ON Semiconductor Supplier Handbook

A PRACTICAL GUIDE TO SUPPLIER DEVELOPMENT PROCESS FROM ON Semiconductor

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For the latest revision please visit http://www.onsemi.com, or request a copy of BRD8024S/D from your local Supply Management representative.

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ON Semiconductor Global Sourcing and Procurement recognizes the critical role our suppliers play in an increasingly competitive environment. Strong collaborative relationships are built upon clear communication of performance expectations, alignment of performance goals, and establishing mutual trust and cooperation. Your performance is a vital business strategy for controlling and managing risk, and driving continuous improvement into the supply chain.

The purpose of the ON Semiconductor Supplier Handbook is to communicate our expectations and to establish a process that will successfully foster a partnership to align supplier goals with ON Semiconductor goals. This alignment allows our key suppliers to be part of our growth and success.

The Supplier Goal Plan described in this handbook will help us prioritize and focus on common key objectives. Through our common priorities, we can continue to meet or exceed our goals in cost, quality, delivery, service and technology. We welcome the improvement collaboration with our suppliers to achieve continuous growth and mutual success.

Thank you,

Jeffrey P. Wincel
Vice President & Chief Procurement Officer
ON Semiconductor

Jeoff Mendiola
Vice President External Operations
ON Semiconductor

ON Semiconductor
ON Semiconductor (Nasdaq: ON) offers an extensive portfolio of power- and data-management semiconductors that address the design needs of today’s sophisticated electronic products, appliances and automobiles. The company’s technology portfolio is led by its power-management products that set the industry standard by reducing “leaky electricity” in everyday products and perform the precise management of power in today’s sophisticated portable electronic devices.

It is the goal of ON Semiconductor to develop a supply base that provides the quality, productivity, and cost of ownership that enable us to be competitive in the markets we serve. ON Semiconductor is committed to ensuring that our suppliers have a clear understanding of our expectations, and have the information required to successfully meet our needs.

**PURPOSE**

ON Semiconductor has created a Supplier Development Program that is designed with the goal of aligning suppliers with our corporate “Cycle of Success.” At the center of Cycle of Success is ON Semiconductor’s Core Values, every piece of the cycle of success represents an area how ON Semiconductor’s expectations of suppliers tie into the cycle of success.

The Supplier Development Program encourages constant communication between ON Semiconductor and our suppliers, which enables our suppliers to better understand the role they play in the success of ON Semiconductor for our mutual benefit.

We have several processes in place for managing and developing our suppliers. These processes are managed following internal work instructions. This handbook is provided to our suppliers so that they can better understand these processes and their interrelationships. Any questions regarding the content of this handbook should be directed to your local site contact.

There are five steps to the Supplier Development Program: Planning, Implementation, Measurement, Improvement, and Recognition Award. Each step has been developed with the total supply management cycle in mind, from the time the supplier is first introduced as a potential supplier to the time they become fully mature and require less guidance. This handbook outlines the steps of the Supplier Development Program and provides insight to how the program ties into ON Semiconductor’s “plan to win.”

![Figure 1. Cycle of Success](image)
BUSINESS PARTNERS
Building quality relationships with other companies gives ON Semiconductor a competitive advantage.

PURCHASING PRACTICES
We will make purchase decisions based solely on the best interest of ON Semiconductor. Suppliers win ON Semiconductor business based on product or service suitability, price, delivery and quality. Purchasing agreements should be documented, and clearly identify the services or products to be provided, the basis for earning payment and the applicable rate or fee. The amount of payments must be commensurate with the services or products provided.

CONTROL OF SUB-TIER SUPPLIERS
To insure requirements are fully met, it is necessary to flow down ON Semiconductor requirements to any sub-tier suppliers the 1st tier may choose to use in support of Purchase Orders placed by ON Semiconductor. 1st tier suppliers are fully responsible for the control of all work placed by them on such sources to ensure it meets both their and our defined requirements.

BUSINESS PARTNER INFORMATION
We will protect business partner information that is sensitive, privileged or confidential just as carefully as our own. Only those who have a need to know should have access to confidential information. In addition, we will take the steps necessary to ensure that our business partners protect the ON Semiconductor confidential information provided to them.

