PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT7730145

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
DUPONT ELECTRONICS, INC.	11/01/2022

RECEIVING PARTY DATA

Name:	DU PONT CHINA LIMITED
Street Address:	BUILDING 304, EXPERIMENTAL STATION
Internal Address:	200 POWDER MILL ROAD
City:	WILMINGTON
State/Country:	DELAWARE
Postal Code:	19803

PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	13361558
Application Number:	10852609

CORRESPONDENCE DATA

Fax Number: (864)233-7342

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 864-271-1592
Email: usdocketing@dority-manning.com, sperkins@dority-manning.com
Correspondent Name: DORITY & MANNING, P.A. & TICONA LLC
Address Line 1: P.O. BOX 1449
Address Line 4: GREENVILLE, SOUTH CAROLINA 29602

ATTORNEY DOCKET NUMBER:	DUPONT ASSIGNMENT
NAME OF SUBMITTER:	ANAND K. PATEL
SIGNATURE:	/Anand K. Patel/
DATE SIGNED:	01/08/2023

Total Attachments: 20
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PATENT ASSIGNMENT

This PATENT ASSIGNMENT (this "Assignment"), dated as of November 1, 2022 (the "Effective Date"), is by and between DuPont Electronics, Inc., a Delaware corporation with address of 974 Centre Road, Bldg. 730, Wilmington, DE 19805 ("Assignor") and Du Pont China Limited, a Delaware corporation with address of Building 304, Experimental Station, 200 Powder Mill Rd., Wilmington, DE 19803 ("Assignee", and each of Assignor and Assignee a "Party" and collectively, the "Parties").

WHEREAS, Assignor owns the issued patents and patent applications set forth on **Schedule A** hereto (the foregoing, including all patents issuing from any such patent applications, collectively, the "Assigned Patents"); and

WHEREAS, the Parties hereto agree that Assignor contribute, transfer, assign and convey to the Assignee all of its right, title and interest in and to the Assigned Patents and that the Assignee accept such contribution, transfer, assignment and conveyance of such Assigned Patents;

NOW, THEREFORE, in consideration of the foregoing and the mutual covenants and agreements contained in this Assignment, and for other good and valuable consideration, including the payment of ten dollars ($10.00), the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. Conveyance. Assignor hereby irrevocably assigns, transfers and conveys to Assignee all of Assignor's right, title and interest in, to and under the Assigned Patents, together with any and all (a) related continuations, continuations-in-part, divisionals, reissues, reexaminations, substitutions, extensions, and foreign equivalents thereof and (b) priority rights derived from any the Assigned Patents, or the items described in the foregoing subsection (a), by virtue of the International Convention for the Protection of Industrial Property (Paris Convention), Patent Cooperation Treaty and any other rights provided under applicable treaties, conventions or the laws of any jurisdiction, including rights in any and all provisional applications, together with all rights and remedies throughout the world (i) against past, present, and future infringement or other violation thereof, including the right to enforce the foregoing and to sue for and recover profits, other damages, injunctions and obtain other equitable relief for any and all infringements or violations thereof, whether past, present or future, (ii) to collect royalties and other payments now or hereafter due or payable with respect to such Assigned Patents, (iii) to file, claim priority to, prosecute, maintain, amend, abandon, assign or otherwise transfer the above-referenced patent applications and patents under the laws of any jurisdiction and/or international conventions or treaties, and (iv) to prosecute, register, maintain, revive, renew, and defend the above-referenced patent applications and patents before any public or private agency, office or registrar; for each of the foregoing clauses (i) through (iv), to the full end of the term or terms for which said patents may be granted, as fully and entirely as the same would have been held and enjoyed by Assignor without this Assignment, for Assignee's own use and enjoyment, and for the use and enjoyment of Assignee's successors, assigns or other legal representatives (the rights transferred under this Section 1 cumulatively, the "Assigned Rights").

2. Recordation; Further Assurances. Assignor and Assignee shall each take any and all additional actions as may be reasonably requested by the other Party to effect the transactions contemplated hereby, including Assignor's execution of individual assignment documentation prepared by Assignee for filing with the applicable authorities of an applicable country, at Assignee's expense. The Parties agree that any such assignment documentation shall give no greater rights or remedies than those provided for herein. As between the Parties, the responsibility to file assignments with the national patent offices of each country for the Assigned Patents shall be on the Assignee. Assignor hereby authorizes Assignee and its representatives to record this Assignment as may be necessary to support the transfer from Assignor to Assignee, filing, prosecution, maintenance, defense, ownership, enforcement, or collection of infringement damages in connection with the Assigned Rights, and further authorizes the Assignee and its representatives to accurately translate this Assignment into any language necessary or desirable for such purposes.

3. Prosecution and Maintenance. For the avoidance of doubt but without limiting the obligations set forth in Section 2 hereof, as of and following the Effective Date, Assignor will have no responsibility to take any action to maintain any of the patents included in the Assigned Rights or further prosecute or seek issuance of any patent applications included in the Assigned Rights, including payment of fees, responses to any office action or other inquiries from agents of governmental entities or registrars, or otherwise.

