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Datecode Selectivity & Shelf Life of Hermetic Packages

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Texas Instruments hermetic packaged devices are fabricated in accordance with MIL-PRF-38535 and TI's own world class quality and reliability standards. The only age requirement for QML products is stated in MIL-PRF-38535 paragraph 3.10: Solderability. All parts shall be capable of passing the solderability test in accordance with TM 2003 of MIL-STD-883 on delivery. These products are warranted to do so in accordance with the Texas Instruments Incorporated Standard Terms and Conditions of Sale for Semiconductor Products.

There are no intrinsic failure mechanisms that will degrade a non-powered hermetic device stored under normal conditions. Per MIL-PRF-38535 there are no datecode restrictions for hermetic devices.

In 2002, a National Electronic Distributors Association (NEDA) task force, comprised of distributors and their suppliers, was formed to develop an industry position paper concerning datecode selectivity and commercial semiconductors. The following companies participated, or were consulted, in this position paper and endorse the views expressed.

- *Advanced Micro Devices*
- *Analog Devices*
- *Anthem Electronics*
- *Avnet EMG*
- *Fujitsu Microelectronics*
- *Hewlett Packard*
- *Linear Technology*
- *Motorola SPS*
- *Philips Semiconductor*
- *Wyle Laboratories/EMG*
- *Arrow Electronics, Inc*
- *Bell Industries, Inc.*
- *Harris Semiconductor*
- *Lattice Semiconductor*
- *Marshall Industries*
- *National Semiconductor*
- *Pioneer-Standard Electronics*
- *TelCom Semiconductor, Inc.*
- *Texas Instruments*

Because of the advances made in the industry in terms of engineering, design, manufacturing technology, handling, and storage, there are no wear-out mechanisms that can possibly justify a datecode restriction. Product does not wear out, deteriorate, or age on the shelf to an extent that could adversely affect performance.

In summary, there is little or no need for an OEM to specify datecode when ordering ICs from a distributor or direct from a manufacturer. Datecode restrictions serve only to delay deliveries and increase price. The semiconductor distribution and manufacturing community recommends that datecode age restrictions be eliminated from the ordering process.

The deletion of a datecode age requirement, at the time of order entry, will accelerate the order entry and order fulfillment process resulting in improved service to the customer.

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