NON-DISCLOSURE AGREEMENTS
ON Semiconductor requires non-disclosure agreements to protect both ON and our suppliers in the event that confidential information is exchanged. The non-disclosure agreement must be in place and have the appropriate language stated within the agreement prior to the exchange of such confidential information. The confidentiality agreement does not serve as a contract between both parties for other purposes and does not substitute for agreements such as; a purchase agreement, consulting agreement, development agreement or technology agreement.

A separate confidentiality agreement is not required if prior to the exchange of information, ON and our supplier have or will have entered into another form of agreement (e.g., a purchase agreement) which contains approved confidentiality language.

CORPORATE SOCIAL RESPONSIBILITY (CSR)
ON Semiconductor is devoted to CSR tenet as outlined in the EICC (Electronic Industry Citizenship Coalition) Code of Conduct relating to environmental, health and Safety tenet. In addition, ON Semiconductor to certify that its products are free from these restricted Materials and that all metals utilized in our products are not sourced from conflict mines. ON Semiconductor is committed to ensuring the highest standards of social responsibility wherever our products are made. We insist that our suppliers provide safe working conditions, treat workers with dignity and respect, and use environmentally responsible manufacturing processes.

The supplier must conform to all environmental laws, regulations, social responsibility and conflict mineral requirement which are required in ON Semiconductor CSR Policy.


ENVIRONMENTAL
All purchased materials, services and products used in part manufacture shall satisfy current governmental, statutory and regulatory requirement, and safety constraints on restricted, toxic and hazardous materials; as well as environmental, electrical and electromagnetic considerations applicable to the country of manufacture and sale. All purchased materials, services and products must conform to ON Semiconductor environmental requirements described in the latest revision of Product Chemical Content Brochure BRD8022/D (68MON39567E). Suppliers must be prepared to provide supporting evidence of conformance.

http://www.onsemi.com/pub_link/Collateral/BRD8022-D.PDF

DELIVERY REQUIREMENTS
ON Semiconductor requires suppliers to strive for 100% On-Time Delivery (OTD) performance utilizing FIFO methodology.

ON Semiconductor will monitor the supplier’s delivery performance and request corrective actions when appropriate.

Suppliers should take the necessary actions to avoid premium freight charges. In the event that premium freight cannot be avoided, the supplier shall contact ON Semiconductor and receive approval prior to shipment. Failure to comply may result in premium freight charges debited to the suppliers account.
QUALITY SYSTEM
Risk management focused ISO9001 QMS certification is the minimum expectation required for the direct material supplier, foundry and subcontractors. ISO9001 certification must include accreditation mark from recognized IAF MIL member. Demonstration of conformance to IATF16949 may be required. Use of Process FMEA and other Automotive Core tools is recommended. Foundry and subcontractor who supply the product to our automotive customer need to be in compliance with IATF16949 requirement.

ON Semiconductor shall be afforded the right to evaluate and monitor the supplier's quality system as needed. Suppliers that currently meet recognized industry standards but have a history of poor performance or chronic quality issues will be monitored and assessed to ensure proper improvement. Suppliers must be prepared to provide the copy of the latest valid certification.

RIGHT OF ENTRY
ON Semiconductor, regulatory authorities and our customers shall be afforded the right to verify at the supplier's premises that the supplier's material, services or product conforms to specified requirements. This includes all facilities involved in the order and all applicable records. Verification shall not absolve the supplier of the responsibility to provide acceptable material, services or product, nor shall it preclude subsequent rejection by ON Semiconductor.

BUSINESS CONTINUITY PLANS
All suppliers are expected to develop a documented business continuity plan that enables the supplier to continue to perform critical functions and/or provide services in the event of an unexpected interruption. These plans should be verified through Business continuity assessment.

SUPPLY CHAIN SECURITY
Suppliers are expected to ensure the Security of the Supply Chain. Suppliers are expected to participate in US Customs and Border Protection’s C-TPAT (Customs-Trade Partnership Against Terrorism) program, (or international equivalent), or provide a written confirmation of meeting the minimum security criteria of the program. Suppliers will provide ON Semiconductor their SVI (Status Verification Indicator) number as evidence that they are a member of C-TPAT.

PLANNING

PURPOSE
The first step in Supplier Development Program is supplier selection. We must ensure that we only select suppliers that meet our expectations and have the capability to fulfill all of our requirements. The supplier selection process enables the Strategic Sourcing team at ON Semiconductor to review suppliers and select the most qualified based on the supplier’s performance and the needs of ON Semiconductor. Below is a general outline to the supplier selection process.

