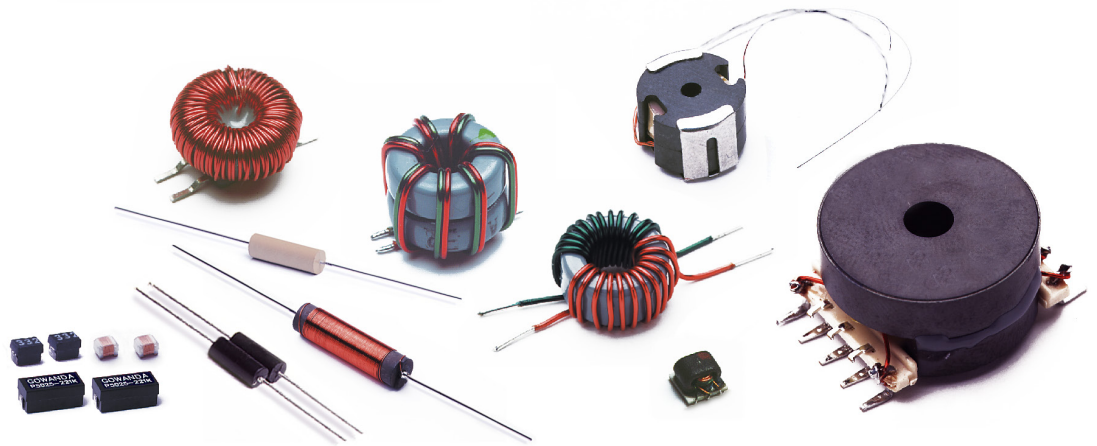
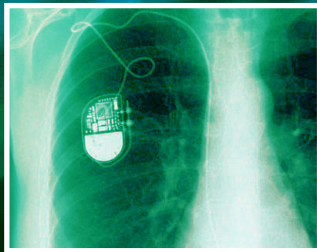




Your Source for Application Specific Magnetics



AS 9100



ISO 13485



ISO 9001

Solutions for the Most Demanding Designs

Corporate Capabilities Brochure

Your Source for Application-Specific Magnetics

For over 50 years, Gowanda Electronics has been providing high quality, high performance component solutions addressing the needs of OEMs in the industrial, communications, military, space, aerospace, medical, and power conversion industries. Gowanda's state-of-the-art 40,000 square foot worldwide headquarters, located in Gowanda, New York, houses administration, engineering, sales, product development and a portion of manufacturing. The relentless pursuit of quality and excellence has permitted Gowanda Electronics to become a leader in the industry. Our knowledgeable engineers and customer service staff are eager to help find the solution that best suits your needs. Call us at +1-716-532-2234 or visit our comprehensive website at www.gowanda.com to find the product or capability that will help catalyze your project's success.



Defense, Space and Aerospace

Gowanda Electronics' commitment is to become a virtual member of the customer's product development team. Gowanda's staff actively participates in the early stages of design development when footprints and configurations are still open for review and change, thereby providing critical guidance and recommendations for cost effective product design and development. Gowanda continues this collaboration with the team long after the design stage is complete, assuring that the right component, whether off-the-shelf or custom-made, is designed, specified and manufactured per the requirements of the application.

We are committed to being a leader in the military, space and aerospace components field. We offer QPL (Qualified Product List) products and other support/service.

ISO 9001

AS 9100

MIL-PRF-15305

MIL-PRF-83446

AEC-Q200 Qualified

ITAR Registered

MIL-PRF-27

MIL-PRF-27 Level T

MIL-PRF-39010

MIL-STD-981

Featuring:

- ▲ Operating temperatures from -55°C to +220°C
- ▲ Environmental testing including thermal shock, life test, mechanical shock and vibration
- ▲ Lot & date code traceability as required
- ▲ Application-specific designs that will meet your stringent electrical and mechanical requirements
- ▲ Ruggedization of components designed specifically to withstand the rigors of the military, space and aerospace markets
- ▲ Micro/Ultra-miniature inductors and transformers for hybrid applications
- ▲ Lead, (Pb) bearing terminations available
- ▲ No design obsolescence



Medical

At Gowanda, we recognize the critical role and responsibility that comes with being a strategic supply partner to a medical device manufacturer. We have been in this field for decades, and have earned our stripes by recognizing the key role and responsibility that the partner title carries with it. We understand exactly what it takes to help our partner create strategically recognized solutions.

Gowanda Electronics' commitment to medical device manufacturers has been validated, not only by our track record of success, but by making certain that internal technical development projects and certification programs are in place to support that commitment.

ISO 13485 – Gowanda is the first manufacturer in our industry to gain this rigorous certification in support of our on-going commitment.

Risk Management Analysis is Key to ISO 13485:

- ▲ Design / Process Failure Mode Effect Analysis
- ▲ Measurement System Analysis
- ▲ Gauge R & R Evaluations
- ▲ Heightened Documentation Control

Featuring:

- ▲ Ruggedization of components designed specifically to withstand the rigors of the medical marketplace
- ▲ Micro/Ultra-miniature inductors and transformers for in-vivo and in-vitro applications
- ▲ In-house cleanrooms - class 100,000
- ▲ Creation of standard and fully customized design solutions for the most demanding applications
- ▲ A full line of standard off-the-shelf non-magnetic inductors that significantly improve image quality in MRI applications
- ▲ Custom solutions are available upon request



Environmental Laboratory Capabilities - DLA Approved*

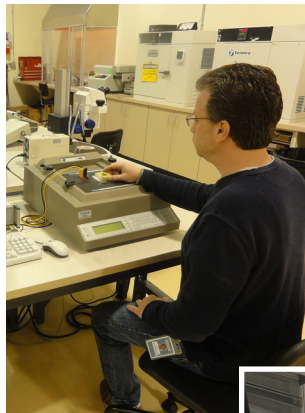
As the market leader in providing high reliability inductors, transformers, and magnetics to the electronics OEM marketplace, Gowanda Electronics offers an in-house environmental lab with unmatched capabilities to establish the consistent performance characteristics required to meet the most demanding designs. Gowanda's environmental technical services are also available on a contracted basis. Please contact customer service for additional details.

