models to support our customers' specific applications. Recognized worldwide for supplying standard and custom solutions as well as providing excellent technical support, Bourns is committed to providing our customers with reliable rotary encoder solutions.

A wide range of value-added enhancements are available for our Industrial Panel Controls, Precision Position Sensors and Rotary Encoders to provide our customers with cost-effective solutions. Bourns' capability to develop custom solutions and modifications include the following:

- Cable harness/lead wires
- Detents
- Custom output
- Seal
- Torque
- Special packaging
- Terminal configurations
- Hardware
- Marking
- Mechanical stops
- Mounting brackets
- Special test requirements
- Customized shaft options

## Magnetic Encoders



EMS22A/EMS22Q  
EMS22P/EMS22D

## Optical Encoders



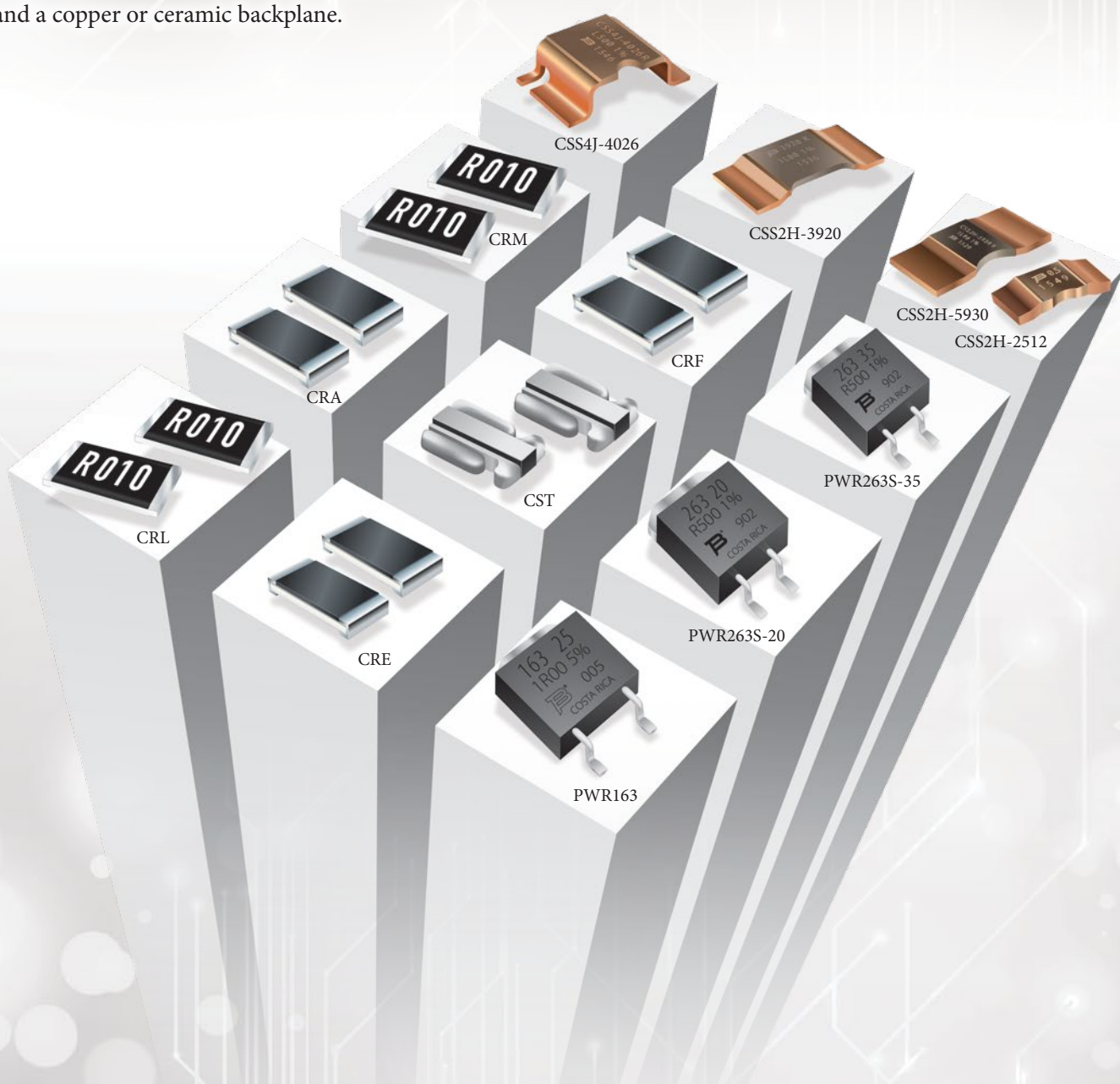
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# Power Resistors