SUPPLIER SELECTION
The supplier selection process begins when the technology development group or ON Semiconductor’s manufacturing operation has a requirement for a new material, or we are looking for alternate sources of supply for existing materials, services or products. The Strategic Sourcing Managers will review the current supply base and determine if there are any current suppliers that can meet our business needs. Our goal is to direct new business to our preferred or approved suppliers. If the Strategic Sourcing Manager determines that our current supply base does not have the capability to meet our needs, a new supplier will be selected.

The Strategic Sourcing Managers at ON Semiconductor have the ultimate responsibility in selecting suppliers. There are several actors that are evaluated in the selection process. Examples of these factors are listed below:

- Does the supplier have the technology to meet ON Semiconductor’s needs?
- Is the supplier cost competitive?
- Is the supplier able to meet delivery/capacity requirements?
- Does the supplier agree to support value added service programs and initiatives?
- Does the supplier have the technical, physical and financial resources to support ON Semiconductor’s future demands?

Suppliers are also evaluated based on the status of their quality system. Supplier Quality Engineers (SQE) will either visit the supplier’s manufacturing site and perform an on-site assessment, or ask the supplier to perform a self-assessment. The assessment process is outlined on page 9 of this manual. After the supplier has been evaluated and it is determined that the supplier meets ON Semiconductor’s needs, the supplier is asked to provide material to begin the material, services or product qualification process, according the applicable Production Part Approval Process (PPAP) and ON Semiconductor requirement.
IMPLEMENTATION

PURPOSE
The implementation step ensures that the supplier’s material, services or product processes are properly qualified by ON Semiconductor. This step also ensures that there is a material, services or product verification process in place and that suppliers stay current with material, services or product specification revisions.

QUALIFICATION REQUIREMENTS
Qualification is always required prior to the first production shipment in the following situations:

Qualification initiated by ON Semiconductor:
• A new material, service or product supplier
• A new material, service or product not previously supplied to ON Semiconductor
• A material, service or product modified by an engineering change (e.g.: design records, specifications, material)
• A material, service or product being re-qualified which was disqualified due to major quality problem or production delivery time lapse

Qualification due to a change proposed by a supplier:
A change in the manufacturing of the material, service or product, this may include but is not limited to:
• A change in a quality conformance procedure
• A change in the site of manufacture
• New tooling
• A change/addition/deletion of a process step
• A source change for raw material
• A change in raw material composition
• A change to handling, packaging or storage methods

Supplier Change Notification
There are many methods by which ON Semiconductor ensures the management of changes made by a supplier to any material, service or product. ON Semiconductor will be notified a minimum 90 days before the first ship date of the product. The use of a PSW (Parts submission warrant) to notify ON Semiconductor of these types of changes is required for all material suppliers. The use of a change request is required for any proposed changes by all subcontractor and foundry suppliers.

Prior to implementing a change, the supplier must submit either the PSW or change request as required to the ON Semiconductor contact person. The change notification methods serve to document the following:
• A description of the proposed change
• A list of part numbers affected
• An explanation of the reason(s) for the change, including any benefits to ON Semiconductor
• A proposed timeline for the implementation of the change
• Supporting data such as: records of results, conclusions from the supplier site

Once the change notification has been reviewed and the change level has been determined, the ON Semiconductor contact person will provide an initial response to the supplier. This response will be one of the following:
• The proposed change is not significant and the supplier may proceed with implementation
• The proposed change is significant (Minor or Major change) and will be approved for implementation once the conditions of the qualification requirements outlined in the change request are satisfied and approved by the Change Action Board (CAB)
• The proposed change is significant and is not acceptable to ON Semiconductor and may not be implemented on product supplied to ON Semiconductor

For all subcontractors and foundry change requests, the change information will be managed in the method received. For all material suppliers, the change information will be managed in the PSW sent to ON Semiconductor and will be returned to the material supplier with an initial response.

In the event that qualification is required, the ON Semiconductor contact person will communicate all sample and data requirements and will provide final notification of approval. For all material suppliers, the PSW must be used to record the qualification requirements. The PSW will also be used to communicate the final notification of approval for the proposed change.

