

DC1250.doc	REVISION			
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1.0 SCOPE

This document is used to communicate standard and specialty quality requirements to SUNBURST vendors.

	APPROVALS:		SUNBURST ELECTRONICS INC. 420 EAST BAYFRONT PARKWAY ERIE, PA 16507-1456		
	PURCH. KB	DATE 11/06/09			
	ENG. RGD	11/05/09	TITLE	QUALITY CLAUSES AND FLOW DOWN REQUIREMENTS	
	MFG. JM	11/06/09	SIZE A	DWG. NO. DC1250	REV. NO. 0
	Q.C. FRA	8/29/09	SCALE	RELEASE DATE	SHEET 1 OF 9

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2.0 REQUIREMENTS

DC1250: Where applicable this document number is listed on purchase orders for the sole purpose of invoking the requirements of this document, “Quality Clauses and Flow Down Requirements”. All Quality Requirements listed apply. Special Quality Clauses listed apply only if listed on individual purchase orders.

3.0 STANDARD REQUIREMENTS – Standard purchase order requirements (as applicable)

Quality System: You must have a documented quality system capable of meeting Sunburst Standard requirements and where certain clauses are called out you must be capable of meeting these requirements and agree to on-site assessments.

Right of Access: You must allow review, analysis, and verification (on-site if necessary) of your quality management system by SUNBURST, our customer, our customer's representative, or regulatory body.

Material and Process Specifications: You must produce SUNBURST product to the specific material and process specifications referenced on the drawing, purchase order or other authorized documentation. If parts were manufactured to a prior drawing or spec revision, yet still meet all the requirements of the revised drawing or spec, you must update certificate of conformance. Suppliers may only use alternate materials after submission and approval by SUNBURST of a new first article.

Conflicting Technical Requirements: In the event of conflicting technical requirements, the order of priority you should follow is the purchase order, the drawing, then the specification. You must bring all conflicting requirements to the attention of your Buyer as soon as possible.

Supply Chain Management: You must be willing to identify and manage your entire supply chain, which includes ongoing monitoring of sub-contractor quality and delivery performance. It is your responsibility to ensure that SUNBURST requirements are met by all your subcontractors used in the entire manufacturing process.

First Article Inspection Report Approval: For products manufactured to SUNBURST or SUNBURST’S customer drawing requirements you must perform First Article Inspection (FAI) of all drawing and specification requirements on a sample representative of the first production lot. You must complete and submit a new or updated FAI, including all certifications, if:

- 1) This is a first time manufacture
- 2) The part has not been manufactured in 2 years
- 3) There is a revision to the SUNBURST drawing or SUNBURST customer drawing (per Sunb purchase order)

	SIZE A	DWG. NO. DC1250	REV. NO. 0
	SCALE	RELEASE DATE	SHEET 2 OF 9

IF THIS IS A PRINTED COPY YOU MUST CHECK CURRENT REVISION AT [HTTP://R2D2](http://R2D2) BEFORE USE

- 4) There is a change in raw material used (use of an alternate material listed on the drawing).
- 5) There is a change in tooling (new, replacement, or major modification)
- 6) There is a change in manufacturing process which may affect form, fit, or function of the part
- 7) There is a change in the plant of manufacture
- 8) There is a change in source of manufacture.

Managing Change: You must notify the SUNBURST buyer of any intended significant changes to your process, methods, material, or product and obtain our approval prior to implementation. You must also make this a condition to your entire supply chain. Samples and documentation may be required as part of the approval process.

Inspection: You must inspect product to the degree necessary to ensure compliance to all requirements. You must perform 100% inspection and/or use a recognized sampling plan (i.e. ANSI/ASQ Z1.4) at a 1.0 AQL with zero defectives permitted in the sample.

Non-Conforming Product: You must only ship product that meets all requirements, or obtain a written deviation prior to shipment of any non-conforming product. If the deviation is approved, you must make reference to the deviation on the shipping documents and attach a copy of the approved deviation. Final material acceptance will depend on the actual verification of the nonconformance and product approval at SUNBURST. If you have reason to believe non-conforming material may have been inadvertently shipped, contact your Buyer immediately.

Corrective Action: In the event of a non-conformance related to your product, you must develop a written corrective action report addressing the problem, your activity to contain the problem to prevent further shipping of non-conforming product, the root cause determination, corrective/preventative action plan and how you will prevent it going forward.

Shipment and Packaging Requirements: You must comply with all requirements for shipping, packaging and labeling. In the absence of specific requirements, suitable protection from corrosion, contamination and handling damage during transit and while in storage at SUNBURST shall be provided.