4. Disclaimer of Representations and Warranties. The Parties acknowledge and agree that, except as expressly set forth in another written agreement between the Parties, all of the Assigned Patents and other Assigned Rights are to be provided as-is, where-is and on a "with all faults" basis, and Assignee assumes all risk and liability arising from or relating to its use thereof and reliance thereon. EXCEPT AS EXPRESSLY SET FORTH IN ANOTHER WRITTEN AGREEMENT BETWEEN THE PARTIES, EACH PARTY MAKES NO, AND HEREBY EXPRESSLY DISCLAIMS ALL, REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE ASSIGNED PATENTS AND THE OTHER ASSIGNED RIGHTS, AS TO ANY CONSENTS OR APPROVALS (INCLUDING APPROVALS FROM ANY GOVERNMENTAL ENTITIES) REQUIRED IN CONNECTION HEREWITH OR THEREWITH, AS TO THE VALUE OR FREEDOM FROM ANY SECURITY INTERESTS OF OR THE NON-INFRINGEMENT OR ABSENCE OF OTHER VIOLATION, VALIDITY OR ENFORCEABILITY OR ANY OTHER MATTER CONCERNING THE ASSIGNED PATENTS AND OTHER PATENTS AND PATENT APPLICATIONS INCLUDED IN THE ASSIGNED RIGHTS.

5. Successors and Assigns. The provisions of this Assignment and the obligations and rights hereunder shall be binding upon, inure to the benefit of and be enforceable by (and against) the Parties and their respective successors and permitted transferees and assigns.

6. Counterparts. This Assignment may be executed and delivered (including by facsimile or other means of electronic transmission, such as by electronic mail in "pdf" form) in more than one counterpart, all of which shall be considered one and the same agreement, each of which when executed shall be deemed to be an original, and shall become effective when one or more such counterparts have been signed by each of the Parties and delivered to each of the Parties.

7. Title and Headings. Titles and headings to sections herein are inserted for the convenience of reference only and are not intended to be a part of or to affect the meaning or interpretation of this Assignment.

8. Governing Law. This Assignment and any dispute arising out of, in connection with or relating to this Assignment shall be governed by and construed in accordance with the Laws of the State of Delaware, without giving effect to the conflicts of laws principles thereof.

[Signature Page Follows]

IN WITNESS WHEREOF, Assignor and Assignee have duly executed this Assignment as of the date first written above.

ASSIGNOR:

DUPONT ELECTRONICS, INC.

By:
Name: Jessica Sinnott
Title: Associate General Counsel – IP
Date: November 8, 2022

ASSIGNEE:

DU PONT CHINA LIMITED

By:
Name: Hong Xu
Title: Vice President & Assistant Secretary
Date: 11-4-2022

[Signature Page to Patent Assignment (Step 3E)]

NOTARIAL CERTIFICATE

State of Delaware
County of New Castle

This Patent Assignment was acknowledged before me on 11-8-2022 by Hong Xu, Vice President & Assistant Secretary of DuPont China Limited, on behalf of said company.

(Personalized Seal)

Notary Public's Signature

TAMMYANN C. LEWIS
Notary Public
State of Delaware
My Commission Expires On
November 25, 2023

NOTARIAL CERTIFICATE

State of Delaware
County of New Castle

This Patent Assignment was acknowledged before me on 11-8-2022 by Jessica Sinnott, Associate General Counsel - IP of DuPont Electronics, Inc., a Delaware corporation, on behalf of said company.

(Personalized Seal)

Notary Public's Signature

TAMMYANN C. LEWIS
Notary Public
State of Delaware
My Commission Expires On
November 25, 2023

