

Quality Assurance Clauses

The provisions of the following clauses form a part of the contract when indicated on the purchase order. In the event of a conflict between these provisions and those noted in the actual drawing or specification; these clauses shall take precedence. The latest revisions of the specifications imposed by these clauses are used unless otherwise specified.

Q1 Workmanship Standards: The vendor shall maintain Quality Workmanship Standards in accordance with IPC A-610, latest revision, class 3 - Acceptability of Printed Board Assemblies, IPC-7711, Rework of Electronic Assemblies and IPC-7721, Repair and Modification of Printed Boards Assemblies, as well as other pertinent workmanship standards that are required fabricate or assemble purchased products. Where applicable, MIL-STD-883 will be used as the guide for workmanship standards.

- A. When contractually specified by our customer, the vendor shall maintain Quality Workmanship Standards in accordance with MIL-HDBK-454, Requirements 9 (for general workmanship).

Q2 Quality Management System: The vendor shall maintain a Quality Management System (QMS) based on or certified to ISO 9001:2008 or AS9100 Standard. The vendor's QMS is subject to audit and approval or disapproval at all times by Micronetics' Quality Assurance. The vendor shall maintain a QMS that ensures that all finished goods/services have been inspected and accepted prior to delivery. This inspection should verify that the material being furnished against this P.O. meets the requirements, drawings and specifications referenced. There should also be a record of these inspections on file at the vendor's facility.

- A. When contractually specified by our customer, the vendor shall maintain an Inspection System in full compliance with all the requirements of Mil-I-45208 (Inspection System Requirements).

Q3 Calibration System: The vendor shall maintain a Calibration System in full compliance with all of the requirements of the ISO 10012-1 or ANSI/NC SL Z540-1 Standards. The vendor's calibration system is subject to audit and approval or disapproval at all times by Micronetics' Quality Assurance.

Q4 Pre-Cap Inspection: A pre-cap Inspection is a requirement of this contract. This pre-cap inspection will include surveillance of the products, data, quality system, procedures and facilities. The seller shall furnish the necessary facilities and equipment, supply data and perform tests as required by the Micronetics pre-cap inspector to show conformance to the purchase order and referenced documents. The Micronetics Purchasing representative shall be notified three (3) days in advance of the required inspection.

Q5 Source Inspection: A source inspection is a requirement of this contract. This source inspection will include surveillance of the products, data, quality system, procedures and facilities. The vendor shall furnish the necessary facilities and equipment, supply data and perform tests as required by the Micronetics source inspector to show conformance to the purchase order and referenced documents. The Micronetics Purchasing representative shall be notified three (3) days in advance of the required inspection. Final acceptance of any product will be performed at a Micronetics facility.

Q7 Certificate of Compliance: The vendor shall provide written certification that the items or service being delivered under this purchase order have been inspected and are in compliance with the purchase order and specified drawings. The certificate must be signed by a authorized representative of the Quality Assurance Organization, and contain the following:

- A. Micronetics purchase order number.
- B. MFG. Lot #, date code and/or S/Ns, as applicable.
- C. Quantity of items.
- D. Availability of test data and records.

Q8 Plating: The vendor must supply data showing the thickness of each plated material. A plating thickness report and statistical data must accompany each shipment. An AQL sample may be allowed for this data.

Q11 Solderability: The vendor shall provide material that meets the solderability requirements of MIL-STD-202, Method 208.

Q12 Marking Permanency: Item marking shall be resistant to solvents when tested in accordance with MIL-STD-202, Method 215.

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Q17 Test Data: Certified Test Data shall be supplied for each item shipped. The test data shall reflect all electrical parameters specified in the applicable procurement drawing. Sample data may be allowed only if specified on the purchase order.

Q18 Screening Results: The vendor shall provide screening results in accordance with MIL-STD-883, Method 5008. The name and location of the facility at which the screening was performed shall be listed on the data, if it is other than the vendor's facility.

