

CUSTOMER SERVICE NOTE

RMA PROCEDURES FOR PACKAGED PRODUCT AND BARE DIE DEVICES

Introduction

Micron's returned material authorization (RMA) procedures are similar for both packaged devices and bare die devices. However, some differences are required because die can be damaged very easily if they are not handled and stored properly. This customer service note outlines standard RMA procedures, as well as the differences associated with bare die RMAs.

Obtaining an RMA

- If you buy direct, contact your Micron® sales representative at 208-368-3900.
- If you buy through a Micron sales representative, contact that sales representative.
- If you buy through distribution, contact the distributor.
- Provide the following information:
 1. Micron part number, including speed and package
 2. Reason for return
 3. One of the following: PO number, invoice number, or sales order number
 4. Preferred reimbursement method: replacement parts, credit only, or refund

Packaged Product Return Procedures

- Package product using all antistatic precautions
- Write RMA number on outside of box for proper routing
- Ship package prepaid to:
Micron Technology, Inc./RMA Return
Attn: RMA Clerks
1160 Exchange, Dock 1C or 1D
Boise, ID 83716
USA
- If RMA is being shipped from outside of the United States, please note that Boise, Idaho, is a customs port city (Refer to Port City Code 2907)

Bare Die Return Procedures

Approval is required for all die RMAs, regardless of whether they are nonfailure-related or failure-related, or have application-related problems.

- Package die product in containers that will prevent shipping damage and provide proper electrostatic discharge (ESD) protection
- Write RMA number on outside of box for proper routing
- Ship package prepaid to:
Micron Technology, Inc./RMA Return
Attn: RMA Clerks
1160 Exchange, Dock 1C or 1D
Boise, ID 83716
USA
- If RMA is being shipped from outside of the United States, please note that Boise, Idaho, is a customs port city (Refer to Port City Code 2907)

Processed Die (MCM) Return Procedures

If failures or application problems occur after the die has been processed by the user, it may be necessary to return a packaged part (i.e., a multichip module [mcm]) to Micron for failure analysis.

Users who cannot easily rework die should send the module or MCM package back to Micron in appropriate packaging that will prevent shipping damage and provide proper ESD protection.

In the event an MCM must be returned, customers must provide key contact points/schematics so Micron's technical personnel can identify the necessary memory test points and facilitate correlation efforts. Micron's Quality Assurance Department may then decapsulate the die and perform failure analysis on the MCM device.

Whole Wafer Return Procedures

Micron packages all of its wafers in a cleanroom environment under strict handling procedures and ships all wafers in ESD-safe, cleanroom-approved shipping containers. Wafers returned to Micron for any reason should be handled under these same conditions, or the customer may be liable for the product.

RMA Failure Analysis Standards

- Within two business days of receipt of an RMA for failure analysis, Micron's Quality Assurance Department will contact the customer with the preliminary test results.
- Micron's Quality Assurance Department will issue a completed failure analysis report within three weeks of receiving an RMA.
- Replacement or noncorrelate parts will be shipped upon completion of analysis.

Micron Accounting Procedures for RMAs

A credit memo is sent upon receipt of the RMA parts, unless a refund has been requested. Micron will issue a refund check for the amount of the return upon

arrival of the RMA parts, provided all invoices are paid and no future business is expected. Replacement parts are shipped after receipt of the RMA parts, and a billing invoice is sent out the day after shipment. In order to maintain clear communication between accounting departments, please refer to RMA and credit memo numbers as much as possible.

Conclusion

Although Micron's RMA procedures are very similar for packaged devices and bare die devices, it is important to note the slightly different requirements for returning die product.



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E-mail: prodmktg@micron.com, Internet: <http://www.micron.com>, Customer Comment Line: 800-932-4992

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