Schedule A
Assigned Patents

Title	Country	Filing	Filing Number	Grant	Grant Number	Case Reference
NON-LEAD RESISTOR COMPOSITION	United States Of America	10/23/2009	12/604468	5/31/2011	7951311	CL4126-US-DIV
NON-LEAD RESISTOR COMPOSITION	United States Of America	5/31/2011	13/118660	7/24/2012	8226857	CL4126-US-DIV[2]
NON-LEAD RESISTOR COMPOSITION	United States Of America	4/18/2008	12/105683	10/27/2009	7608206	CL4126-US-NP
THIN-FILM TRANSPARENT CONDUCTIVE STRUCTURE AND DEVICES MADE THEREWITH	United States Of America	3/15/2013	13/833161	4/26/2016	9324966	CL5556-US-NP
COPPER-CONTAINING CONDUCTIVE PASTES AND ELECTRODES MADE THEREFROM	China	8/28/2014	201480081562.1			CS0041-CN-PCT
COPPER-CONTAINING CONDUCTIVE PASTES AND ELECTRODES MADE THEREFROM	Germany	8/28/2014	112014006907.8			CS0041-DE-PCT
COPPER-CONTAINING CONDUCTIVE PASTES AND ELECTRODES MADE THEREFROM	Japan	8/28/2014	2017-511913	9/28/2018	6408695	CS0041-JP-PCT
COPPER-CONTAINING CONDUCTIVE PASTES AND ELECTRODES MADE THEREFROM	United States Of America	8/28/2014	15/505690	6/18/2019	10325690	CS0041-US-PCT
ELECTRICALLY CONDUCTIVE ADHESIVES	China	8/28/2015	201580082591.4	9/25/2020	201580082591.4	CS0051-CN-PCT
ELECTRICALLY CONDUCTIVE ADHESIVES	United States Of America	8/28/2015	15/754355	4/7/2020	10611931	CS0051-US-PCT
ELECTRICALLY CONDUCTIVE ADHESIVES	China	8/28/2015	201580082588.2	6/19/2020	201580082588.2	CS0052-CN-PCT
ELECTRICALLY CONDUCTIVE ADHESIVES	United States Of America	8/28/2015	15/754336	4/21/2020	10629325	CS0052-US-PCT
COATED COPPER PARTICLES AND USE THEREOF	China	8/28/2015	201580082758.7	2/28/2020	201580082758.7	CS0053-CN-PCT
COATED COPPER PARTICLES AND USE THEREOF	United States Of America	8/28/2015	15/754370	4/6/2021	10967428	CS0053-US-PCT
THICK FILM COMPOSITIONS FOR USE IN ELECTROLUMINESCENT APPLICATIONS	United States Of America	12/4/2003	10/728335	3/4/2008	7338622	EL0471-US-NP
TAPE COMPOSITION AND PROCESS FOR INTERNALLY CONSTRAINED SINTERING OF LOW TEMPERATURE CO-FIRED CERAMIC	United States Of America	5/24/2004	10/852609	12/12/2006	7147736	EL0490-US-CNT
TAPE COMPOSITION AND PROCESS FOR INTERNALLY CONSTRAINED SINTERING OF LOW TEMPERATURE CO-FIRED CERAMIC	United States Of America	1/2/2003	10/336439	8/17/2004	6776861	EL0490-US-NP
THICK-FILM CONDUCTOR PASTE FOR AUTOMOTIVE GLASS	Germany	7/19/2004	04016947.6	1/12/2011	602004030976.1	EL0494-DE-EPA
THICK-FILM CONDUCTOR PASTE FOR AUTOMOTIVE GLASS	European Procedure (Patents)	7/19/2004	04016947.6	1/12/2011	1506944	EL0494-EP-EPA
THICK-FILM CONDUCTOR PASTE FOR AUTOMOTIVE GLASS	Japan	8/13/2004	236026/04	10/28/2011	4851073	EL0494-JP-NP
THICK-FILM CONDUCTOR PASTE FOR AUTOMOTIVE GLASS	United States Of America	8/14/2003	10/641889	11/21/2006	7138347	EL0494-US-NP
LEAD FREE LTCC TAPE COMPOSITION	China	11/15/2006	200610162473.7	11/19/2014	200610162473.7	EL0518-CN-NP