ESD Sensitive Items: When packaging materials that are sensitive to damage from electrostatic discharge (ESD), you must use ESD protective containers or bags. Identify each container or bag with an ESD warning label. Parts classified as ESD parts on the drawing or specification, must be handled in accordance with ANSI/ESD 20.20.

Age Control: You must assure that any items provided which have shelf life limitations, have at least 5/6 of the shelf life remaining at time of shipment.

	SIZE A	DWG. NO. DC1250	REV. NO. 0
	SCALE	RELEASE DATE	SHEET 3 OF 9

IF THIS IS A PRINTED COPY YOU MUST CHECK CURRENT REVISION AT [HTTP://R2D2](http://R2D2) BEFORE USE

Rework and Repair: Rework and Repair are distinctly different processes.

- **Rework:** A process where a non-conformance to the drawing, specification, or contract requirement can be made to conform, using processes equivalent to those originally used in the manufacturing of the product. Suppliers are not required to obtain approval to rework product unless specifically required.
- **Repair:** A process that reduces but does not completely eliminate a non-conformance, or when a process is used that is NOT equivalent to those originally used in the manufacturing of the product. Suppliers must obtain prior approval from SUNBURST to perform repair work and to ship repaired product, due to the still nonconforming condition and/or the repair method used. Reworked/repared parts shall be re-inspected using the same methods and equipment that originally identified the non-conformance, as well as re-inspection of any other features that may have been affected by the rework. For electronic items that require Acceptance Testing as part of their original quality requirements, the same Acceptance Testing will be required after rework/repair of the Items. When returning reworked/repared parts to SUNBURST, the shipping paperwork must identify that rework or repair was performed and reference the approved Supplier Request (if applicable). If outside processes were required to be re-processed, the process certifications must also reflect the rework/repair status of the parts. In some instances, SUNBURST may decide to rework or repair supplied product, in which case SUNBURST will contact the supplier to discuss the costs of the rework and potential chargeback to the supplier.

4.0 **CLAUSE REQUIREMENTS** – applicable when specifically called out on Purchase Order

100 - DC1250: Where applicable this clause is listed on the purchase order for the sole purpose of communicating the website address to obtain the current released version of this document, “Standard Purchase Order Terms and Conditions”. WWW.SUNBURSTELECTRONICS.COM

110 - SUNBURST Approved Vendors: When a special process specification is listed in the purchasing documents you must use only SUNBURST approved vendors. The approved vendors are listed in the purchasing documents; if none are listed then there is no requirement.

120 - Nadcap Accredited Special Vendor: When the use of an approved special vendor is required you must only use a vendor who is Nadcap accredited for that process.

130 - Approval Req'd – Rework Method: You must submit your rework method for any reworkable non-conformances occurring on product against this purchase order to SUNBURST for review and approval prior to starting rework. The technique sheet is to be electronically submitted. You must not make any changes to rework method after SUNBURST approval has been granted without the prior written approval of SUNBURST Quality.

	SIZE A	DWG. NO. DC1250	REV. NO. 0
	SCALE	RELEASE DATE	SHEET 4 OF 9

IF THIS IS A PRINTED COPY YOU MUST CHECK CURRENT REVISION AT [HTTP://R2D2](http://R2D2) BEFORE USE

140 - Approved Sources: Special processes must be performed by a SUNBURST approved vendor, Nadcap approved vendor, or vendor approved by SUNBURST's Customer.

150 - SUNBURST Source Inspection: SUNBURST source inspection is required prior to shipment of any item on this purchase order. Contact the SUNBURST Buyer a minimum of 5 days prior to the time the items will be ready for inspection.

160 - Traceability and Serialization: Product traceability is a requirement. You must provide unique identification of product batch number, lot number, or, if required by the drawing, serial number. The batch, lot, or serial number must be traceable to all raw material, manufacturing, and inspection records. If raw material is supplied by SUNBURST, you must assure that parts supplied are traceable by lot number or serial number to the raw material heat code or SUNBURST assigned traceability number. If items supplied by SUNBURST are serialized, you must assure that traceability is maintained during processing. If parts are serialized, you must provide with each shipment a list of the serial numbers in the shipment (either on the packing slip or on an attached sheet).

170 - SUNBURST Witness of Test: SUNBURST witness of functional testing of the items on this purchase order is required. Contact the SUNBURST Buyer a minimum of 5 days prior to the time the items will be ready for testing.