Power resistors are used as balance resistors and current limiters in voltage regulator/power conditioners, power amplifiers, and communication consoles. Bourns offers a wide variety of COTS power resistors suitable for these applications. Models feature low inductance, high pulse capability and a copper or ceramic backplane.

The Model PWR Series Power Resistors are high performance products offered in surface mount and through-hole versions.

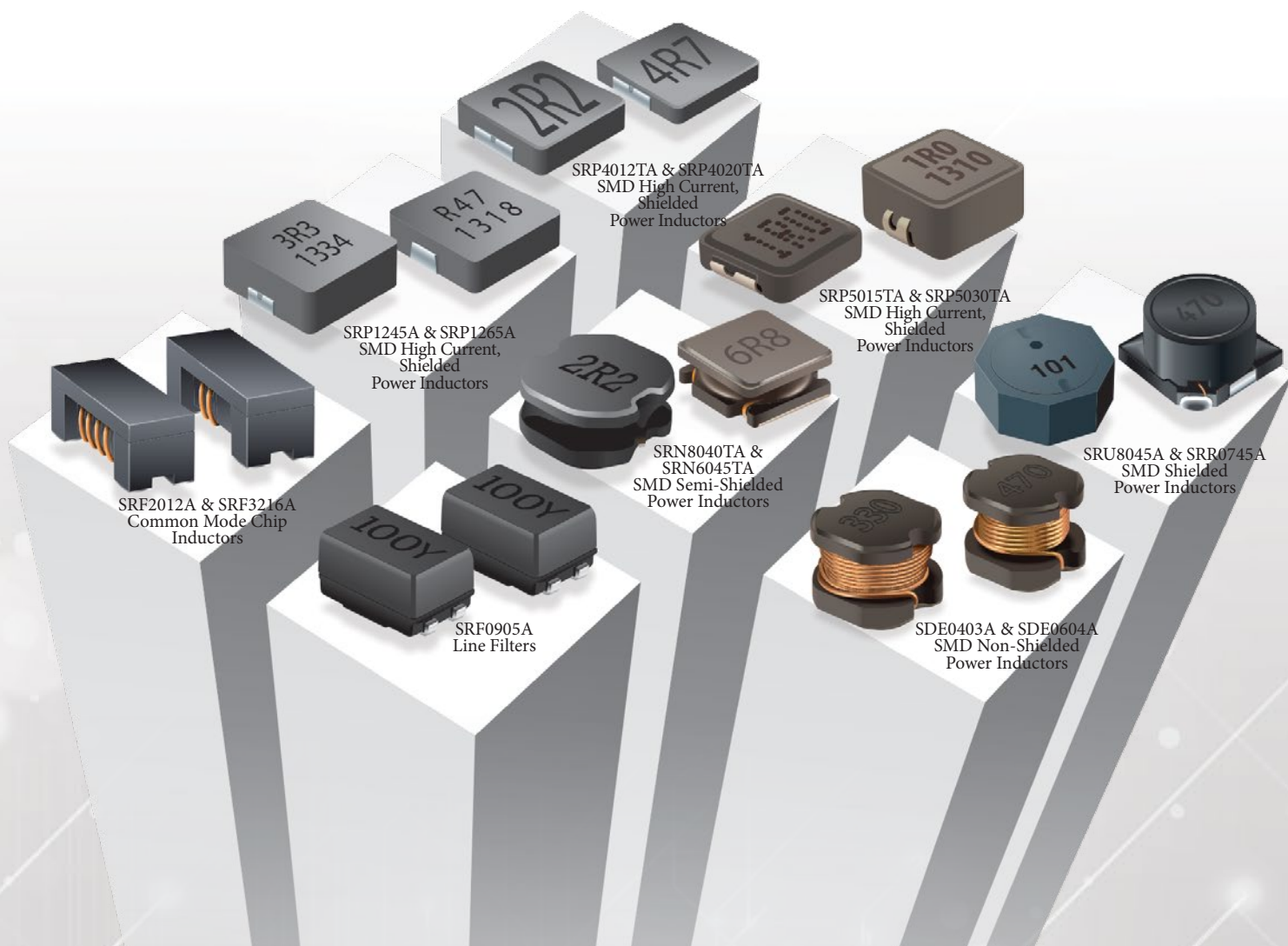


# Magnetics

Bourns provides a broad array of magnetic components and solutions to meet a variety of application needs. Bourns continues to be a leading supplier of small, high current, power inductors featuring higher currents and lower DCRs, and common mode chokes offering improved core materials for enhanced efficiency.

Bourns® inductive components include surface mount chip inductors, power inductors, AEC-Q200 qualified inductors, power chokes and common mode chokes, as well as radial leaded and axial leaded inductors.

All Bourns® components approved for automotive applications are manufactured in facilities that are certified to TS 16949, and have been tested and qualified using the AEC-Q200 specification for passive components.