Title	Country	Filing	Filing Number	Grant	Grant Number	Case Reference
LEAD FREE LTCC TAPE COMPOSITION	Japan	11/15/2006	306207406	6/22/2012	3502625	EL0518-JP-NP
LEAD FREE LTCC TAPE COMPOSITION	United States Of America	10/5/2006	11/543742	3/30/2010	7687417	EL0518-US-NP
THICK FILM CONDUCTOR COMPOSITIONS FOR USE IN MEMBRANE SWITCH APPLICATIONS	United States Of America	12/4/2003	10/728142	9/6/2005	6939484	EL0529-US-NP
COMPOSITION OF CONDUCTIVE PASTE	United States Of America	2/25/2004	10/786489	1/30/2007	7166383	EL0532-US-NP
INK JET PRINTABLE THICK FILM INK COMPOSITIONS AND PROCESSES	United States Of America	2/9/2004	10/773848	3/23/2010	7683107	EL0542-US-NP
AQUEOUS DEVELOPABLE PHOTOIMAGEABLE COMPOSITIONS FOR USE IN PHOTO-PATTERNING METHODS	United States Of America	8/6/2004	10/913874	11/14/2006	7135267	EL0546-US-NP
HIGH CONDUCTIVITY POLYMER THICK FILM SILVER CONDUCTOR COMPOSITION FOR USE IN RFID AND OTHER APPLICATIONS	China	11/23/2009	200980147766.X	8/21/2013	200980147766.X	EL0554-CN-PCT
HIGH CONDUCTIVITY POLYMER THICK FILM SILVER CONDUCTOR COMPOSITION FOR USE IN RFID AND OTHER APPLICATIONS	Germany	11/23/2009	09760418.5	9/19/2012	602009009836.5	EL0554-DE-EPT
HIGH CONDUCTIVITY POLYMER THICK FILM SILVER CONDUCTOR COMPOSITION FOR USE IN RFID AND OTHER APPLICATIONS	European Procedure (Patents)	11/23/2009	09760418.5	9/19/2012	2360176	EL0554-EP-EPT
HIGH CONDUCTIVITY POLYMER THICK FILM SILVER CONDUCTOR COMPOSITION FOR USE IN RFID AND OTHER APPLICATIONS	France	11/23/2009	09760418.5	9/19/2012	2360176	EL0554-FR-EPT
HIGH CONDUCTIVITY POLYMER THICK FILM SILVER CONDUCTOR COMPOSITION FOR USE IN RFID AND OTHER APPLICATIONS	Japan	11/23/2009	537679011	1/24/2014	5462274	EL0554-JP-PCT
HIGH CONDUCTIVITY POLYMER THICK FILM SILVER CONDUCTOR COMPOSITION FOR USE IN RFID AND OTHER APPLICATIONS	United States Of America	11/24/2008	12/276662	12/28/2010	7857998	EL0554-US-NP
THICK FILM CONDUCTOR COMPOSITIONS AND THE USE THEREOF IN LTCC CIRCUITS AND DEVICES	China	4/25/2006	200610077666.2	10/12/2011	200610077666.2	EL0571-CN-NP
THICK FILM CONDUCTOR COMPOSITIONS AND THE USE THEREOF IN LTCC CIRCUITS AND DEVICES	United States Of America	4/5/2006	11/398337	11/3/2009	7611645	EL0571-US-NP
THICK FILM CONDUCTOR CASE COMPOSITIONS FOR LTCC TAPE	United States Of America	10/19/2004	10/967986	8/28/2007	7261841	EL0578-US-NP
THICK FILM PASTE VIA FILL COMPOSITION FOR USE IN LTCC APPLICATIONS	United States Of America	6/12/2006	11/451089	5/25/2010	7722732	EL0591-US-CIP
PROCESS FOR MAKING HIGHLY DISPERSIBLE SPHERICAL SILVER POWDER PARTICLES AND SILVER PARTICLES FORMED THEREFROM	United States Of America	5/31/2007	11/809486	1/19/2010	7648557	EL0598-US-NP
THICK FILM CONDUCTOR PASTE COMPOSITIONS FOR LTCC TAPE IN MICROWAVE APPLICATIONS	United States Of America	12/7/2007	11/999035	6/22/2010	7744775	EL0607-US-DIV
THICK FILM CONDUCTOR PASTE COMPOSITIONS FOR LTCC TAPE IN MICROWAVE APPLICATIONS	United States Of America	4/8/2006	11/398141	2/5/2008	7326367	EL0607-US-NP
THICK FILM CONDUCTOR COMPOSITION(S) AND PROCESSING TECHNOLOGY THEREOF FOR USE IN MULTILAYER ELECTRONIC CIRCUITS AND DEVICES	United States Of America	11/16/2006	11/601136	2/23/2010	7666328	EL0614-US-NP

