

SFE

POWER



POWERFUL INNOVATIONS

COMPANY OVERVIEW

SAE Power is a leading designer and manufacturer of Switch Mode Power Supplies, Magnetic Components, EMI/RFI Power Entry Filters and Electronic sub-assemblies supplying the Computer, Computer Peripheral, Telecommunication, Industrial & Automotive, Medical Instrumentation and Test & Measurement marketplaces.



SAE corporate headquarters is located in the heart of Silicon Valley, and employs approximately 1100 people worldwide. Our manufacturing facilities, located in Toronto, ON and Dongguan, China are comprised of 175,000 square feet. Our Asian facility is TS/ISO16949, ISO9002 and BABT340 certified, while our Toronto location is ISO9001 and BABT340 certified. We also have multiple sales offices throughout North America and Asia.

At SAE Power we understand the demanding requirements of the markets we serve. Today's companies are faced with shorter development cycles, increased reliability goals and the need for lowering the total cost of ownership. The depth of our design and manufacturing experience coupled with a staff of some of the best power engineers in the industry enables our customers to adopt a hands-off approach to their power system development. Our staff assumes all tasks involved with the power system delivery including design, engineering support, agency certification, materials management, product qualification and assurance of on-time shipment delivery. SAE has provided expert supply chain and design solutions to such prominent companies such as:

- Avaya Communications
- Motorola ACES
- Celestica Corporation
- Tyco Electronics
- Unisys Corporation
- Cray Inc.
- Raytheon Electronic Systems
- Alcatel Power Systems
- Exide Corporation
- Siemens Information & Communication Networks

SAE POWER QUALITY

SAE Power quality goes without question. All of our manufacturing facilities are ISO certified. We design our products to our own rigorous standards. We employ:

- TS/ISO16949, ISO9001, ISO9002, and BABT340 certifications and approvals
- 100% Product Testing: Functional Testing, ICT, Burn-In, Hi-Pot & Final ATE
- Sample Audits: Incoming, Insertion, & Post Wave
- SPC, Quality Circles
- Documentation Control per ISO9000 standards
- ESD Control, Calibration and consistent Staff Training
- HALT & HASS Testing

Main engineering efforts for all of our commodities are conducted from our Toronto location, with additional engineering services in Hong Kong and throughout North America. Our Engineer team has over 30 years of experience developing technologically advanced cost-effective power solutions for our OEM partners. The sophistication of the design tools we use allows us to ensure a robust quality solution while meeting aggressive time schedules. The use of proven topologies, automated simulation, thermal and 3D modeling tools ensures our delivery of specification compliant prototypes. Our comprehensive engineering design process helps eliminate multiple board spins, reduces design risk, and shortens development time. All of this translates into faster Time to Market for our customers.

SAE Engineering strengths include:

- Zero Voltage & Current Switching topologies
- Quasi/Full Resonant technologies
- Synchronous Rectification
- Intelligent interface protocols (i.e. I2C, RS232, RS485)
- Low noise technologies
- High Density packaging
- AC or DC dual input requirements
- N+1, Hot Swap Redundancy
- Constant Current
- High Efficiency
- High Reliability/Ruggedized Environments

MANUFACTURING

With manufacturing facilities in North America and Asia we ensure our customers continuity of supply and the capacity to meet upside demand. Our Toronto facility is geographically convenient for customers with North American design centers. This 50,000 square foot facility is ISO9001 certified and BABT 340 approved, and employs approximately 200 people. Our 120,000 square foot manufacturing facility in China has been manufacturing for over 20 years, and presently employs approximately 1000 people. This facility is TS/ISO16949, ISO9002 and BABT 340 certified capable of meeting all UL, CSA and BABT approvals.

Our manufacturing capabilities and services include:

- Surface Mount and Thru-hole PCB Assembly
- Box-Build and System Integration
- Full Turnkey Services
- Fast Turnaround for prototypes
- Packaging and Distribution
- Warranty and Repair Service
- Prototype to high volume production



CUSTOM POWER SOLUTIONS

SAE Power's strength lies within its custom capability. Our extensive engineering knowledge and the use of state-of-the-art technologies has given our OEM customers the resource they can depend on for all of their power solution needs. Our custom capability includes:

- 10-3000W Output Power Ranges
- Single and Multi-output configurations
- Dual Input solutions
- Unique packaging requirements
- Intelligent Protocols
- Low noise applications
- Severe Environments

Many of our custom solutions have field-demonstrated reliability of more than 1,500,000 hours thus ensuring our valued partners the quality they need in their system. We pride ourselves in meeting the technological challenges our customers give us. Examples of our engineering solutions have been:



