

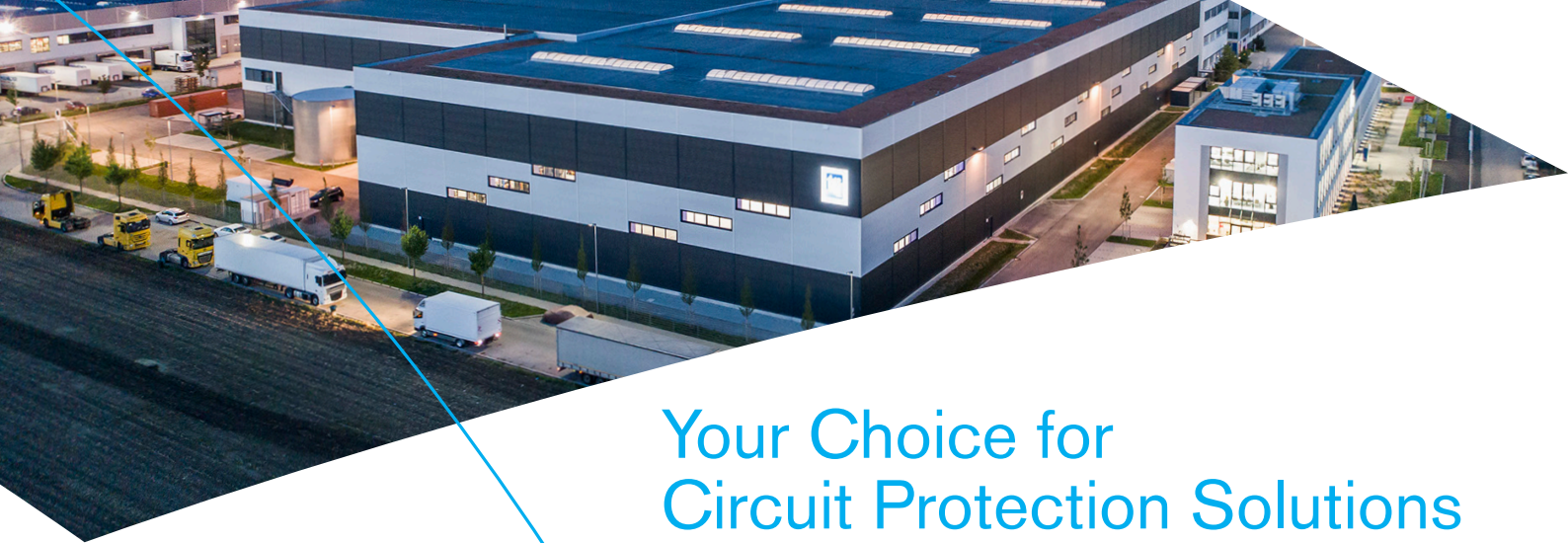
BOURNS[®]



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Circuit Protection Solutions

TTI, Inc., – A Berkshire Hathaway Company



Your Choice for Circuit Protection Solutions

Why Choose TTI

Founded in 1971, TTI has steadily grown to become a world leading specialist distributor of electronic components. The company was founded on the premise that passive component purchasing could be made more efficient by offering product specialization, customer-driven service and proprietary supply chain solutions.

Global Distribution Centres

Our European headquarters is located just outside of Munich, Germany in Maisach-Gernlinden. In total, we have 42,600m² of dedicated warehouse space and local sales and technical support in over 40 locations across Europe. TTI has more than 196,000m² of automated warehousing in North America, Europe and Asia. All are linked into a global warehouse management system that provides superior customer service and overall business efficiencies. Wherever you are in the world, TTI can support you.

Year after year, customers rate our inventory availability, on-time delivery and accuracy among the very best in the industry – contact us today to find out what a true specialist has to offer.

Quality and Reliability

TTI is the first distributor to have all global warehouse locations ISO registered and certified to ISO 9001 and ISO 14001 Standards. TTI Europe is also certified to EN9120/EN9100, IECQ-CECC and ISO/IEC 27001 Standards. Additionally, all of our European sales branches are ISO 9001 certified. TTI has one global documentation system that ensures that every TTI branch and warehouse in the world follows the same processes.

About Bourns

Bourns, Inc., is a leading manufacturer and supplier of position and speed sensors, circuit protection solutions, magnetic components, microelectronic modules, panel controls and resistive products.

Headquartered in Riverside, California, USA, Bourns serves a broad range of markets, including automotive, industrial, consumer, communications, non-critical life support medical (low/medium risk), audio and various other market segments. Additional company and product information is available at www.bourns.com.

Bourns also delivers a comprehensive line of circuit protection technologies and solutions. At our engineering centers in Riverside, California and Linkou, Taiwan, we design a full range of overvoltage and overcurrent protection technologies.

