



Replicating Control Devices to Avoid Redesign

Military



The Customer Challenge

Using counterfeit semiconductors embedded in critical systems is a risky business. This is especially true in industries – such as the military – where human safety depends on devices functioning properly. There have been numerous documented incidents of counterfeit semiconductors failing in the field, causing serious health and safety issues. Counterfeit semiconductors are often made with substandard components and come from dubious channels. It's often difficult to verify how rigorously they've been tested and their ability to perform.

One military manufacturer experienced this challenge firsthand when a critical systems device began failing in the field.

Two years earlier – after the OCM had obsoleted a critical systems device – the manufacturer had solicited bids to replace it through other sources. The company chose the lowest bidder, an independent distributor who assured the manufacturer that the devices were “properly tested” and a cost-effective approach for the specific application.

The manufacturer knew it was risky given that the distributor was outside of the OCM's authorized supply chain.

Once the devices were put into the application and used extensively, they began to malfunction due to latent field-based defects, causing the application to fail. There are two types of failures with counterfeit devices: failure at incoming test and with inspection, and failure when under application. Devices failing under application is the worst-case scenario. It puts the manufacturer's reputation at risk and jeopardizes a critical application.

The manufacturer sent the OCM the actual device for verification. The OCM confirmed that the components the military manufacturer purchased were never produced with the date codes and lot codes that appeared on this specific device. The device was also missing other important markings. The OCM confirmed that the devices the customer had purchased were counterfeit, which explained why the application kept failing. This risky procurement decision of choosing the lowest-bidding, unauthorized supplier had put the manufacturer in a vulnerable position, financially and legally.

The military manufacturer was under an extreme urgency to acquire a reliable replacement device to keep this critical application running, and to avoid a costly redesign.

The Rochester Solution

The manufacturer contacted Rochester Electronics, which offers the world's largest continuous source of semiconductors, 100 percent authorized, traceable, certified and guaranteed. Rochester manufactured a replacement device that performed exactly to the customer's requirements, with no interruptions in production and no failures in the field.

Rochester had earlier submitted a competitive bid for a replacement device which was close to the OCM's original price when the





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product was active. Had the manufacturer chosen to purchase through the authorized channel, from a distributor and licensed manufacturer like Rochester, it would have saved the manufacturer significant time and money. The manufacturer was responsible for all repair costs and penalties from the failed device.

It's difficult for manufacturers to overlook an attractive price tag when it is coupled with immediate availability. Obtaining authentic devices from an authorized source is vital for the entire semiconductor supply chain.

The liabilities resulting from buying these "knock-off" devices can be astronomical not only financially but personally. For industries with long life cycles, Rochester Electronics' 100 percent authorized, licensed, traceable and guaranteed devices provide a continuing source of supply of critical devices.

About Rochester Electronics

Rochester Electronics is the world's largest continuous source of semiconductors—100% Authorized by over 70 leading semiconductor manufacturers. As an original manufacturer stocking distributor, Rochester has over 15 billion devices in stock encompassing more than 200,000 part numbers, providing the world's most extensive range of end-of-life (EOL) semiconductors and broadest range of active semiconductors. As a licensed semiconductor manufacturer, Rochester has manufactured over 20,000 device types. With over 12 billion die in stock, Rochester has the capability to manufacture over 70,000 device types. Rochester offers a full range of manufacturing services including Design, Wafer Processing, Assembly, Test, Reliability, and IP Archiving providing single solutions through to full turnkey manufacturing, enabling faster time-to-market. Rochester is The Semiconductor Lifecycle Solution™. No other company compares to the breadth of Rochester's product selection, value-added services, and manufacturing solutions.

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