Title	Country	Filing	Filing Number	Grant	Grant Number	Case Reference
DEVICE CHIP CARRIERS, MODULES, AND METHODS OF FORMING THEREOF	United States Of America	8/10/2007	11/891366	4/29/2014	8710523	EL0665-US-NP
CONDUCTOR PASTE FOR CERAMIC SUBSTRATE AND ELECTRIC CIRCUIT	United States Of America	3/9/2010	12/719963	3/1/2011	7897866	EL0730-US-DIV
CONDUCTOR PASTE FOR CERAMIC SUBSTRATE AND ELECTRIC CIRCUIT	United States Of America	1/25/2011	13/014258	10/25/2011	8043536	EL0730-US-DIV(1)
CONDUCTOR PASTE FOR CERAMIC SUBSTRATE AND ELECTRIC CIRCUIT	United States Of America	6/29/2007	11/824194	4/27/2010	7704416	EL0730-US-NP
CONDUCTIVE PASTE FOR SOLID ELECTROLYTIC CAPACITOR ELECTRODE AND PROCESS FOR PRODUCING SOLID ELECTOLYTIC CAPACITOR ELECTRODE USING THE SAME	United States Of America	7/10/2007	11/828927	4/13/2010	7697266	EL0731-US-NP
SURFACE-MODIFIED RUTHENIUM OXIDE CONDUCTIVE MATERIAL, LEAD-FREE GLASS(ES), THICK FILM RESISTOR PASTE(S), AND DEVICES MADE THEREFROM	China	4/17/2009	200980112901.7	1/2/2013	200980112901.7	EL0747-CN-PCT
CONDUCTIVE COMPOSITION FOR BLACK BUS ELECTRODE, AND FRONT PANEL OF PLASMA DISPLAY PANEL	United States Of America	10/30/2007	11/980297	1/19/2010	7648655	EL0760-US-NP
ELECTRICALLY CONDUCTIVE ADHESIVE	United States Of America	1/17/2008	12/008885	10/25/2011	8043330	EL0764-US-NP
RESISTOR COMPOSITIONS USING A CU-CONTAINING GLASS FRIT	China	4/17/2009	200980113820.9	5/7/2014	200980113820.9	EL0790-CN-PCT
RESISTOR COMPOSITIONS USING A CU-CONTAINING GLASS FRIT	Japan	4/17/2009	503230011	11/8/2013	5430277	EL0790-JP-PCT
RESISTOR COMPOSITIONS USING A CU-CONTAINING GLASS FRIT	United States Of America	4/17/2009	12/425742	3/13/2012	8133413	EL0790-US-NP
LEAD-FREE RESISTIVE COMPOSITION	United States Of America	4/16/2009	12/425048	9/4/2012	8257619	EL0794-US-NP
CO-PROCESSABLE PHOTOIMAGEABLE SILVER AND CARBON NANOTUBE COMPOSITIONS AND METHOD FOR FIELD EMISSION DEVICES	United States Of America	5/19/2009	12/468699	8/23/2011	8002603	EL0796-US-NP
MIXED-METAL SYSTEM CONDUCTORS FOR USE IN LOW-TEMPERATURE CO-FIRED CERAMIC CIRCUITS AND DEVICES	United States Of America	4/21/2014	14/257306	4/5/2016	9307649	EL0813-US-CNT
MIXED-METAL SYSTEM CONDUCTORS FOR LTCC (LOW-TEMPERATURE CO-FIRED CERAMICS)	United States Of America	12/28/2010	12/981196	4/22/2014	8704105	EL0813-US-NP
PREPARATION OF SILVER SPHERES BY THE REDUCTION OF SILVER POLYAMINE COMPLEXES	United States Of America	9/19/2008	12/234341	10/23/2012	8292986	EL0817-US-NP
NICKEL-GOLD PLATEABLE THICK FILM SILVER PASTE, AND PLATING PROCESS FOR LOW TEMPERATURE CO FIRED CERAMIC DEVICES AND LTCC DEVICES MADE THEREFROM	United States Of America	10/1/2009	12/571465	12/17/2013	8609256	EL0833-US-NP
FRONT AND BACK SIDE ELECTRODES OF CHIP RESISTER	Japan	6/10/2009	13/943089	12/6/2013	5426241	EL0842-JP-NP
PHOTOSENSITIVE PASTE AND PROCESS FOR PRODUCTION OF PATTERN USING THE SAME	United States Of America	12/23/2008	12/342163	3/15/2011	7887992	EL0852-US-NP

Title	Country	Filing	Filing Number	Grant	Grant Number	Case Reference
METHOD FOR PRODUCING DISPERSED, CRYSTALLINE, STABLE TO OXIDATION COPPER PARTICLES	United States Of America	3/5/2009	12/398792	7/10/2012	8216340	EL0860-US-NP
ELECTRODE AND METHOD FOR MANUFACTURING THE SAME	China	7/1/2010	201680027528.8	7/23/2014	201680027528.8	EL0889-CN-PCT
ELECTRODE AND METHOD FOR MANUFACTURING THE SAME	Japan	7/1/2010	517905/12	11/28/2014	5654588	EL0889-JP-PCT
ELECTRODE AND METHOD FOR MANUFACTURING THE SAME	United States Of America	7/2/2009	12/496920	3/6/2012	8129068	EL0889-US-NP
METHOD FOR FORMING FRONT ELECTRODE OF PDP	United States Of America	1/16/2012	13/351080	6/17/2014	8753160	EL0903-US-NP
UV-CURABLE POLYMER THICK FILM DIELECTRIC COMPOSITIONS WITH EXCELLENT ADHESION TO ITO	United States Of America	5/20/2010	12/783948	12/11/2012	8329772	EL0904-US-NP
INK JETTABLE SILVER/SILVER CHLORIDE COMPOSITIONS	China	6/11/2010	201080025659.2	4/22/2015	201080025659.2	EL0907-CN-PCT
INK JETTABLE SILVER/SILVER CHLORIDE COMPOSITIONS	Germany	6/11/2010	10724671.2	11/19/2014	602010022864.6	EL0907-DE-EPT
INK JETTABLE SILVER/SILVER CHLORIDE COMPOSITIONS	European Procedure (Patents)	6/11/2010	10724671.2	12/19/2014	2440624	EL0907-EP-EPT
INK JETTABLE SILVER/SILVER CHLORIDE COMPOSITIONS	United Kingdom	6/11/2010	10724671.2	11/19/2014	2440624	EL0907-GB-EPT
INK JETTABLE SILVER/SILVER CHLORIDE COMPOSITIONS	Japan	6/11/2010	515180/12	10/10/2014	5628868	EL0907-JP-PCT
INK JETTABLE SILVER/SILVER CHLORIDE COMPOSITIONS	United States Of America	6/11/2010	13/383491	2/9/2016	9253208	EL0907-US-PCT
POLYMER THICK FILM SILVER ELECTRODE COMPOSITION FOR USE AS A PLATING LINK	China	9/17/2010	201080043019.4	2/3/2016	201080043019.4	EL0918-CN-PCT
POLYMER THICK FILM SILVER ELECTRODE COMPOSITION FOR USE AS A PLATING LINK	Germany	9/17/2010	10757906.2	7/15/2015	602010025926.9	EL0918-DE-EPT
POLYMER THICK FILM SILVER ELECTRODE COMPOSITION FOR USE AS A PLATING LINK	European Procedure (Patents)	9/17/2010	10757906.2	7/15/2015	2483060	EL0918-FR-EPT
POLYMER THICK FILM SILVER ELECTRODE COMPOSITION FOR USE AS A PLATING LINK	United States Of America	9/17/2010	12/884517	10/22/2013	8562808	EL0918-US-NP
METHOD OF MANUFACTURING HIGH FREQUENCY RECEIVING AND/OR TRANSMITTING DEVICES FROM LOW TEMPERATURE CO-FIRED CERAMIC MATERIALS AND DEVICES MADE THEREFROM	China	1/28/2011	201180006663.9	6/1/2016	201180006663.9	EL0926-CN-PCT
METHOD OF MANUFACTURING HIGH FREQUENCY RECEIVING AND/OR TRANSMITTING DEVICES FROM LOW TEMPERATURE CO-FIRED CERAMIC MATERIALS AND DEVICES MADE THEREFROM	European Procedure (Patents)	1/28/2011	11704333.9			EL0926-EP-EPT
METHOD OF MANUFACTURING HIGH FREQUENCY RECEIVING AND/OR TRANSMITTING DEVICES FROM LOW TEMPERATURE CO-FIRED CERAMIC MATERIALS AND DEVICES MADE THEREFROM	United States Of America	12/7/2011	13/015234	1/21/2014	8633858	EL0926-US-NP
POLYMER THICK FILM ENCAPSULANT AND ENHANCED STABILITY PTC CARBON SYSTEM	United States Of America	12/1/2011	13/308622	11/5/2013	8575260	EL0936-US-DIV