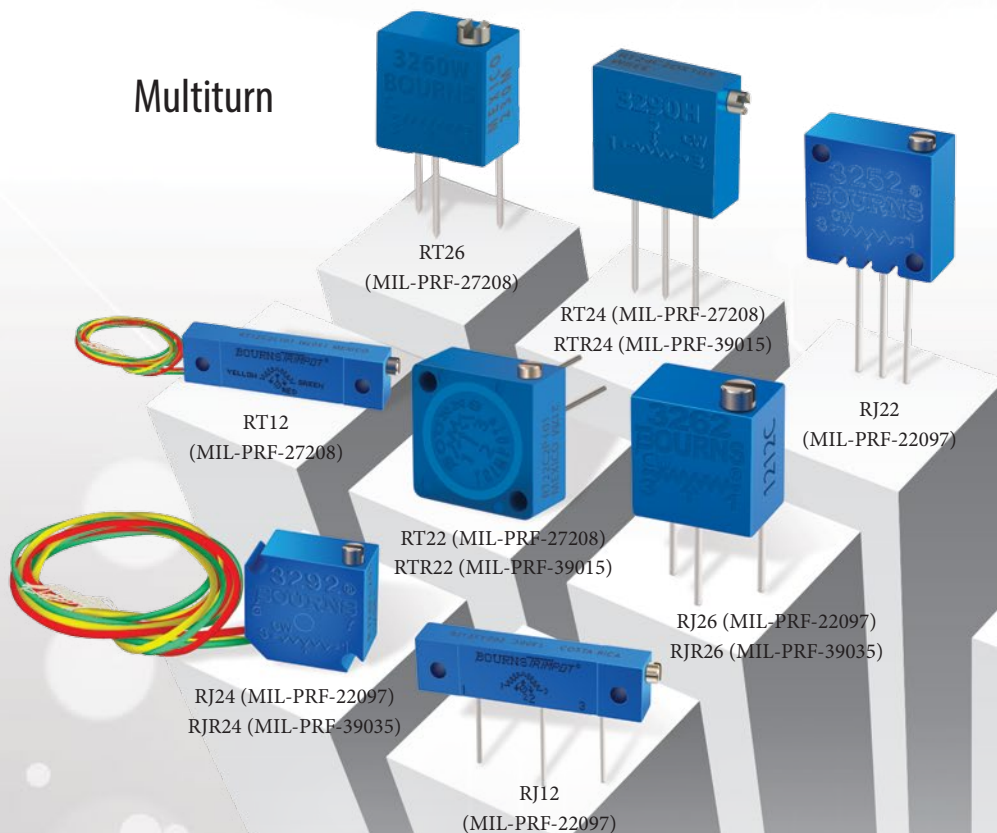


# Mil Spec Trimming Potentiometers

Trimming potentiometers are used in the adjustment of power supply circuits in all types of military and aerospace equipment including amplifiers, power supplies, and other peripheral outboard equipment. Bourns offers a wide variety of trimming potentiometers listed on the QPL.

These models are all sealed and offer stability under extreme thermal excursion encountered by military and aerospace equipment.