180 - Certification: you shall submit all applicable certifications (raw material, special process, etc.) and certified test reports for each shipment. Certifications must be in English, or translated to English. Translations must include the name, title, and signature of the authorized representative of the company making the translation. Certifications and certified test reports must include the following information:

- Name/address of facility that manufactured the material, or performed the process or test
- SUNBURST Purchase Order Number
- SUNBURST Part Number
- Quantity shipped
- Date shipped
- Name and/or title of authorized representative from the company that manufactured the material, or performed the process or test.
- Part serial numbers, if applicable.
- Statement certifying that articles covered by the certification are in compliance with the applicable purchase order, drawing and specification requirements.

190 - Records: You must maintain production and quality-related records for a minimum of ten years from date of shipment, unless a longer period is specified by a clause on the purchase order.

	SIZE A	DWG. NO. DC1250	REV. NO. 0
	SCALE	RELEASE DATE	SHEET 5 OF 9

IF THIS IS A PRINTED COPY YOU MUST CHECK CURRENT REVISION AT [HTTP://R2D2](http://R2D2) BEFORE USE

200 - Customer Source Inspection: First article inspection by SUNBURST's customer is required prior to shipment from your plant to SUNBURST. Contact your SUNBURST buyer prior to the scheduled shipment date to arrange the customer inspection. Evidence of customer inspection approval must accompany the initial shipment to SUNBURST.

210 - Government Source Inspection: Government source inspection is required prior to shipment of any item on this purchase order. Upon receipt of this purchase order, promptly furnish a copy of this purchase order to the Government Representative that normally services your facility and arrange for the source inspection. Contact the SUNBURST Buyer immediately.

220 - Non-U.S. Sources: The part on this order is an FAA Parts Manufacturer Approval (PMA) part (or component thereof) and must not be manufactured outside the United States without prior approval of SUNBURST Quality. If the part ordered is an assembly, then all components in the assembly shall not be manufactured outside the US. For FAA-PMA parts, a supplier in any jurisdiction outside the United States which would inhibit the FAA from evaluating the supplier shall not be used. This requirement does not apply to standard parts manufactured in compliance to an established U.S. Government or industry-accepted specification containing all necessary information to produce and conform the part. Examples include, but are not limited to National Aerospace (NAS), Air Force-Navy Aeronautical Standard (AN), Society of Automotive Engineers (SAE), SAE Aerospace Standard (AS), Military Standard (MS), etc. This requirement does not apply to the raw material used to manufacture the FAA-PMA parts.

230 - Submit Supplier Inspection Checklist: You must complete and submit your inspection checklist with each shipment. For each characteristic inspected, the inspection checklist shall indicate the characteristic, the quantity inspected, and the quantity accepted/rejected. Report the actual inspection results if required by the SUNBURST drawing or purchase order.

240 - Advanced Product Quality Planning (APQP): As requested, you must have resources available and capable of participating in APQP, including such efforts as FMEAs, Prototype Production, and Initial Sample Approval.

250 - Capability Study and Gage R&R: You must provide results of the Capability Study and the Gage Repeatability and Reproducibility (R&R) performed on the measurement for KEY Characteristics identified on the drawing. The results must be submitted with the initial FAI submittal or re-submittals. On-going results are to be provided with each shipment unless otherwise specified.

260 - 100% Inspection Req'd: You must perform 100% inspection of all parts and of all drawing characteristics and drawing notes.

	SIZE A	DWG. NO. DC1250	REV. NO. 0
	SCALE	RELEASE DATE	SHEET 6 OF 9

IF THIS IS A PRINTED COPY YOU MUST CHECK CURRENT REVISION AT [HTTP://R2D2](http://R2D2) BEFORE USE

270 - Certifications - Maintain at Supplier: When certification clauses are specified on the purchase order, certifications are to be submitted with the First Article Inspection (FAI) report only. After FAI approval, and unless otherwise specified, you must maintain all applicable certifications for subsequent shipments at your facility for the entire record retention period. Certifications shall be maintained so that they can be retrieved and submitted to SUNBURST within the time frame requested.

280 - Certification Req'd – Certificate of Conformance (C of C): Requires submission of Certificate of Conformance (C of C) to material specification and/or verification of material part number, as supplied by SUNBURST.

290 - Certification Req'd – Plating: Submit certification with each shipment.

300 - Certification Req'd – Heat Treat: Submit certification with each shipment. Certificate must include mechanical properties.

310 - Certified Test Report – Hardness Testing: Submit test report with each shipment. The test report must include the hardness test specification, high and low hardness values, and sample size.

320 - Certification Req'd – Chemical Process: Submit certification with each shipment.

330 - Certification Req'd – Anodize: Submit certification with each shipment.

340 - Certification Req'd – Shot Peen: Submit certification with each shipment.

350 - Certification Req'd – Painting/Coating: Submit certification with each shipment.

360 - Certification Req'd – Welding: Submit certification with each shipment.

