

(12) International Application Status Report

Received at International Bureau: 15 February 2017 (15.02.2017)

Information valid as of: 21 March 2017 (21.03.2017)

Report generated on: 12 December 2019 (12.12.2019)

(10) Publication number:

WO2017/138483

(43) Publication date:

17 August 2017 (17.08.2017)

(26) Publication language:

Japanese (JA)

(21) Application Number:

PCT/JP2017/004175

(22) Filing Date:

06 February 2017 (06.02.2017)

(25) Filing language:

Japanese (JA)

(31) Priority number(s):

2016-023927 (JP)

(31) Priority date(s):

10 February 2016 (10.02.2016)

(31) Priority status:

Priority document received (in compliance with PCT Rule 17.1)

(51) International Patent Classification:

H01B 5/00 (2006.01); **C09J 7/00** (2006.01); **C09J 9/02** (2006.01); **C09J 11/00** (2006.01); **H01B 1/00** (2006.01); **H01B 1/22** (2006.01); **H01B 5/16** (2006.01); **H01R 11/01** (2006.01)

(71) Applicant(s):

HITACHI CHEMICAL COMPANY, LTD. [JP/JP]; 9-2, Marunouchi 1-chome, Chiyoda-ku, Tokyo 1006606 (JP) *(for all designated states)*

(72) Inventor(s):

NAKAGAWA Masashi; c/o Hitachi Chemical Company, LTD., 9-2, Marunouchi 1-chome, Chiyoda-ku, Tokyo 1006606 (JP)
AKAI Kunihiko; c/o Hitachi Chemical Company, LTD., 9-2, Marunouchi 1-chome, Chiyoda-ku, Tokyo 1006606 (JP)
EJIRI Yoshinori; c/o Hitachi Chemical Company, LTD., 9-2, Marunouchi 1-chome, Chiyoda-ku, Tokyo 1006606 (JP)
YAMAZAKI Shohei; c/o Hitachi Chemical Company, LTD., 9-2, Marunouchi 1-chome, Chiyoda-ku, Tokyo 1006606 (JP)
WATANABE Yasushi; c/o Hitachi Chemical Company, LTD., 9-2, Marunouchi 1-chome, Chiyoda-ku, Tokyo 1006606 (JP)

(74) Agent(s):

HASEGAWA Yoshiki; SOEI PATENT AND LAW FIRM, Marunouchi MY PLAZA (Meiji Yasuda Life Bldg.) 9th fl., 1-1, Marunouchi 2-chome, Chiyoda-ku, Tokyo 1000005 (JP)

(54) Title (EN): INSULATED COATED CONDUCTIVE PARTICLES, ANISOTROPIC CONDUCTIVE ADHESIVE AND CONNECTED STRUCTURE

(54) Title (FR): PARTICULES CONDUCTRICES À REVÊTEMENT ISOLANT, AGENT ADHÉSIF CONDUCTEUR ANISOTROPE, ET STRUCTURE DE CONNEXION

(54) Title (JA): 絶縁被覆導電粒子、異方導電性接着剤、及び接続構造体

(57) Abstract:

(EN): Provided are insulated coated conductive particles which enable the achievement of a good balance between excellent insulation reliability and conduction reliability even in a connection between micro circuits. Each insulated coated conductive particle 100a comprises a conductive particle 1 and a plurality of insulating particles 210 that are adhered to the surface of the conductive particle 1. The average particle diameter of the conductive particles 1 is from 1 μm to 10 μm (inclusive). The insulating particles 210 include first insulating particles 210a having an average particle diameter of from 200 nm to 500 nm (inclusive) and second insulating particles 210b formed from silica and having an average particle diameter of from 30 nm to 130 nm (inclusive).

(FR): L'invention fournit des particules conductrices à revêtement isolant qui permettent de concilier une excellente fiabilité en termes d'isolation et de conduction, y compris en cas de connexion d'un très petit circuit. Ces particules conductrices à revêtement isolant (100a) sont équipées de particules conductrices (1) et d'une pluralité de particules isolantes (210) en adhésion à la surface des particules conductrices (1). Le diamètre particulaire moyen des particules conductrices (1) est supérieur ou égal à #μ# et inférieur ou égal à ##μ#. Les particules isolantes (210) incluent des premières particules isolantes (210a) possédant un diamètre particulaire moyen supérieur ou égal à 200nm et inférieur ou égal à 500nm, et des secondes particules isolantes (210b) possédant un diamètre particulaire moyen supérieur ou égal à 30nm et inférieur ou égal à 130nm et constituées de silice.

(JA): 微小な回路の接続においても、優れた絶縁信頼性及び導通信頼性を両立できる絶縁被覆導電粒子を提供する。絶縁被覆導電粒子 100 a は、導電粒子 1 と、導電粒子 1 の表面に付着された複数の絶縁粒子 210 と、を備える。導電粒子 1 の平均粒径は、1 μ m 以上 10 μ m 以下である。絶縁粒子 210 は、200 nm 以上 500 nm 以下の平均粒径を有する第 1 絶縁粒子 210 a と、30 nm 以上 130 nm 以下の平均粒径を有し、シリカからなる第 2 絶縁粒子 210 b と、を含む。

International search report:

Received at International Bureau: 20 March 2017 (20.03.2017) [JP]

International Report on Patentability (IPRP) Chapter II of the PCT:

Not available

(81) Designated States:

AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

European Patent Office (EPO) : AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR

African Intellectual Property Organization (OAPI) : BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG

African Regional Intellectual Property Organization (ARIPO) : BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW

Eurasian Patent Organization (EAPO) : AM, AZ, BY, KG, KZ, RU, TJ, TM