Abstracts

MSAG®-Lite: GaAs IC Process Technology Addressing Defense Conversion

C.E. Lindberg and D.G. Fisher. "MSAG®-Lite: GaAs IC Process Technology Addressing Defense Conversion." 1995 MTT-S International Microwave Symposium Digest 95.3 (1995 Vol. III [MWSYM]): 1067-1070.

In the mid 1980's the ITT Gallium Arsenide Technology Center (ITT GTC) developed a planar GaAs IC process based on ion implanted self aligned gate (SAG) FETs specifically for military applications. With only one additional implant mask for each device type, high speed enhancement/depletion (E/D) digital, low noise microwave and high efficiency power microwave FETs could be fabricated on a single chip. Hence, the process was denoted Multifunction Self-Aligned Gate or MSAG. Recognizing the growing importance of commercial applications, ITT GTC launched a major effort in 1989 to tailor the MSAG process for low frequency (<6 GHz) applications, by simplifying the process and lowering the costs associated with wafer fabrication and cycle time. This effort brought about the MSAG-Switch process and later, MSAG-Lite. This paper explains how the process conversion took place, the applications that were targeted, and the products that resulted.

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