

Quality Manual

This Quality Manual provides the overall quality strategy and objectives of Pyramid Semiconductor's quality system. It is based on the requirements of ISO 9000.

This manual serves as a top-level reference for the implementation and maintenance for Pyramid Semiconductors quality system. It will be reviewed periodically by the Quality Assurance Department; any changes needed will be implemented by an Engineering Change Notification processed through the required sign off cycle.

Pyramid Semiconductor is dedicated to providing the product quality, customer service, and device performance required to meet or exceed our customer's requirements. Pyramid Semiconductor's products will be produced in accordance with internal operating specifications, and be fully compliant to applicable customer specifications and the applicable Military and or ISO procedures.

It is the role of the Quality Assurance Department to ensure that the current quality objectives are met and that the quality and reliability levels achieved reflect a continuous, on-going improvement.

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V.P. of Quality Assurance

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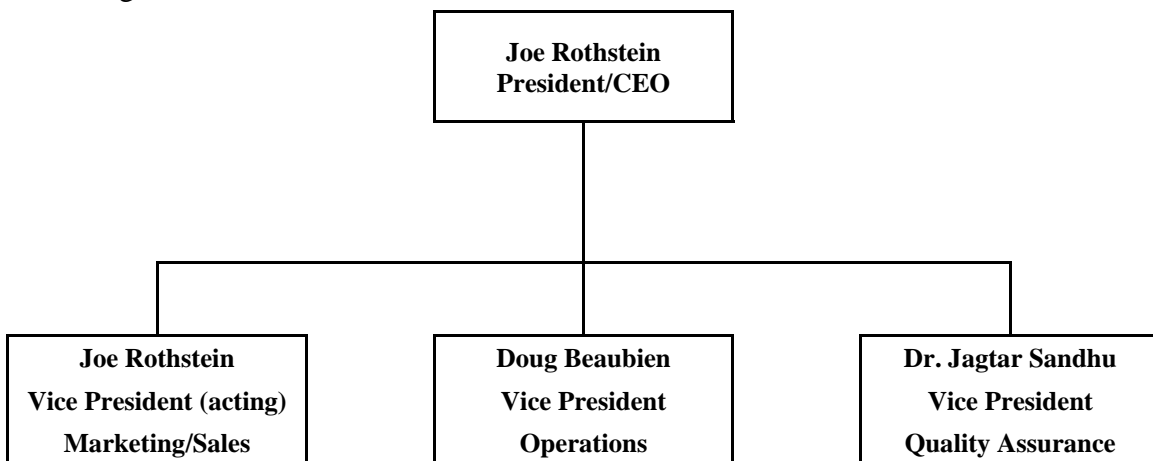
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1 Management Responsibility

1.1 Quality Policy

It is the Policy of Pyramid Semiconductor to design, manufacture and deliver products of the highest quality to our Customers. Each employee of the Corporation shares in the responsibility for providing the maximum attainable reliability and quality of the Company's products. Our goal is to meet or exceed the reliability and quality requirements of our customers in the most efficient and economical manner. The assurance that our corporate activities are consistently, effectively and professionally conducted is provided by the Quality Management and Vice President of Quality Assurance, fully backed by the President/CEO.

1.2 Organization Chart



The Material Review Board (MRB) is comprised of the members of the above organization.

1.3 Quality Management

The Vice President of Quality Assurance is the appointed Management Representative (MR) for ensuring that the Quality Management System is implemented and maintained.

Each and every employee has the authority to:

- Initiate action to prevent product non-conformity.
- Identify and record product quality problems
- Initiate, recommend or provide solutions.
- Verify implementation of solutions.
- Control further processing and disposition of the non-conforming product until the deficiency or unsatisfactory condition has been corrected.

