

Title (en)
ELECTROPLATING COMPOSITIONS AND METHODS FOR ELECTROPLATING

Title (de)
GALVANISIERZUSAMMENSETZUNGEN UND GALVANISIERVERFAHREN

Title (fr)
PROCEDES ET COMPOSITIONS POUR GALVANOPLASTIE

Publication
EP 1680535 A4 20080507 (EN)

Application
EP 04794546 A 20041008

Priority
• US 2004033229 W 20041008
• US 68842003 A 20031016

Abstract (en)
[origin: US2005081744A1] Disclosed are electroplating compositions and methods for filling recessed microstructures of a microelectronic workpiece, such as a semiconductor wafer, with metallization. The electroplating compositions may comprise a mixture of copper and sulfuric acid wherein the ratio of copper concentration to sulfuric acid concentration is equal to from about 0.3 to about 0.8 g/L (grams per liter of solution). The disclosed electroplating compositions may also comprise a mixture of copper and sulfuric acid wherein the copper concentration is near its solubility limit when the sulfuric acid concentration is from about 65 to about 150 g/L. Such electroplating compositions may also include conventional additives, such as accelerators, suppressors, halides and/or levelers. Methods for electrochemically depositing conductive materials in features, such as trenches and/or contact holes formed on semiconductor workpieces are disclosed, including methods suited for use in multiple anode reactors using the disclosed electroplating solutions.

IPC 8 full level
C25D 15/02 (2006.01); **C25D 3/38** (2006.01); **C25D 5/48** (2006.01); **C25D 5/50** (2006.01); **C25D 7/12** (2006.01); **H01L 21/288** (2006.01); **H01L 21/445** (2006.01); **H01L 21/768** (2006.01)

IPC 8 main group level
C25D (2006.01)

CPC (source: EP US)
C25D 3/38 (2013.01 - EP US); **C25D 5/48** (2013.01 - EP US); **C25D 7/123** (2013.01 - EP US); **H01L 21/2885** (2013.01 - EP US); **H01L 21/76877** (2013.01 - EP US)

Citation (search report)
• [X] EP 1069210 A1 20010117 - APPLIED MATERIALS INC [US]
• [X] US 6518182 B1 20030211 - ISHIKAWA MASAMI [JP], et al
• See references of WO 2005040459A2

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
US 2005081744 A1 20050421; CN 1867703 A 20061122; EP 1680535 A2 20060719; EP 1680535 A4 20080507; JP 2007508461 A 20070405; TW 200516176 A 20050516; WO 2005040459 A2 20050506; WO 2005040459 A3 20060112

DOCDB simple family (application)
US 68842003 A 20031016; CN 200480029839 A 20041008; EP 04794546 A 20041008; JP 2006535564 A 20041008; TW 93128537 A 20040921; US 2004033229 W 20041008