*In support of internal product qualifications



Lab Services:

- ▲ Life Test Chamber – Life, with Load – Maximum Operating Temperature: 260°C
- ▲ Thermal Shock from -65°C to 200°C
- ▲ Real Time X-Ray
- ▲ Altitude Chamber – Maximum 80,000 Feet
- ▲ Humidity Chamber – Moisture Resistance, Steady State (-75°C to 200°C, 20% to 98%) RH in dry bulb range
- ▲ Benchtop Chamber – High & Low Temperature Operation Temp Rise -75°C to 200°C
- ▲ Salt Spray
- ▲ Steam Aging & Solderability
- ▲ Chemical Resistance
- ▲ Pull Gauge – Bond Testing – Maximum Force: 50Lbs
- ▲ Hi-Pot Tester – Insulation Resistance, DWV – Maximum Voltage 6kV (dc), 5kV (ac)
- ▲ Reflow Oven – Maximum Temperature of 260°C
- ▲ Support Test & Measurement Equipment
- ▲ Full Documentation & Reporting Capacity
- ▲ Failure Analysis Capacity
- ▲ Lab Equipped with Monitoring & Tracking Software
- ▲ Mechanical Shock (MIL-STD-202, Method 213)
- ▲ Vibration (MIL-STD-202, Method 201, 204 and 214)
- ▲ Accelerated Aging - contact factory for details

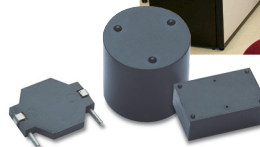
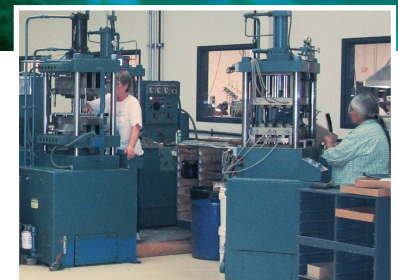


Transfer Molding Capabilities

As a vertically integrated manufacturer, Gowanda Electronics has vast resource capabilities, and years of experience with transfer molding. From in-house design development, to mass production, we have an experienced design staff that can work in unison with your design team to create a solution which will help set you apart from your competition. Most of the challenges result in solutions for placement, and also increase manufacturing through-put for our customers. We use only the highest semi-conductor grade thermoset epoxy in all our designs. Our only limitation is your imagination.

Examples of our molding solutions include:

- ▲ Application-specific bases
- ▲ Epoxy over-molding for environmental protection
- ▲ Conversion from thru-hole to surface mount
- ▲ Over-molding capabilities for intellectual rights proprietary protection
- ▲ Shielded compounds available for EMI reduction



www.gowanda.com

Gowanda Electronics



Gowanda Electronics is supported by a family of vertically integrated locations, each of which contributes to our corporate-wide company vision. This internal strength allows Gowanda to consistently meet our customers' expectations for quick turn-around of standard and custom inductors, chokes, coils, conicals, toroids, transformers and other magnetic components, in support of the need for faster time to market. These resources have formed the foundation by which Gowanda Electronics is set apart from other manufacturers in our industry.

Below is a brief description of our locations and services:

Manufacturing Technologies Group

Located just minutes away from our corporate headquarters, this state-of-the-art facility is a fully equipped machine tool and design center. We currently have all the required equipment needed to design and develop your prototype tooling in support of your requirements. Auto-CAD is one of the main tools that we use to specify and control our requirements. Electronic collaboration allows us to exchange information with our customers more effectively thereby speeding up the design and development process. The Manufacturing Technologies Group has the resources available today to bring your design to reality.

Gowanda Mexico

This manufacturing facility located just south of San Diego, California, enhances Gowanda's ability to cost effectively meet labor intensive design requirements (where automation is either not available or not appropriate), and it also is logistically located to perform when next day service is a requirement, and not an option. Our customers can expect quick turnaround for new prototype opportunities as well as production.

Chiptek USA

With a focus on high-speed-winding and throughput, nearby Chiptek USA is the only US based manufacturer of "Made in the USA" wirewound ceramic chip inductors. These capabilities enhance Gowanda Electronics' ability to design solutions that address customer-specified frequency and electrical parameters. We are able to provide unique board level solutions for your application, and do so with radically short market lead-times. Unique capping options are also available for medical grade applications.

Base Technologies

Application-specific coil-forms, cases, and other packaging configurations are the foundation by which Gowanda Electronics sets itself apart from its competition. Through Base Technologies, Gowanda has the capabilities to provide unique and proprietary designs that allow our customers to achieve their objectives at the design level. These unique coil-forms enhance electrical performance, and thus enhance systems performance. These designs are then configured into specific packaging configurations that best support maximum board utilization and manufacturability.



RoHS Compliant and Lead-Free Alternatives

In its ongoing commitment to supplying superior quality products to the magnetics industry and meeting worldwide environmental regulations Gowanda Electronics offers RoHS compliant components produced in accordance with the 2002/95/EC European Parliament Restriction of Hazardous Substances Directive banning the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE).



www.gowanda.com

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