2 Quality System

2.1 General

Pyramid Semiconductor's Quality Management is a four part system: The Quality Manual, Quality Instructions, Work Instructions and Records. The description and responsibility of each shown below:

	TYPE	DESCRIPTION	RESPONSIBILITIES
1	Quality Policy	Vision Statement	Chief Executive Officer
	Quality Manual	Fundamental principles and objectives of how Pyramid conducts business	Vice President of Quality Assurance, Quality Management
2	Quality Instruction	Defines requirements, assignment of authority and responsibility for implementing and maintaining the Quality Management System	Quality Assurance Manager
3	Work Instructions	Detailed instructions to perform specific activities.	Department Management
4	Records	Documented evidence demonstrating the achievement of quality objectives	Department Management

2.2 Quality System Procedures

The Quality Manual is comprised of sections with direct reference to ISO 9001 standard paragraphs. These sections are supplemented by quality instructions (when required) which provide additional detailed information concerning the quality system.

2.3 Quality Planning

To ensure the implementation and maintenance of Quality Requirements, Pyramid Semiconductor's management:

- Defines the requirements, assigns the authority and responsibility for Quality Operations. This is communicated through the Quality Manual and supplemented by specific program quality instructions.
- Provides adequate resources to achieve the required level of quality. Resources include personnel, equipment, processes, training and any other resources necessary.
- Establishes design review guidelines, requirements and policies.
- Defines, reviews and updates inspection and testing methods to ensure an accurate quality measurement.
- Plans resources at the onset of a program to resolve issues in sufficient time.
- Establishes design/inspection/testing procedures.
- Translates workmanship standards into user documents when required.
- Requires the collection and maintenance of Quality Records.
- Periodically reviews the effectiveness of the Quality System.
- Performs internal Quality Assessments.
- Defines, documents and communicates the quality policy to all personnel.
- Defines, establishes and communicates technical, schedule and quality requirements applicable for each contract.

3 Contract Review

Pyramid Semiconductor has an established and documented contract review system, beginning with the request for quote by Marketing and Engineering following with the process of conversion of customer requirements to the standard processes.

Any contract changes or amendments requested by the customer after a purchase order is acknowledged shall be reviewed. The requested changes and impacts will be mutually negotiated to the satisfaction of both parties. The customer will be required to update the procurement documentation to include the negotiated changes. The V.P of Operations and V.P of Technology shall be responsible for maintaining contractual records including contract amendments. Contractual records shall be maintained in accordance with section 16 of this manual.

4 Design Control

4.1 Requirements

To establish and maintain documented procedures to control and verify the design of a product and to ensure that the entire customer's specified requirements are met by:

- Design and Development Planning
- Organizational and Technical Interfaces
- Design Input
- Design Output
- Design Review
- Design Verification
- Design Changes

5 Document and Data Control

5.1 General

Pyramid Semiconductor's controlled documents are maintained and issued to assure that the proper documents are used. A master list references all specifications and procedures and is maintained by document control.

5.2 Document and Data Approval and Disposition.

All released documents and specifications have been reviewed and approved by a designated list of responsible department Managers.
Revisions and ownership are maintained by Document Control.

- 5.3 Document and Data Control Revisions. In the event of a new release, or revised document, the area supervisor or designated representative will introduce his or her employees to the new procedures. Document Control will record the Supervisor's notification of the change in procedure. Periodic auditing shall be the responsibility of Quality Assurance.
- 5.4 Binders containing pertinent issues of specifications, procedures etc. are maintained and located in the appropriate areas of operation.
- 5.5 Invalid or Obsolete documents are removed by Document Control from all points of issue or use. A record copy is filed in a specific cabinet for obsolete files.

6 Purchasing

6.1 Evaluation of Supplier

Pyramid Semiconductor procures services and materials from approved suppliers at the best value. Potential suppliers are evaluated by Quality Control Management based on the ability to meet technical and quality requirements. Existing suppliers are monitored and evaluated for product quality and ability to meet delivery schedules.

6.2 Verification of Purchased Product

When sub-contractors are utilized, subcontract work or product acceptance criteria are stipulated on the purchasing documents.

