

## 一种星用高可靠性 MTM 反熔丝 PROM 存储单元

孙杰杰, 徐海铭, 胡小琴, 于跃, 袁同伟, 潘滨, 胡永强

(中国电子科技集团公司 第 58 研究所, 江苏 无锡 214072)

**摘要:** 提出了一种新型的, 可用于卫星及其他航天器的高可靠性 MTM 反熔丝 PROM 存储单元, 并围绕该存储单元, 研究了其编程方式. 实验表明, 在 PROM 电路中采用该存储单元, 且按照所述的编程方式, 可以在编程过程中对未选中反熔丝实施有效保护, 进而提高 PROM 芯片整体的可靠性和使用寿命.

**关键词:** MTM 反熔丝; PROM; 存储单元; 编程

## A MTM Antifuse PROM Bitcell With a High

## Reliability for Satellite Use

SUN Jie-jie, XU Hai-ming, HU Xiao-qin, YU Yue, YUAN Tong-wei,

PAN Bin, HU Yong-qiang

(NO.58 Research Institute, China Electronics Technology Group Corporation, Wuxi 214072, China)

**Abstract:** In this paper, a novel MTM anti-fuse PROM bitcell with a high reliability is proposed, which can be used in stars and other spacecrafts. Based on this bitcell, programming and verification methods are studied. The use in PROM of the bitcell with the programming method described in this paper, can offer an effective protection to unselected anti-fuses in the programming process, therefore the reliability and working life of the PROM are improved.

**Key words:** MTM antifuse; PROM; bitcell; programming

**作者简介:**

孙杰杰 男, (1989-), 硕士. 研究方向为抗辐照集成电路设计. E-mail: sunjiejie1989@126.com.