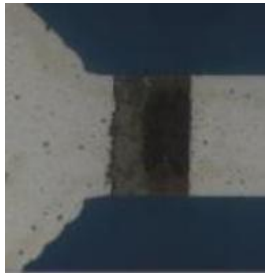
Hirosaki Univ. Technology

Method for improving strength of wiring

Technology for suppressing Electromigration damage and improving reliability

Test piece end after energization

Present invention
Reduces EM drift damage



Unprocessed

Overview

As semiconductor devices are highly integrated, metal wirings used in semiconductor circuits are becoming hotter and denser. Then, electromigration (EM) damage due to metal fatigue becomes a problem. Conventionally, measures to increase EM strength have been taken by devising wiring structures such as lamination and installation of reservoirs. On the other hand, these measures require many processes and are costly.

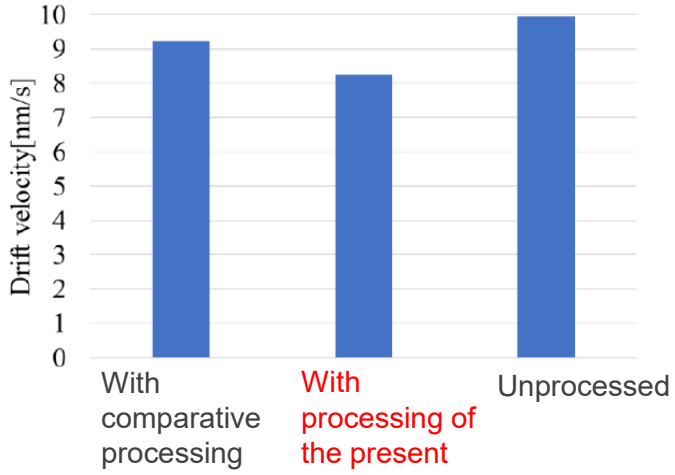
The present invention has developed a method to suppress EM damage only by performing wiring processing which is simpler and less costly than conventional methods. The present invention is a technology to improve reliability against EM damage by reducing current density flowing through wiring.

For applications that have not yet been published, information disclosure and other measures will be taken after a contract including a confidentiality clause is concluded.
Please feel free to contact us.

Current Test Results: Drift Damage Rate by EM

Substrate temperature: 573 K
Current density: 0.1 MA/cm^2
Current duration: 4 hours

Specimen (Image)



Product Application

- semiconductor integrated circuit
- Electronic device wiring, etc.

Related Works

[1]

IP Data

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Please visit CONTACT here