## Multiturn



## Single-turn

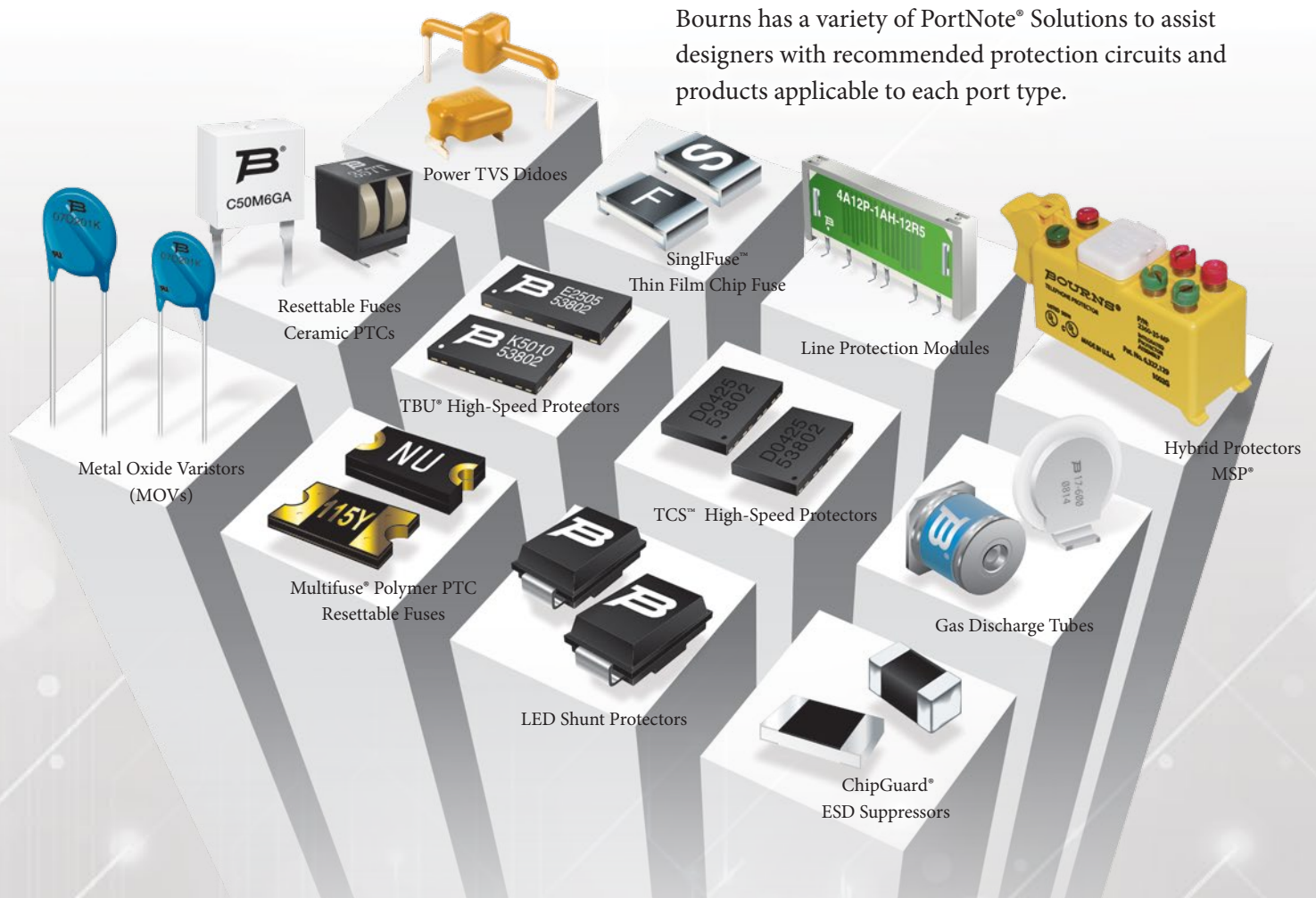


# Circuit Protection

Bourns offers world-class technology and applications expertise that is the result of many years of circuit protection engineering, design and support. With a global reputation for extensive application knowledge, quality products, innovative protection strategies and a wide range of technologies, Bourns can provide the right circuit protection solution for any application. With our breakthrough TBU® technology, Bourns now offers the first and newest revolutionary circuit protection technology in a decade enabling surge protection for sensitive electronic systems.

Power, communication and data ports are found in virtually all state-of-the-art communication equipment. By incorporating these ports, the internal hardware is much more susceptible to faults from short circuits, electrostatic discharge (ESD) and power surges. Bourns offers a wide variety of circuit protection products to assist in preventing equipment damage and failure. Ports in communication equipment that require protection include Ethernet, Universal Serial Bus (USB), High-Definition Multimedia Interface (HDMI), FireWire, Audio/Video and AC/DC input/output.

Bourns has a variety of PortNote® Solutions to assist designers with recommended protection circuits and products applicable to each port type.



# Worldwide Sales Offices

| Country/Region                | Phone            | Email               |
|-------------------------------|------------------|---------------------|
| Americas:                     | +1-951-781-5500  | americus@bourns.com |
| Brazil:                       | +55 11 5505 0601 | americus@bourns.com |