7 Customer / Government Supplied Product

Customer / Government supplied product includes components, assemblies, fixtures, test equipment and other material supplied for the manufacturing of the end item product. Product supplied by the Customer / Government is inspected upon receipt in accordance with Receiving Inspection requirements. As a minimum, the material is inspected for proper type, identification, quantity, and shipping / handling damage. The degree and nature of incoming inspection is based upon complexity, critical usage, program requirements and manufacture quality and history. The Customer / Government is notified of any discrepant material upon receipt. Storage of Customer / Government supplied product is consistent with standard Pyramid Semiconductor practices appropriate for the product to prevent handling damage and deterioration during storage.

8 Product Identification and Traceability

- 8.1 Documented procedures exist to ensure that the correct material is utilized. Traceability information is maintained in the manufacturing records to include manufacture's lot number, lot date code/seal week.

9 Process Control

9.1 Requirements

All products are manufactured in strict accordance to the Manufacturing Travelers, which reflect the applicable process specifications. Quality Inspection points are indicated in the appropriate sequences on the travelers. Manufacturing/Process Engineering and Quality Control is responsible for documenting critical processes, reviewing the impact of new products or processes being introduced and establishing appropriate planning, documentation, new traveler generation, etc. As required. Each organization is responsible for reviewing personnel training requirements, the equipment and the effects on the environment.

10 Inspection and Testing

10.1 Receiving Inspection

Receiving inspection verifies conformance of received material to internal receiving inspection procedures upon receipt of material. The degree and nature of incoming inspection shall be based upon complexity, critical usage, program requirements, supplier quality and history. An approved Supplier List is used to verify the procurement from acceptable sources.

10.1.1 Release of Material

Material shall not be issued or released until the required inspections and tests have been completed, accepted and recorded, unless the provisions for "urgent release of material" are authorized and documented.

10.2 Non-conforming Material

Non-Conforming material is recorded, marked, segregated, and dispositioned in accordance with documented practices defined in Section 13 of this manual.

10.3 In-process inspections

In-process inspection and testing of product is performed in accordance with In-process procedures and travelers. These documents are developed to ensure conformance to the specified requirements. Material shall not continue processing until the required in process inspections and tests are completed.

All processes are subject to in-process inspection. Quality Assurance shall perform random in-process inspection by observation. Discrepancies will be documented and recorded. This report is forwarded to the appropriate supervisor for disposition and/or corrective action. After non-conformance has been corrected, the report is returned to Quality Assurance.

10.4 Final Inspection

Final Inspection consists of specified testing and verification activities, which shall be satisfactorily completed, documented and verified prior to the authorization of shipment from Pyramid Semiconductor's facility.

11 Control of Inspection and Test Records

Inspection and test records document that the material and product have been tested in accordance with the specified requirements. To ensure that only product that has passed the required inspections and tests is shipped. Pyramid Semiconductor indicates conformance or non-conformance of product throughout all phases of production. The required inspections and test results are recorded within the production lot travelers.

Special requirements are also documented on the shop order travelers

12 Control of Non-Conforming Product

Pyramid Semiconductor maintains a system for identification, segregation, reviews and disposition of all non-conforming material and subsequently notified the functional areas concerned.

When material is initially found to be non-conforming, the material is clearly identified and segregated.

13 Review/Disposition of Non-Conforming Product

Material found to be non-conforming is examined by authorized personnel to determine the best method to correct the non-conformance. Non-Conforming material is dispositioned by one of the following methods:

- Return to Supplier: Hardware may be returned to the supplier to rework or replace non-conforming product. Return to Supplier dispositions will be indicated on a Request for Corrective Action.
- Rework: Rework completely eliminates the hardware non-conformance and restores the hardware to its original configuration.
- Repair: Repair reduces but does not completely eliminate the hardware non-conformance. Repair decisions must be approved by quality and engineering. In some cases the customer may need to participate in the disposition.
- Acceptable for Use: “Acceptable for Use” permits the use of the hardware with a known non-conformance. This disposition is used when non-conformance does not affect, fit, form or function of the end item product. The customer may need to participate in this decision depending on contract requirements.
- Scrap: Scrap is non-conforming material that is not usable for its intended purposes and can not be economically reworked or repaired to an acceptable quality level. Scrap disposition activities will be documented, and positively identified to prevent their use in deliverable product.