Q19 Part Traceability: The supplier shall provide part traceability in compliance with the following requirements unless otherwise stated.

- A.** Each part, component, item or assembly on the purchase order shall be identified with a unique serial number. Serial numbers shall not be duplicated for the same model. Marking of serial numbers shall be per MIL-STD-130 unless otherwise specified on the specification.
- B.** All materials, components or assemblies furnished shall be identified by a Lot or Batch number, traceable to the actual manufacturing process. The lot or batch number may be a date or shop order code but must provide traceability to the original lot of material used.

Q23 Die Geometry: The vendor shall provide a drawing of the semiconductor, by physically including with shipment or making available on their website, showing details of the geometry and identification of pad numbers for bonding and orientation.

Q25 ESD Control: Electro-Static Sensitive devices shall be handled, packaged, identified and shipped in accordance with the requirements of ANSI/ESD S20.20.

Q26 Perishable Material: Materials shipped against this purchase order must be labeled indicating the expiration date and any environmental conditions that would adversely affect the item's intended use. No Materials shall be supplied which have less than 75% of useful life remaining or one year, whichever is less.

Q27 Certificate of Calibration: A certificate of calibration shall be provided for each item listed on this purchase order. The certificate shall be prepared in accordance with the criteria established in ISO 10012-1 or ANSI/NCSL Z540-1 Standards.

Q28 Design Changes: Pursuant to this purchase order and prior to shipment, the vendor shall notify Micronetics of any proposed change in design, fabrication, methods or processes and shall obtain approval of this change by Micronetics prior to shipment.

Q29 Packaging: Unless otherwise specified in the purchase order, the seller shall package all material in a manner that will ensure protection against corrosion, oxidation, deterioration and physical damage during shipment to Micronetics.

Q30 First Article Inspection Required: The first piece of each configuration will be fully inspected for all dimensions, characteristics and notes listed on the drawings or specifications. Each reading shall be recorded along with the associated requirement. The first piece shall be tagged or identified and submitted to the Micronetics, Inc. division requesting the part or assembly. AS9102, Aerospace First Article Inspection Requirement may be used to satisfy this requirement.

Q31 End of Life and Obsolescence reports: Pursuant to this purchase order the vendor shall notify Micronetics of any End of Life information on this product as it becomes available.

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Q32 Independent Distributor Certificate of Conformance:

Traceability Documentation- With each shipment the supplier must provide a Certificate of Conformance that includes the following information:

- Micronetics or its subsidiaries Purchase Order and Line Item Number
- Quantity included in shipment, • Part Number as listed on the Purchase Order, • Manufacturer's Name and Address and Cage code
- Manufacturer's Part number (If Different), • Lot code/Date code, • Product Description
- An authorized representative of the supplier shall sign and date the certificate attesting to the conformance

The supplier shall provide acquisition traceability provided by the original component manufacturer and previous distributors for each shipment.

Military compliant microcircuits and discrete semiconductors shall adhere to the acquisition traceability requirements in MIL-PRF-38535 and MIL-PRF-19500. These documents require that manufacturer certifications follow the parts throughout the supply chain. (In no case shall the acquisition traceability documentation be altered or shows signs of alteration. This is grounds for immediate rejection of the lot/shipment.) The original component manufacturer's certification shall include (at a minimum):

- Manufacturer's name and address, • Device type, • Lot identification code (including plant code), • Conformance inspection acceptance date.
- Quantity of devices in shipment from manufacturer, • Statement certifying product conformance and traceability.
- Signature and date of transaction, • Customer or Distributors name and address

Other device deliveries should include the documentation cited above for military parts as available and applicable. At a minimum these device deliveries shall be accompanied by documentation (for example, packing slips, invoices) that confirms acquisition traceability back to the device OEM.

Acquisition traceability also includes distributor documentation for each distributor in the supply chain:

- Distributor's name and address, • Name and address of customer as involved in the chain of custody, • Quantity of devices in shipment
- Lot/Date code