| China:                        | +86 21 64821250  | asiacus@bourns.com  |
| Europe, Middle East, Africa:  | +36 88 520 390   | eurocus@bourns.com  |
| Japan:                        | +81 49 269 3204  | asiacus@bourns.com  |
| Korea:                        | +82 70 4036 7730 | asiacus@bourns.com  |
| Singapore:                    | +65 6348 7227    | asiacus@bourns.com  |
| Taiwan:                       | +886 2 25624117  | asiacus@bourns.com  |
| Other Asia-Pacific Countries: | +886 2 25624117  | asiacus@bourns.com  |

| Technical Assistance<br>Region | Phone           | Email               |
|--------------------------------|-----------------|---------------------|
| Asia-Pacific:                  | +886 2 25624117 | techweb@bourns.com  |
| Europe, Middle East, Africa:   | +36 88 520 390  | eurotech@bourns.com |
| Americas:                      | +1-951-781-5500 | techweb@bourns.com  |

**[www.bourns.com](http://www.bourns.com)**

Bourns® products are available through an extensive network of manufacturer's representatives, agents and distributors.

To obtain technical applications assistance, a quotation, or to place an order, contact a Bourns representative in your area.

Specifications subject to change without notice. Actual performance in specific customer applications may differ due to the influence of other variables. Customers should verify actual device performance in their specific applications.

## **BOURNS®**

\*Bourns products are tested in accordance with established industry standards, but not in accordance with U.S. Federal Aviation Administration Regulations.

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