Bourns offers world-class technology and application expertise that is the result of many years of circuit protection engineering, design and support.

Bourns' global reputation for extensive application knowledge, quality products, innovative protection strategies and a wide range of technologies ensures that we can provide the right circuit protection solution for your needs.

BOURNS®

Metal Oxide Varistors (MOVs)

Metal Oxide Varistors (MOVs) are bidirectional and non-linear surge suppressor devices that are widely used for limiting voltage during a surge or transient event in a broad variety of applications. These highly reliable and robust overvoltage protection devices are available in multiple protection ranges and forms.

The Bourns® varistor portfolio comprises components for such demanding applications as automotive, with specially designed automotive grade varistors and EMI suppression filters. Customers can select AEC-Q200 compliant SMD varistors in case sizes 0805, 1206, 1812 and 2220, including varistors with an extended maximum operating temperature range of +150 °C (AVHT Series).

Bourns has developed special hybrid component EMI suppression filters (OV and MV Series) which are optimal solutions for use on DC motor brush cards in automotive applications. These dual function components offer overvoltage protection as well as EMI noise suppression.

In addition to automotive grade components, Bourns offers standard SMD varistors for industrial and other standard applications (ZV, ZVHT series) for standard operating temperatures of -55 °C to +125 °C as well as high up to +150 °C.

Bourns® PV Series SMD varistors offer a direct equivalent to radial leaded 5 mm and 7 mm disc varistors in 3225 and 4032 SMD case sizes, respectively.

Diodes

Manufacturers of portable communications, computing and video equipment are challenging the semiconductor industry to develop increasingly smaller electronic components.

Meanwhile, ultra-low-capacitance and feed-through packages are the market trend to accommodate high-speed data line transmission. To aid in this miniaturization campaign, a new generation of silicon chip diodes from Bourns offer excellent ESD and surge capabilities with minimal packaging overhead.

Bourns offers TVS diodes in a variety of package options: 0201, DFN2 (0402), SOD-323, SOD-123F, SMA, SMB, SMC, DFN (8 x 10mm), and DO-218.

Bourns offers diodes arrays in a variety of package options: DFN6, DFN10, SOT563, SC70-6, SOT143, SOT23, SOT23-6, SO-8, and SO-16.

Bourns® diodes are RoHS compliant.

Series	Sizes (mm) / Package	Max. Continuous AC Voltage (Vrms)	Max. Continuous DC Voltage (Vdc)	Peak Single Pulse Current 8/20 μ s (Imax)	Temperature Rating °C	Cross Reference
ZV: Low voltage varistors						
	0603, 0805, 1206, 1210, 1812, 2220	11 – 130 V*	14 – 170 V*	30 – 1200 A	–55 to +125	TDK: B725xxT0xxxK AVX: VJ/VC Littelfuse: VxxMLA
ZVHT: High temperature low voltage varistors						
	0603, 0805, 1206, 1210, 1812, 2220	11 – 130 V*	14 – 170 V*	30 – 1200 A	–55 to +150	TDK: B725xxE0xxxK
ZVX: Low capacitance & low energy varistors						
	0603, 0805, 1206	11 – 30 V*	14 – 38 V*	30 – 40 A	–55 to +125	TDK: B725 AVX: VC AS Littelfuse: VxxMLE
ZVE: ESD suppression varistors						
	0603, 0805, 1206, 1210	14 V	18 V	2 A	–55 to +125	TDK: B725 AVX: VC AS Littelfuse: VxxMLE
AV-SMD: Automotive grade varistors						
	0805, 1206, 1812, 2220	14 – 40 V	16 – 56 V	200 – 1200 A	–55 to +125	TDK: B725 AVX: VJ/VC Littelfuse: VxxAUMLA
AVHT SMD: Automotive grade varistors high temperature rated						
	0805, 1206, 1812, 2220	14 – 40 V	16 – 56 V	200 – 1200 A	–55 to +150	TDK: B725xxE1xxxK
DV: Low & medium voltage varistors						
	3225, 4032	11 – 300 V	14 – 385 V	100 – 1200 A	–55 to +125	Littelfuse: VxxCH
PV: Low & medium encapsulated varistors						
	3225, 4032	60 – 300 V	85 – 385 V*	100 – 1200 A	–40 to +85	TDK: B726x0M0xxxK Littelfuse: VxxSM7
MV: Dual function MLV & filter cap						
	9 mm	11 – 95 V	14 – 125 V	150 A	–55 to +125	TDK: B725
OV: Automotive dual function MLV & filter cap						
	9 mm, 12 mm	14 – 40 V	16 – 56 V	800 A, 1200 A	–55 to +125	TDK: B725