Title	Country	Filing	Filing Number	Grant	Grant Number	Case Reference
POLYMER THICK FILM ENCAPSULANT AND ENHANCED STABILITY PTC CARBON SYSTEM	United States Of America	4/21/2010	12/764185	1/10/2012	8093328	EL0936-US-NP
SILVER PARTICLES AND A PROCESS FOR MAKING THEM	United States Of America	8/30/2010	12/871167	2/5/2013	8366799	EL0940-US-NP
METHOD OF MAKING NON-HOLLOW, NON-FRAGMENTED SPHERICAL METAL OR METAL ALLOY PARTICLES	United States Of America	6/1/2011	13/150631	11/18/2014	8888889	EL0953-US-NP
REACTOR AND CONTINUOUS PROCESS FOR PRODUCING SILVER POWDERS	Japan	9/13/2011	539838/13	10/23/2015	5817341	EL0938-JP-PCT
IMPROVED THICK FILM RESISTIVE HEATER COMPOSITIONS COMPRISING AG & RUO2, AND METHODS OF MAKING SAME	United States Of America	12/30/2013	14/143301	8/30/2016	9431148	EL0963-US-CNT
IMPROVED THICK FILM RESISTIVE HEATER COMPOSITIONS COMPRISING AG & RUO2, AND METHODS OF MAKING SAME	United States Of America	11/9/2011	13/292642	12/31/2013	8617428	EL0963-US-NP
ELECTRODE AND METHOD FOR MANUFACTURING THE SAME	United States Of America	1/16/2012	13/350973	5/20/2014	8728355	EL0964-US-NP
LOW TEMPERATURE CO-FIRED CERAMIC STRUCTURE FOR HIGH FREQUENCY APPLICATIONS AND PROCESS FOR MAKING SAME	United States Of America	5/30/2012	13/483837	6/3/2014	8742262	EL0967-US-NP
ELECTRODE AND METHOD FOR MANUFACTURING THE SAME	United States Of America	1/30/2012	13/361558	4/29/2014	8709294	EL0975-US-NP
LOW TEMPERATURE FIREABLE THICK FILM SILVER PASTE	United States Of America	5/15/2012	13/472101	7/29/2014	8790550	EL0993-US-NP
A METHOD OF MANUFACTURING A RESISTOR PASTE	United States Of America	6/20/2012	13/528325	8/26/2014	8815125	EL1008-US-NP
THICK FILM PASTE AND USE THEREOF	China	6/27/2012	201380031231.8	4/30/2019	201380031231.8	EL1016-CN-PCT
THICK FILM PASTE AND USE THEREOF	Germany	6/27/2012	12735704.4	6/21/2017	602013033785.2	EL1016-DE-EPT
THICK FILM PASTE AND USE THEREOF	European Procedure (Patents)	6/27/2012	12735704.4	6/21/2017	2727121	EL1016-EP-EPT
THICK FILM PASTE AND USE THEREOF	Japan	6/27/2012	2014-518080	5/19/2017	6144625	EL1016-JP-PCT
THICK FILM PASTE AND USE THEREOF	United States Of America	8/17/2017	15/679844	1/29/2019	10190198	EL1016-US-CNT
THICK FILM PASTE AND USE THEREOF	United States Of America	6/26/2012	13/532903	10/10/2017	9783874	EL1016-US-NP
COMPOSITIONS FOR LOW K, LOW TEMPERATURE CO-FIRED COMPOSITE LTCC TAPES AND LOW SHRINKAGE, MULTI-LAYER LTCC STRUCTURES FORMED THEREFROM	China	8/29/2012	201280041429.4	11/6/2020	201280041429.4	EL1027-CN-PCT
THERMOFORMABLE POLYMER THICK FILM SILVER CONDUCTOR FOR CAPACITIVE SWITCHES	China	9/18/2012	201280043523.7	8/24/2016	201280043523.7	EL1028-CN-PCT
THERMOFORMABLE POLYMER THICK FILM SILVER CONDUCTOR FOR CAPACITIVE SWITCHES	Germany	9/18/2012	12769537.5	7/4/2018	602012048116.1	EL1028-DE-EPT
THERMOFORMABLE POLYMER THICK FILM SILVER CONDUCTOR FOR CAPACITIVE SWITCHES	European Procedure (Patents)	9/18/2012	12769537.5	7/4/2018	2758968	EL1028-EP-EPT
THERMOFORMABLE POLYMER THICK FILM SILVER CONDUCTOR FOR CAPACITIVE SWITCHES	Japan	9/18/2012	2014-530960	12/2/2016	6060365	EL1028-JP-PCT