500W AC/DC POWER SUPPLY

- DUAL Input capability (AC or DC)
- I2C Interface Protocol
- Hot Swap N+1
- Resonant Transition
- Synchronous rectification
- Advanced thermal cooling techniques



200A DC/DC CONVERTER

- 200A Output power
- Wide range DC Input
- High Power Density and efficiency
- Built in OR-ing MOSFETs for N+1 operation
- Resonant Zero Voltage Switching for low noise



2200W 385VDC PULSE BLANKING POWER SUPPLY

- Programmable Output Voltage: <math><0.1\%</math> pulse to pulse variation
- Low noise, high efficiency, quasi-resonant design
- Rugged mechanical construction
- Resonant Zero Voltage Switching for low noise
- Ideal for Radar Applications

SAE Power also offers standard high reliability, feature-rich AC/DC or DC/DC power supplies. These products are available in power ranges from 25W to 16.8KW. With over 30 years of experience, you can rest assured that these models will offer you a high quality, cost-effective solution for your power needs. As with our custom solutions, many of these models have field-demonstrated reliability of more than 1,500,000 hours.

SAE's new 1U/3U Power System Series represents the next generation in medium to large power solutions. These self-cooled 19" or 23" sub-racks in either 1U or 3U high profiles are highly reliable front-ends for distributed and battery backed systems. Power modules are available from 800W to 2100W for a total power availability of 16.8KW. It comes with an I2C Serial Data Bus, an Aux output, and control/monitoring signals. Our system meets IPMI Signal/Control requirements and is compliant with SSI PSM (Power Supply Management) interface standard. This system provides the flexibility and scalability that companies need in order to meet their market demands



AC/DC 1U & 3U Rack Systems

- PF800 -1U 48Vdc, 24Vdc or 12 Vdc Front-End Power 800W Module
- PF1200 -1U 48V or 24Vdc Front-End Power 1200W Module
- PF2100 - 1U 48Vdc or 24Vdc Front-End Power 2100W Module
- 1U racks up to 6300W
- 3U racks up to 16.8KW
- 19 or 23 inch rack mounting

SAE offers a full line of AC or DC Input multi-output power supplies in power ranges from 200W to 600W. Our power supplies are available with 1-4 outputs, current sharing, power factor correction, inrush limiting, thermal protection and are available CPCI format. These highly efficient compact assemblies addressed today's needs of high reliability along with the low cost of ownership.



STANDARD MULTI-OUTPUT POWER SUPPLIES

- PF600 - AC/DC 600W 6U CPCI Power Supply
- PS50 - AC/DC 230-375W 4 Output configurable Power Supply
- PS79 - AC/DC 375W (470W peak) PFC, 4 Output Configurable Power Supply
- PD600 - 48Vdc Input 600W output CPCI Power Supply
- PS62 - 48Vdc or -60Vdc Input 375W 4 Output configurable Power Supply



For more detail information about the above power supplies please visit our website.

EMI/RFI FILTERS

SAE Power has been designing and manufacturing high reliability, high performance EMI/RFI power line filters for computer, industrial, medical and telecommunication applications since the early 1970's. A complete line of standard single and three phase filters in current ranges from 1 to 60 amps are available. In addition, modified and/or custom filters are available to meet your particular need.

**AC POWER ENTRY MODULES (PEM) SERIES**

- PM (Fuses, ON/OFF switch & voltage selector)
- FCF (Fuses) *capable of meeting UL2601 requirements
- ES (Single or double fuses, ON/OFF switch & UL2601 capable)
- EX (Single or double fuses, ON/OFF switch & voltage selector capability)
- EY (High Performance PEM with single or double fuse, ON/OFF switch & voltage selector capability)

*capable of meeting UL2601 requirements

**AC CONNECTOR FILTERS**

- HPC & C (High Performance Connector, 1-20 amps)
- SPC (Super Performance Connector, 1-6 amps)
- CCA (Snap-In IEC connectors, 1-6 amps)

**AC FILTERS**

- M (Medical)
- Y & D (3 Phase)
- SPGA & HP (High Performance)
- Signal Filters (RJ45 EMI Connectors)

**DC FILTERS**

- PCM (Board Mount)
- PCD (High Power)

For more detail information about the EMI/RFI filters we offer please visit our website.