*Lower voltages available upon request



Features

- Surface mount styles with multiple sizes available
- Leadless chip form - zero inductance facilitating extremely fast response time to transient surges
- Broad range of current and energy handling capabilities
- Surge protection and broadband frequency noise suppression (dual component)
- Broadband EMI filter suppressors compliant to international standards
- Extended temperature ranges
- Operating voltage range: 11-300 Vrms
- Very good overcurrent and overvoltage protection
- Excellent energy handling capability
- AEC-Q200 compliancy for Automotive grade varistors
- Available in tape and reel packaging for automatic pick-and-place
- RoHS compliant

Applications

- I/O line protection
- Electricity meters
- Entertainment electronics
- Power supplies
- Distribution panels
- White goods
- Escalators / elevators
- Motor protection
- LED lighting
- Alarm systems
- Intercoms
- Display protection



	Model	Package	Size	Ppp(W) 8/20 µs	Ppp(W) 10/1000 µs	VRWM	AEC-Q101	PPAP	IATF 16949
	CDSOD323-TxxC-DSLQ	SOD-323	1.75 mm x 1.3 mm	350		12, 24	Yes	Level 3	Yes
	CDSOD323-TxxS-Q	SOD-323	1.75 mm x 1.3 mm	500		5, 18	Yes	Level 3	Yes
	CDSOT23-T24CAN-Q	SOT-23	2.9 mm x 2.23 mm	500		24	Yes	Level 3	Yes
	CDSOT23-Txx(L)C-Q	SOT-23	2.9 mm x 2.23 mm	500		3.3 ~ 15	Yes	Level 3	Yes
	SMF4L-Q	SOD-123F	3.70 mm x 1.65 mm		400	5~85	Yes	Level 3	Yes
	SMAJ-Q/P4SMA-Q	DO-214AC (SMA)	5.1 mm x 2.3 mm		400	5~220	Yes	Level 3	Yes
	SMA6J-Q	DO-214AC (SMA)	5.1 mm x 2.3 mm		600	5~130	Yes	Level 3	Yes
	SMBJ-Q/P6SMB-Q	DO-214AA (SMB)	5.4 mm x 3.6 mm		600	5~220	Yes	Level 3	Yes
	SMCJ-Q/1.5SMC-Q	DO-214AB (SMC)	7.9 mm x 5.9 mm		1,500	5~120	Yes	Level 3	Yes
	SMLJ-Q	DO-214AB (SMC)	7.9 mm x 5.9 mm		3,000	12~58	Yes	Level 3	Yes
	5.0SMDJ-Q	DO-214AB (SMC)	7.9 mm x 5.9 mm		5,000	5~170	Yes	Level 3	Yes
	SM8SF-Q	DFN	10.5 mm x 8.1 mm		7,000	24~36	Yes	Level 3	Yes
	SM8S-Q	DO-218	15.5 mm x 10.0 mm		6,600	16~43	Yes	Level 3	Yes
	15KPA-SD-Q	DO-218	15.5 mm x 10.0 mm		15,000	16~66	Yes	Level 3	Yes



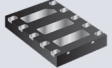

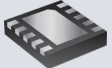
Features

- Wide coverage of Ppp (400 W - 15 kW, 10/1000) and packages (SOD323, SOT23, SMA, SMB, SMC, DO-218 and DFN)
- Meets ISO7637-2 & ISO16750-2
- Meets ISO7637-2 Pulse 1 – Pulse 3



Applications

- High peak power applications (up to rated limits)
- High temperature applications (up to rated limits)
- Clamping diode
- Load dump switching and lighting

	Model	Package	Vwm (V)	Vc (V)	Ipp (A)	Vbr min. (V)	Ct typ. (pF)
	CDDFN10-2574N	DFN10	2.5	11.0	45	3.0	1.7
	CDDFN10-3324P	DFN10	3.3	7.5	4	4.5	0.45
	CDDFN10-3304NA	DFN10	3.3	18.0	25	3.9	4







Features

- DFN package
- Feedthrough Pin-Definition
- Meets IEC 61000-4-2
- Meets IEC 61000-4-5



Applications

- High-Speed Interface
- HDMI 2.x
- nGbE (Ethernet)

	Model	VRRM (V)	IFSM (A)	Trr (nsec)
	CD1408-R1xx	200-1000	1	30
	CD1408-F1xx	200-1000	1	30
	CD1408-FF1xx	200-1500	1	30/25/15
	CD1408-FU1xx	200-800	1	30/25



Features

- Low profile package (SOD123 size) suitable for compact designs



Applications

- High frequency rectification
- Power supplies



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Contact TTI today to see what a true specialist can offer.

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