EOL Notice Requirement
The supplier shall provide notice of product discontinuance to ON Semiconductor allowing a minimum 6 months from the notice to place final orders, and 12 months from the notice for final shipments.
MATERIAL, SERVICE OR PRODUCT VERIFICATION

To ensure our customers receive only the highest quality product, ON Semiconductor has developed a material, service or product verification process that verifies conformance to specifications. ON Semiconductor manufacturing operation or SQE’s will work with suppliers to implement one of the following methods of verification:

• Receipt and evaluation of statistical data provided by the supplier
• Confirmation of C of C or C of A as per customer requirement
• Second or third party assessments of supplier sites
• Receiving inspection and/or testing
• Part evaluation by an accredited laboratory or Reliability Audit Program (RAP)

There are several factors that determine which method will be used. In general, for suppliers with demonstrated process capability we will utilize assessments, whereas receiving inspection or SPC data will be required for suppliers with unstable capability. When requested, suppliers are expected to provide statistical data and/or allow quarterly assessments at their facilities. Suppliers must maintain Cpk levels above 1.67 for critical parameters. Any exceptions must be reviewed and approved by ON Semiconductor.

SPECIFICATION DISTRIBUTION AND ACCEPTANCE

The External Manufacturing system (ExMAN) ensures our suppliers stay current with applicable material, service or product specification revisions. Suppliers are subscribed to specifications using the supplier’s email addresses. When changes are made to specifications, the supplier will be automatically notified via email thru the ExMAN system. Suppliers must assign contact that will be responsible to review, distribute specification changes and releases throughout the supplier’s facility. These contacts must understand the urgency to specification changes and respond to the system accordingly with compliances.

The ExMAN system provides different types of notices:

• New Subscription (Message that indicates that you have been subscribed to message)
• Activity (Message indicating that activity is occurring on a specific document)

The supplier will also receive spec. compliance notification message with the recently revised or new release spec. Suppliers must log into the system by the link provided to notify ON Semiconductor that they either comply to the new spec., changes that have been made within 10 working days or that they have found discrepancies within the document. The response from the supplier will send to local site contact if discrepancies are found. The ON Semiconductor contact person will work with the supplier to correct them and ensure the all specifications are in-line with their capability.

CORRECTIVE ACTION AND PREVENTIVE ACTION (CAPA)

ON Semiconductor Ultimate Quality Goal is a “Zero Quality Incident”. But, in the case of Quality incident, the supplier must have a Corrective and Preventive Action System that includes containment, root cause analysis, corrective action, effectiveness verification and prevention of recurrence. When ON Semiconductor issues a Supplier Quality Incident (SQIN) or External Failure Analysis Request (EFAR) for material or product out of conformance, the supplier must provide the ON Semiconductor site contact with a containment action within 24 hours and a detailed corrective action plan (in 8D format) within 5 calendar days upon receipt of defect sample and/or supplier acknowledgement.
IMPLEMENTATION

NON-CONFORMING MATERIAL, SERVICE OR PRODUCT
CONTROL

ON Semiconductor will not accept material, which does not conform to specified requirements, and it may be cause for rejection and return to the supplier for credit or replacement, as mutually agreed.

Occasionally, however, a supplier may wish to submit variant material, service or product for consideration. To avoid rejection upon receipt, a request for temporary deviation from specification shall be submitted to ON Semiconductor prior to shipment. This request will be evaluated, and only after a written approval from ON Semiconductor, the material, service or product can be shipped to ON Semiconductor. Lack of response from ON Semiconductor does NOT constitute acceptance of the non-conforming material, service or product.

PROCESS CONTROL

The supplier must have a documented process for planning and implementing production activities. Production must occur under controlled conditions using documented and revision controlled procedure, instructions, and reference material, as requested by the ISO9001 and IATF16949.

INSPECTION & TESTING

The supplier must have a documented process to verify that all requirements for ON Semiconductor product have been met prior to shipment. Appropriate measurement and test equipment must be available, and record of inspection must be maintained. Should supplier subcontract to another party for measurement, supplier must insure the subcontractor is in accordance with these requirements and provide documentation to ON Semiconductor.