Since offering its first transformer in 1963, SAE Power has continued expanding the product line to offer a full range of custom magnetic products and services from initial design to final production. SAE Power has gained a reputation for producing quality devices in high volumes while maintaining cost effectiveness. Some features of our Magnetics line are:

- BSAT, qualified core permeability and losses.
- Frequencies from 50Hz to 500KHz
- Temperature Classes A to N
- Class B, 130C material as a minimum
- Bobbins are UL94-V2 or better
- Custom transformers (including planars), inductors and chokes
- Surface mount and thru-hole products



TRANSFORMERS

- Power (50/60Hz Laminated steel core)
- Audio
- Ferro Resonant
- High Voltage
- 3 Phase
- SMT or Thru-hole
- Planar



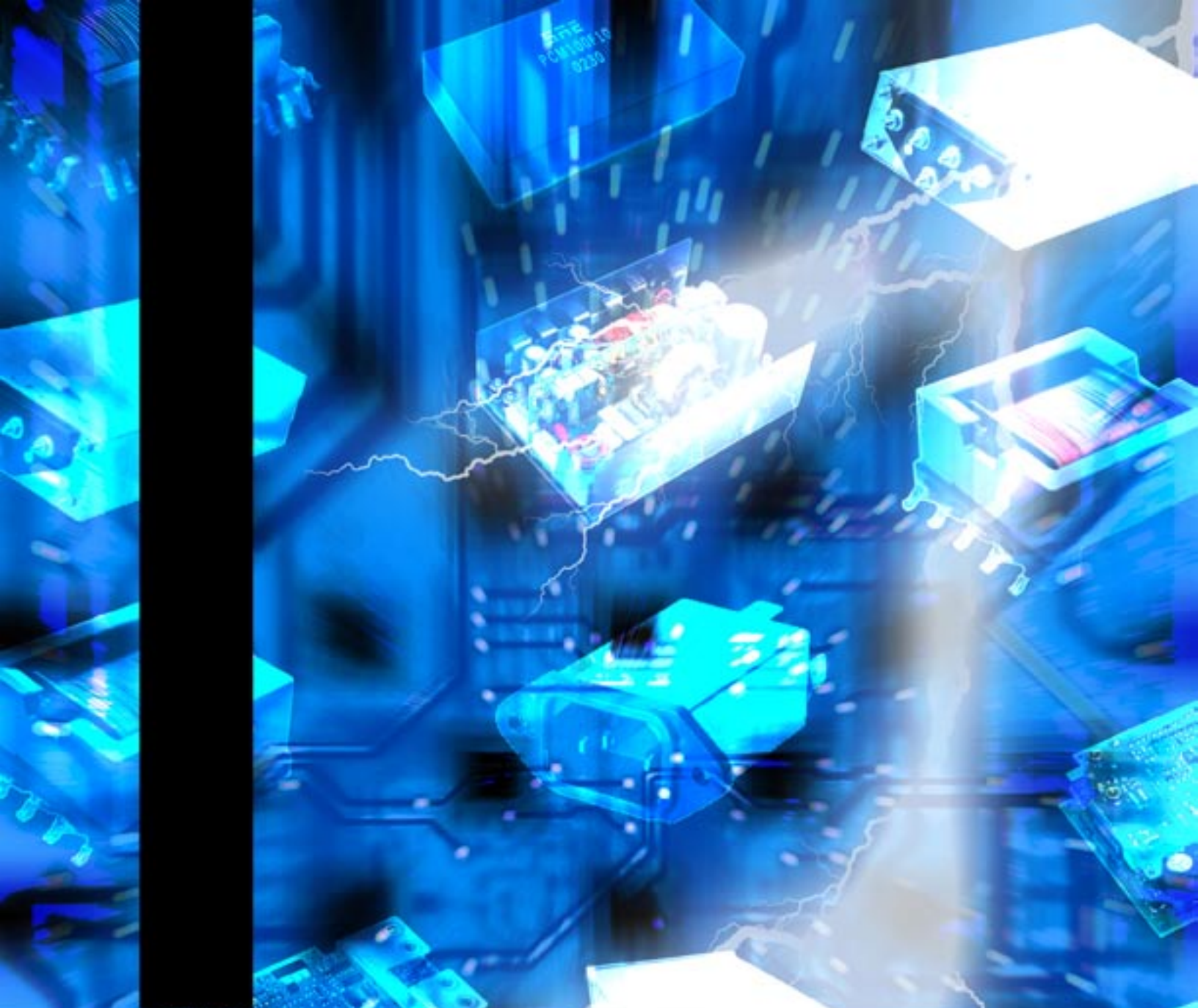
INDUCTORS

- Powered Iron Cores
- Nickel Iron Cores
- MPP or NI Cores
- SMT or Thru-hole



CHOKES & COILS

- Power (50/60Hz Laminated steel core)
- Common & Differential Mode
- Solenoidal
- Bobbin
- SMT or Thru-hole



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For Regional Sales Offices and Distribution partners please visit our website.

www.saepower.com

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