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THERMOFORMABLE POLYMER THICK FILM SILVER CONDUCTOR FOR CAPACITIVE SWITCHES	United States Of America	10/10/2013	14052025	4/8/2014	8692131	EL1028-US-CIP[1]
THERMOFORMABLE POLYMER THICK FILM SILVER CONDUCTOR AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	United States Of America	2/7/2014	14175085	1/26/2016	9245666	EL1028-US-CIP[2]
ELECTRICALLY CONDUCTIVE PASTE COMPOSITION	United States Of America	11/5/2012	13667363	7/1/2014	8767378	EL1073-US-NP
CONDUCTIVE METAL INK	China	5/4/2012	201280038062.7	9/21/2016	201280038062.7	EL1077-CN-PCT
CONDUCTIVE METAL INK	Germany	5/4/2012	12721129.0	8/12/2015	602012009548.2	EL1077-DE-EPT
CONDUCTIVE METAL INK	European Procedure (Patents)	5/4/2012	12721129.0	8/12/2015	2783792	EL1077-EP-EPT
CONDUCTIVE METAL INK	Japan	5/4/2012	2014-508724	4/27/2018	6328079	EL1077-JP-PCT
CONDUCTIVE METAL INK	United States Of America	5/4/2012	13463927	1/26/2016	9245664	EL1077-US-NP
POLYMER THICK FILM POSITIVE TEMPERATURE COEFFICIENT CARBON COMPOSITION	Germany	1/30/2013	102013001605.3			EL1083-DE-NP
POLYMER THICK FILM SOLDER ALLOY CONDUCTOR COMPOSITION	China	1/15/2013	201310015896.4	3/1/2017	201310015896.4	EL1086-CN-NP
POLYMER THICK FILM SOLDER ALLOY CONDUCTOR COMPOSITION	Germany	1/16/2013	102013000638.4			EL1086-DE-NP
POLYMER THICK FILM SOLDER ALLOY CONDUCTOR COMPOSITION	Japan	1/18/2013	007203/13			EL1086-JP-NP
POLYMER THICK FILM SOLDER ALLOY CONDUCTOR COMPOSITION	United States Of America	1/15/2013	13668404	10/8/2013	8551807	EL1086-US-NP
MICROWAVE/MILLIMETER WAVE CHIP SCALE PACKAGE WITH INTERLAYER ANTENNA ARRAY ON MULTILAYER DIELECTRIC SUBSTRATE	United States Of America	12/4/2013	13749221	10/6/2015	9153863	EL1089-US-NP
POLYMER THICK FILM SOLDER ALLOY/METAL CONDUCTOR COMPOSITIONS	United States Of America	3/26/2012	13430036	10/15/2013	8557146	EL1096-US-NP
METHOD OF MANUFACTURING COPPER ELECTRODE	China	9/28/2012	201210367450.5	6/1/2018	201210367450.5	EL1102-CN-NP
METHOD OF MANUFACTURING COPPER ELECTRODE	United States Of America	7/26/2012	13559912	2/11/2014	8647815	EL1102-US-NP
METHOD OF MANUFACTURING NON-FIRING TYPE ELECTRODE	United States Of America	1/21/2013	13734121	8/4/2015	9099215	EL1110-US-NP
PHOTONIC SINTERING OF POLYMER THICK FILM CONDUCTOR COMPOSITIONS	Germany	5/31/2013	102013008239.6	1/14/2021	102013008239.6	EL1122-DE-NP
PHOTONIC SINTERING OF POLYMER THICK FILM CONDUCTOR COMPOSITIONS	United States Of America	8/20/2012	13588864	5/19/2015	9034477	EL1122-US-NP
CONDUCTIVE METAL COMPOSITION	United States Of America	12/13/2013	14103339	1/26/2016	9245665	EL1123-US-NP
LAMINATION OF POLYMER THICK FILM CONDUCTOR COMPOSITIONS	China	9/23/2013	201310444786.1	4/12/2017	201310444786.1	EL1123-CN-NP
LAMINATION OF POLYMER THICK FILM CONDUCTOR COMPOSITIONS	Germany	10/9/2013	102013016772.8			EL1123-DE-NP
LAMINATION OF POLYMER THICK FILM CONDUCTOR COMPOSITIONS	Japan	10/10/2013	212872/13	11/24/2017	6247069	EL1125-JP-NP
LAMINATION OF POLYMER THICK FILM CONDUCTOR COMPOSITIONS	United States Of America	2/24/2014	14187453	3/24/2015	8986579	EL1125-US-CIP