CERTIFICATE OF CONFORMANCE (C OF C)

The supplier must issue a C of C for each lot, run or batch of material, service or product shipped to ON Semiconductor stating conformance to the requirements stipulated in the PO, detail specifications and this document. The C of C elements may appear on a traveler or other documentation accompanying a shipment, but must satisfy the following minimum requirements:

- Manufacturer’s name and address
- ON Semiconductor’ or Customer’s name and address, as applicable to the shipment
- Part/Device identification
- Lot/date code(s)
- Quantity of devices in shipment
- Statement certifying product conformance and traceability
- Name and date of transaction
- PO number
- Specification number
- Drawing number, if applicable

CERTIFICATE OF ANALYSIS (C OF A)

Certificate of Analysis requirements will be specified in the PO or Procurement Specification and ON Semiconductor detailed specifications

STATISTICAL PROCESS CONTROL (SPC)

Suppliers must be actively pursuing the use of SPC throughout their processes. Suppliers must send applicable statistical reports to governing site as defined in the appropriate baseline and/or procurement specification.

The supplier must be able to demonstrate continual improvement through the utilization of SPC methods ($Cpk \geq 1.67$).

An action plan shall accompany the report for all critical parameters with a $Cpk < 1.67$

CALIBRATION

Calibration of equipment used in the manufacturing of product for ON Semiconductor shall be in accordance with ANSI/NCSL (1) Z540.1, ISO/IEC170 25 or other National traceable standard. Should supplier subcontract to another party to perform the calibration, supplier must insure the subcontractor is in accordance with same requirements and provide documentation to ON Semiconductor.
MEASUREMENT SYSTEM ANALYSIS

Before a measurement system can be used to verify a DOS (Design Output Specification) on ON Semiconductor product, it must demonstrate required detection capability. The supplier should repeat gage R & R studies when warranted by measurement system change and have a systematic method to improve gage system.

DOCUMENT CONTROL

The supplier must have a documented process to ensure that quality system documents, design specification, and other product related documents are controlled. Controlled documents must be reviewed by appropriate personnel and approved prior to their release and use.

CONTROL OF RECORDS

Quality records shall be maintained in a manner so they remain legible and retrievable upon request. As a default, without product specific requirements, the supplier shall keep the quality records as per ON Semiconductor requirement (SOP4-15). These records also include inspections, tests, Material Review Boards (MRB), product/process/equipment qualifications.

The supplier must retain quality records for the provided products(s) and each components/material within those products for a minimum of 15 years.

IDENTIFICATION & TRACEABILITY

The supplier is obliged to ensure the traceability of the materials or products, that it supplies. The traceability code shall be put on each of the packing boxes for every lot that is delivered.

The supplier must ensure that in the event an error is discovered, it will be possible to identify an isolate the defective materials or products and therefore limit the quantities and period affected by the problem.

TRAINING

The supplier must have a documented process defining qualification and training record for all personnel. Training and certification activities must be planned, carried out, and documented.

IMPLEMENTATION

MEASUREMENT

PURPOSE

ON Semiconductor utilizes several processes to evaluate and control our supplier’s quality systems and products. Business reviews, assessments, performance rating, and material/product verification are used to evaluate our suppliers performance to our expectations. Below is a brief outline of the controls that ON Semiconductor uses.

BUSINESS REVIEWS

On an annual basis, ON Semiconductor Strategic Sourcing Managers and Manufacturing Operation will schedule business reviews with preferred suppliers. The purpose of the meetings is to review items such as:

- Supplier Performance
- Progress toward established goals-SGP
- Assignment and review of action items
- Expectations
- Technical issues
- Cost reduction opportunities
- Market conditions
- Future demand
- New products and technologies
- Additional business opportunities
- Financial issues
- Corrective action status
- Premium freight
- Quality System
The business reviews are essential in forming and maintaining a strong relationship with our preferred suppliers. Both the supplier and ON Semiconductor are able to communicate each other's goals and identify opportunities for improvement.

QUALITY SYSTEM ASSESSMENTS
Supplier assessments are used as a systematic and independent examination to determine whether a supplier's quality system meets the quality standard requirements and ON Semiconductor customer requirement. At ON Semiconductor, suppliers will be assessed by performing periodical assessment through either MEA or VDA6.3 check list with focus on risk management.

Re-Audit and Purchase Prohibit shall be identified based on VDA6.3 Ranking for material supplier, and other criteria for foundry and subcontractors.