370 - Certification Req'd – Other: Submit certification, as required per in the purchase order comments or drawing notes.

380 - Certified Test Report - NonMetallic Mat'l: Submit material test report with each shipment. Include actual results of all testing required by specification for each lot of material furnished. Suppliers of chemical materials must include expiration date and storage conditions (production date is optional).

390 - Supplier Planning Approval Req'd: Prior to the first shipment, you must submit your manufacturing and inspection planning and that of any subcontract source to the SUNBURST Buyer for review and approval (freezing) by SUNBURST and SUNBURST customer (if applicable). The planning is to be electronically submitted. All submitted planning is to be in English. As a minimum, the planning shall contain the following information:

	SIZE A	DWG. NO. DC1250	REV. NO. 0
	SCALE	RELEASE DATE	SHEET 7 OF 9

IF THIS IS A PRINTED COPY YOU MUST CHECK CURRENT REVISION AT [HTTP://R2D2](http://R2D2) BEFORE USE

- a. Supplier name and address.
- b. Revision History Record Sheet.
- c. A revision identifier (letter and/or date) for the planning.
- d. The SUNBURST part number and SUNBURST drawing revision letter.
- e. Reference to the customer part number (if applicable).
- f. The applicable classification for the part (i.e., PRIMARY, CRITICAL, VITAL, FLIGHT SAFETY, etc.) on each page of the planning.
- g. The material used including the applicable specification number.
- h. Sequential manufacturing, processing, test and inspection operations (including any sketches) for fabrication or processing of the part. Operations for outside processes must include the name and address of each supplier used. Your planning and that of any subcontract source is to be re-submitted as identified above for SUNBURST and SUNBURST customer (if applicable) for re-approval (freezing) prior to making any changes to the previously approved planning.

400 - Approval Req'd – Control Plan: You must submit your control plan to SUNBURST for review and approval prior to starting production. The Control Plan is to be electronically submitted to the quality engineer who reviewed the requirements with you. You must not make any changes to the control plan after SUNBURST approval has been granted without the prior written approval of SUNBURST Quality. The control plan must identify in chronological order, each step in your manufacturing process, including the items checked, and the method, frequency, acceptance standard, responsibility and documentation for each check. The control plan should also include a process flow chart keyed to the control plan.

410 - Approval Req'd – PFMEA: You must submit your Process Failure Mode and Effect Analysis to SUNBURST for review and approval prior to starting production. The PFMEA is to be electronically submitted to the quality engineer who reviewed the requirements with you. The PFMEA must identify potential failure modes and address their associated causes. It shall take into account all manufacturing operations, including individual components and assemblies. The PFMEA should also include a process flow chart keyed to the PFMEA.

420 - Submit PPAP (Level X): You must submit a PPAP (Production Part Approval Process) level 3 submission in accordance with the AIAG PPAP Manual prior to shipment of production parts.

430 - Approval Req'd – Test Plan: You must submit your functional test and acceptance plan to SUNBURST for review and approval prior to starting testing. The test plan is to be electronically submitted. You must not make any changes to the test plan after SUNBURST approval has been granted without the prior written approval of SUNBURST Quality. Evidence of personnel qualification shall be available upon request when such qualification is a requirement (e.g., NDT).

	SIZE A	DWG. NO. DC1250	REV. NO. 0
	SCALE	RELEASE DATE	SHEET 8 OF 9

IF THIS IS A PRINTED COPY YOU MUST CHECK CURRENT REVISION AT [HTTP://R2D2](http://R2D2) BEFORE USE

440 - Certified Test Report – Performance Test: Submit test report with each shipment. Include results for all testing required by the drawing or specification. Report actual values of quantitative test results. Test reports must be traceable to the articles submitted.

450 - Record Retention - 15 Years: You must retain all production and quality-related records for a period of 15 years from date of shipment.

460 - Record Retention - 20 Years: You must retain all production and quality-related records for a period of 20 years from date of shipment.

470 - Record Retention - 30 Years: You must retain all production and quality-related records for a period of 30 years from date of shipment.

480 - Record Retention - 25 Years: You must retain all production and quality-related records for a period of 25 years from date of shipment.

490 - Record Retention - 40 Years: You must retain all production and quality-related records for a period of 40 years from date of shipment.

500 - Record Retention - 50 Years: You must retain all production and quality-related records for a period of 50 years from date of shipment.

	SIZE A	DWG. NO. DC1250	REV. NO. 0
	SCALE	RELEASE DATE	SHEET 9 OF 9

IF THIS IS A PRINTED COPY YOU MUST CHECK CURRENT REVISION AT [HTTP://R2D2](http://R2D2) BEFORE USE