

Title (en)

FIRED MULTILAYER STACKS FOR USE IN INTEGRATED CIRCUITS AND SOLAR CELLS

Title (de)

GEBRANNT MEHRSCHICHTIGE STAPEL IN INTEGRIERTEN SCHALTUNGEN UND SOLARZELLEN

Title (fr)

EMPILEMENTS MULTICOUCHES CUIITS POUR CIRCUITS INTÉGRÉS ET CELLULES SOLAIRES

Publication

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Application

EP 16869315 A 20161123

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Abstract (en)

[origin: WO2017091782A1] Intercalation pastes for use with semiconductor devices are disclosed. The pastes contain precious metal particles, intercalating particles, and an organic vehicle and can be used to improve the material properties of metal particle layers. Specific formulations have been developed to be screen-printed directly onto a dried metal particle layer and fired to make a fired multilayer stack. The fired multilayer stack can be tailored to create a solderable surface, high mechanical strength, and low contact resistance. In some embodiments, the fired multilayer stack can etch through a dielectric layer to improve adhesion to a substrate. Such pastes can be used to increase the efficiency of silicon solar cells, specifically multi- and mono-crystalline silicon back-surface field (BSF), and passivated emitter and rear contact (PERC) photovoltaic cells. Other applications include integrated circuits and more broadly, electronic devices.

IPC 8 full level

H01L 27/142 (2014.01); **B22F 1/05** (2022.01); **B22F 1/052** (2022.01); **B22F 1/103** (2022.01); **B22F 7/06** (2006.01); **C03C 8/18** (2006.01); **C22C 1/04** (2006.01); **H01B 1/22** (2006.01); **H01L 31/0224** (2006.01); **H10N 30/05** (2023.01); **H10N 30/053** (2023.01); **H10N 30/50** (2023.01)

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Citation (search report)

- [X] CN 102969039 A 20130313 - IRICO GROUP CORP
- [X] EP 2196514 A1 20100616 - HITACHI CHEMICAL CO LTD [JP]
- [X] US 3876433 A 19750408 - SHORT OLIVER ALTON

Citation (examination)

- US 2014124027 A1 20140508 - TESHIMA RYOTA [JP], et al
- See also references of WO 2017091782A1

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