<table>
<thead>
<tr>
<th>VDA6.3 Rating</th>
<th>Re-Audit Requirement</th>
<th>Purchase Prohibit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>B</td>
<td>Re-Audit within 6 Months</td>
<td>New Product</td>
</tr>
<tr>
<td>C</td>
<td>Re-Audit within 3 Months</td>
<td>Current Product or Purchase in Some Condition</td>
</tr>
</tbody>
</table>

PERFORMANCE RATING
ON Semiconductor has developed a performance rating system that measures preferred suppliers in the areas of Quality & Reliability, Delivery, Cost, and Technology & Service. The supplier's performance is tracked on a quarterly basis and is frequently reviewed to ensure that suppliers are meeting the needs of ON Semiconductor. Each category is weighted based on the criticality to ON Semiconductor.

The rating system also serves as a useful tool in tracking data in several ways such as:

- Tracking a suppliers progress
- Evaluating suppliers by commodity
- Evaluating suppliers by ON Semiconductor manufacturing site

The system works well and has become a useful tool in the supplier development process. Following is the measurement criteria defined for each area.
MEASUREMENT

Quality
- Incoming Quality Incidents
- Line Quality Incidents
- Repeat Quality Incidents
- Quality System Assessments
- Assembly and Test Yield Improvement
- Process Monitoring
- Returned Material Authorization (RMA)
- 8D Responsiveness and Effectiveness

Delivery
- Stockouts
- Delivery Performance (Include Premium Freight)
- Capacity

Service
- Responsiveness

Cost
- Price Leadership
- Participation in cost reductions
- Participation in Key Programs
- Payment Term
- Cost Sharing

Technology
- Capability to meet current technology requirements
- Technology roadmap aligns with ON Semiconductor future technology

At the end of each quarter the Supplier Quality team will evaluate the performance of the preferred suppliers and notify the suppliers of the results.

Suppliers with scores below Set Goal of Total scores or Quality score will have specific improvement action plan include onsite assessment. Goal will be communicated with supplier by Score Card.
**PURPOSE**

To remain competitive we must continuously improve our products and processes and work with our suppliers to improve them as well. To achieve this, ON Semiconductor has developed the Supplier Goal Plan (SGP). The SGP is used to prioritize goals and track progress. This process enables both the supplier and ON Semiconductor to work together and form the strong working relationship it takes to become a winning team.

**SUPPLIER GOAL PLAN (SGP)**

The ON Semiconductor SGP process is used to identify goals and opportunities for improvement based on the controls listed in the previous section (i.e. performance rating, assessments, material verification, etc.).

The process is simple. First, the Procurement Operations team within ON Semiconductor will evaluate the overall performance of the supplier. After opportunities for improvement or specific goals are identified, ON Semiconductor will schedule a meeting with the supplier to review the results. During this meeting, both parties will work together to develop and agree upon the SGP.

This process ensures a working relationship between both parties and helps the supplier understand how they can improve their performance. The Supplier Goal Plan will be reviewed on a semi-annual basis minimum. Time will be set aside for suppliers to provide updates during scheduled business reviews or other previously scheduled meetings.

**CUSTOMER SPECIAL REQUIREMENTS**

**CONTINENTAL**

- PCN: 6 months prior to the planned products and process change, with samples to be ordered and qualification results available.
- EOL: Supplier must send a Product Termination Notification (PTN) in writing minimum 12 months prior to the discontinuation.
**ON Semiconductor Technical Support**

**www.onsemi.com/support**

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- Bratislava: 386-1-630-0580

**UNITED KINGDOM**
- www.alt.macnica.co.jp/about/english.html

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- Allied Electronics: www.alliedelec.com (800) 453-5700
- ALTIMA Company, Makrize, Inc.: www.alt-makrize.co.jp/about/english.html (81) 45 476-2155
- Arrow Electronics: www.arrow.com (800) 777-2776
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- Chip One Stop, Inc.: www.chip1stop.com/web/JPN/en/merchant (81) 45 470 6770

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**Future & Fih Electronics**
- www.futuretechnics.com/contact 1-800-FUTURE(388-8731)

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**KTL Corporation**
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**Mouser Electronics**
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**WT Microelectronics Co.**
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**Yosan Electronics**
- www.yosan.com.tw (886) 2 2659 8168

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- **Alabama:** Huntsville e-Components (256) 533-2444
- **Brazil:** Countrywide Ammon & Rizos (+55) 11-4688-1960
- **California:** Bay Area Electec (408) 996-0706
- **Canada:** Eastern Canada Astec (905) 607-1444
- **Connecticut:** Statewide Paragon Electronic Systems (603) 645-7630
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