The prime objective is to prevent recurring discrepancies, hence each NCMR includes recommended corrective action to reduce or eliminate future occurrence of the same or similar non-conformance.

14 Corrective and Preventive Action

Procedures exist for implementation of corrective and preventive actions. Corrective and Preventive Actions are taken to eliminate the causes of non-conformities to the extent necessary to assure product quality. Any changes to procedures required as the result of corrective or preventive actions are recorded by means of Engineering Change Orders.

14.1 Corrective Action

Customer complaints and reports of product non-conformities are investigated and documented. Pyramid Semiconductor’s employees are able to generate Internal Corrective Actions for situations that require documented responses. These Corrective Actions may be required as the result of findings in Quality Audits or as the result of problems found during the normal course of business. Corrective Action Responses are

reviewed and monitored by the initiator of the Corrective Action for implementation and effectiveness. Corrective actions that are the result of audit findings will be audited to verify the implementation and effectiveness.

14.2 Preventive Action

Preventive Action and methods used to keep System failures and Corrective Actions to a minimum includes design reviews, Supplier surveys, and Machine maintenance, Process reviews, training and quality audits. Pyramid Semiconductor conducts periodic training for manufacturing personnel in the proper procedures and techniques. Supplier Quality Audits and Internal Audits are used to verify that the highest quality and manufacturing standards are met.

15 Handling, Storage, Packaging, Preservation and Delivery

Electrostatic Protective carriers such as ESD trays, tubes or bags shall be used when moving material. During packaging and during the transport operation, material shall be handled to prevent damage from handling. Parts and assemblies shall be stored in a clean and controlled environment, be protected from damage and corrosion, and properly identified. All perishable material shall have a labeled expiration date. Shelf life controls are maintained and perishable materials are reviewed on a periodic basis.

Packing and packaging for shipment shall be compatible with the type of transportation used and customer requirements.

- Conductive material, or anti-static material, or other acceptable methods.
- Applicable drawings and instructions are available in the event special packaging requirements are contractually required. These are noted on the applicable sales order.
- The Finish Goods Coordinator shall assure that all documentation is included as required by sales orders and the material is packaged per customer requirements.

All component and materials shall be preserved in a manner that will prevent damage and/or deterioration. Product is handled, packaged and transported to meet all customer contractual requirements.

16 Control of Quality Records

16.1 Requirements

Pyramid Semiconductor maintains records to demonstrate the achievement of company and contractual Quality Requirements. These records validate the effectiveness of the Quality System. The following list identifies examples of records being maintained. Unless otherwise specified, these records shall be retained for a minimum of five years.

Description of Records

- Qualification Reports
- Personnel Training and Certification
- Incoming, In-process and Final Inspection
- Defect Reports and Failure Analysis
- Equipment Calibration Records
- Process Control Records
- Quality Audits
- Product Traceability
- Changes in Design, Materials, or Processes
- Management Reviews
- Contractual Records
- Corrective Action Records

17 Internal Quality Audits

The Quality Assurance audit shall provide a systematic and independent examination to check compliance with approved procedures.

17.1 Audit Scheduling

The audit program and frequency shall be reviewed annually, as a minimum, to determine the effectiveness of the quality system.

17.2 Audit Representatives

Quality Assurance representatives or their designated appointees shall perform all audits. The designated auditors shall be independent from the areas being audited to the extent practical.

17.3 Audit Reports

The results of audits in each area shall be documented and submitted to the responsible manager. All deficiencies shall be documented on an appropriate checklist form. The area manager area shall take timely corrective action on deficiencies found during the audit. To assure that required corrections have been implemented, follow-up audit activities shall verify and record the implementation and effectiveness of the corrective action.

All audit reports will be filed and maintained by Quality Assurance.

18 Training

Pyramid Semiconductor has established a training program that utilizes authorized internal trainers.

All personnel associated with the handling and processing of deliverable material will be certified prior to working on deliverable material.

19 Servicing

Servicing is not currently a requirement. Servicing has been determined to be not applicable at this time.