ZERO DEFECTS QUALITY AND RELIABILITY CHALLENGES FOR GROWING MARKETS

Abstract

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Freescale Semiconductor anticipates future industry growth in consumer, automotive, industrial and networking markets. Smart semiconductors expect to become more pervasive in automotive markets as consumer demand reacts to rising energy costs. And the semiconductor presence within the medical market grows, in part due to the increasing amount of healthcare required by the Baby Boomer generation, and also by the elevation of the quality of care afforded through microelectronic devices. Given expected growth in the noted markets, there is a continuous push to deliver Zero Defects quality and reliability

Meeting these requirements becomes challenging as technology scales and wear-out mechanisms such as NBTI have a stronger impact. New DFT/DFM/containment methodologies as well as supporting data for delivering Zero Defects quality will be discussed in addition to new reliability methodologies and supporting data for guardbanding power (Vmin) and speed (Fmax) against wear-out mechanisms.