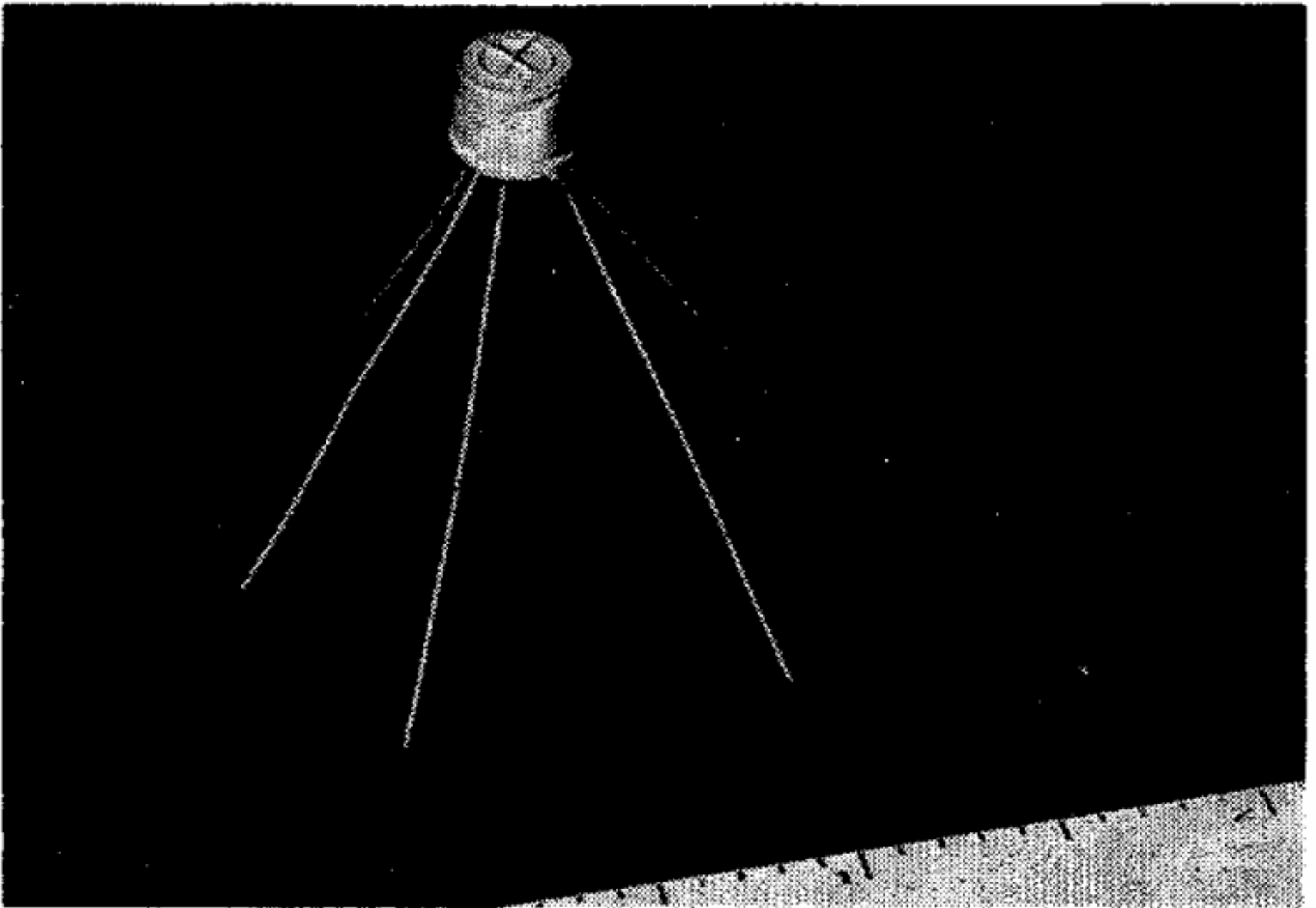


FIRST SILICON PLANAR IC

ISSCC 1960



Solid-State Micrologic Elements

FAIRCHILD BUILT THE first planar transistor in 1959, “year zero” of Moore’s law. The first digital ICs built on the new silicon planar process are described in this ISSCC paper of 1960. The Digest article is deliberately vague about whether the achievement involves monolithic integration. An entire micrologic flip-flop in six- or eight-leaded round cans is seen in the above figure. Thanks to the exponential trend that this achievement presaged, computer prices have declined somewhat from the then-current manufactured cost of \$40 per transistor. Three years later, the company would use that process to build the first IC characterized specifically for RF operations, the five-transistor, 100MHz uA703.

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