

2011



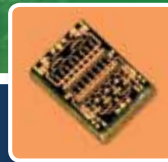
# Defense and Aerospace Products

**GaAs • GaN • SAW • BAW**



TriQuint's industry-leading portfolio of advanced semiconductors, SAW and BAW filters connects the needs of defense and aerospace markets with unmatched customer service and advanced technology.

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*Connecting the Digital World  
to the Global Network®*

**TriQuint**   
SEMICONDUCTOR

## INTRODUCTION

TriQuint Semiconductor's defense and aerospace heritage serves worldwide contractors of all sizes. Through advanced research, industry-leading products and personalized service, TriQuint safeguards defense forces around the globe. TriQuint products play critical roles in communications and radar missions as well as orbital and interplanetary exploration for the worldwide scientific community. TriQuint's primary European office in Munich, Germany, supports customer design and application requirements. Our representative and distribution sales networks across EMEA provide application engineering and design support for easy access and service.

### TriQuint Products and Services:

- COTS / dual-use product convenience
- GaN – power and switching through 18 GHz
- GaAs – power and control products through 100 GHz
- Die on Tab (DoT) – improved assembly yields
- Advanced in-house module capability
- SAW and BAW filters / oscillators
- Award-winning supplier / R&D leader



## RF POWER PACKAGED TRANSISTORS

TriQuint has developed a wide range of RF power transistors using GaAs and GaN technologies. These devices are available in a variety of standard industry packages. Our portfolio includes band-specific products and a growing selection of wideband GaN devices that offer maximum efficiency and bandwidth. TriQuint welcomes the opportunity to work with customers to meet specific requirements.

**Our products are ideal for many defense and general RF applications including:**

- Radar
- Signal jammers
- Professional radio systems
- General purpose RF power, testing and communications

**TriQuint's RF power transistors offer many advantages:**

- Large existing product portfolio
- Standard and custom packaging options
- Frequencies: Up to 6 GHz
- GaAs / GaN technologies
- EAR99 for many countries (ask for details)
- Output power: 4W to 55W



## EXPERT PACKAGING & MODULE SERVICES

TriQuint offers many packaging, module and die-level services that make final assembly easier and more efficient. The Advanced Microwave Module Assembly (AMMA) facility expands TriQuint's range of integrated solutions. TriQuint packaged products benefit from the same innovative and dependable manufacturing process controls that ensure reliability and functionality for our MMIC solutions. Integration – either through on-chip designs or multi-chip modules – offers greater BOM economy, overall cost savings, PCB area reduction and greater performance / efficiency.



- **One-stop convenience:** fabricate circuits, package die and test components in one secure location for shorter lead times, greater savings
- **Single- and multi-chip assembly:** integrates single or multiple die using industry-standard or custom packages
- **Experience and innovation:** ensure your program success through TriQuint's expert teams and state-of-the-art facilities
- **Die on Tab (DoT):** simplify assembly, increase yields and mitigate thermal considerations
  - Virtually void-free vacuum reflow die attach
  - 100% in-factory x-ray inspected
  - In-house RF test services

## SAW / BAW FILTERS, OSCILLATORS & DELAY LINES

TriQuint's heritage in high-reliability surface acoustic wave (SAW) and bulk acoustic wave (BAW) devices extends from pioneering technology to our present-day leadership in product development and process improvement. We have a wide range of custom capabilities including filter banks, oscillators and filters that meet specific, high-performance requirements.

### TriQuint high-performance acoustic devices offer:

- Smaller size – miniature filters down to 1.5x0.8mm
- Lower overall system costs
- Center frequencies: 30 MHz to 20 GHz bandwidth and rejection
- Standard SAW & BAW products
- Improved noise floor (oscillators)
- Excellent phase noise (oscillators)
- More efficient power usage

TriQuint provides defense and space customers high-performance SAW / STW oscillators designed for the rigors of harsh environments. TriQuint's FFO and VCO products offer high fundamentals and deliver extremely low phase noise and exceptional g-sensitivity.

## MMIC PRODUCTS

TriQuint's MMIC portfolio targets defense and aerospace customer needs. TriQuint has become a leader in COTS product offerings and service through our wide range of supported frequencies and functions covering amplification and signal control.

- Proven 0.25µm and 0.15µm pHEMT process
- Leader in 0.25µm GaN on SiC technology
- Wideband and narrowband coverage
- Expert in microwave and millimeter wave technology
- 100% DC and RF tested, visual inspection
- Dedicated application support team



## GLOBAL HIGH RELIABILITY PRODUCTS

TriQuint devices are used in a wide range of communications and phased array radar programs including ship-based, airborne and battlefield systems as well as sat-com, electronic warfare, counter-measures and guidance applications. TriQuint products play a critical role in identifying and neutralizing threats against defense forces around the globe through advanced technological diversity complemented by sustained product and service delivery.

TriQuint is actively engaged with existing customers while pursuing emerging opportunities. For example: our airborne radar experience with F-16, F-18 and F-22 systems has led to on-going work in the Joint Strike Fighter (JSF) F-35 being

developed by major defense contractors for the U.S., European participants and other nations. We support the Eurofighter Typhoon program. Our long-standing relationships

with major European satellite manufacturers including Thales Alenia Space continues to create new opportunities for space-qualified standard products.



Function	Supported Products
Frequencies	DC through 100 GHz
General	Power amps, drivers, gain blocks (wideband and band-specific)
Control	Phase shifters, attenuators, limiters, mixers, switches
High Power	2W (Q-band) through 50W (S-band)
Low Noise	Wideband and band-specific
Discretes	Power and low-noise applications from DC through 20 GHz
Packages	Industry-standard and custom packages for discretes and multi-chip modules
Technologies	Power: GaAs / GaN    Filters: SAW / BAW

## CONNECT WITH TRIQUINT.

### Products / Foundry:

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E-mail: <http://eu.mouser.com/contact/>

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