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LAMINATION OF POLYMER THICK FILM CONDUCTOR COMPOSITIONS	United States Of America	10/10/2012	13648710	4/15/2014	8699860	EL1125-US-NP
COPPER PASTE COMPOSITION AND ITS USE IN A METHOD FOR FORMING COPPER CONDUCTORS ON SUBSTRATES	Germany	5/31/2013	102013009241.8	7/11/2022	102013009241	EL1133-DE-NP
COPPER PASTE COMPOSITION AND ITS USE IN A METHOD FOR FORMING COPPER CONDUCTORS ON SUBSTRATES	Japan	9/27/2013	2013-110979	10/27/2017	6231298	EL1133-JP-NP
COPPER PASTE COMPOSITION AND ITS USE IN A METHOD FOR FORMING COPPER CONDUCTORS ON SUBSTRATES	United States Of America	12/7/2015	14/960814	4/3/2018	9934888	EL1133-US-DIV
COPPER PASTE COMPOSITION AND ITS USE IN A METHOD FOR FORMING COPPER CONDUCTORS ON SUBSTRATES	United States Of America	2/4/2013	13/758667	1/12/2016	9236165	EL1133-US-NP
THERMALLY CONDUCTIVE ELECTRONIC SUBSTRATES AND METHODS RELATING THERETO	China	2/6/2015	201580007029.5	5/28/2019	201580007029.5	EL1134-CN-PCT
THERMALLY CONDUCTIVE ELECTRONIC SUBSTRATES AND METHODS RELATING THERETO	Germany	2/6/2015	112015000689.3			EL1134-DE-PCT
THERMALLY CONDUCTIVE ELECTRONIC SUBSTRATES AND METHODS RELATING THERETO	Japan	2/6/2015	2016-550784	6/21/2019	6547783	EL1134-JP-PCT
PHOTONIC SINTERING OF POLYMER THICK FILM COPPER CONDUCTOR COMPOSITIONS	China	6/6/2014	201480032665.6	1/16/2018	201480032665.6	EL1138-CN-PCT
PHOTONIC SINTERING OF POLYMER THICK FILM COPPER CONDUCTOR COMPOSITIONS	Germany	6/6/2014	14830901.6	12/27/2017	602014019235.1	EL1138-DE-EPT
PHOTONIC SINTERING OF POLYMER THICK FILM COPPER CONDUCTOR COMPOSITIONS	European Procedure (Patents)	6/6/2014	14830901.6	12/27/2017	3008735	EL1138-EP-EPT
PHOTONIC SINTERING OF POLYMER THICK FILM COPPER CONDUCTOR COMPOSITIONS	United States Of America	6/13/2013	13/916759	11/17/2015	9190188	EL1138-US-NP
MOISTURE BARRIER LAYER DIELECTRIC FOR THERMOFORMABLE CIRCUITS	China	5/28/2013	201310204911.1	12/4/2018	201310204911.1	EL1139-CN-NP
MOISTURE BARRIER LAYER DIELECTRIC FOR THERMOFORMABLE CIRCUITS	Germany	5/31/2013	102013009238.8	6/27/2022	102013009238.8	EL1139-DE-NP
MOISTURE BARRIER LAYER DIELECTRIC FOR THERMOFORMABLE CIRCUITS	Japan	5/28/2013	111807713	4/14/2017	6125905	EL1139-JP-NP
MOISTURE BARRIER LAYER DIELECTRIC FOR THERMOFORMABLE CIRCUITS	United States Of America	10/9/2013	14/049525	11/17/2015	9187699	EL1139-US-CIP
MOISTURE BARRIER LAYER DIELECTRIC FOR THERMOFORMABLE CIRCUITS	United States Of America	1/8/2013	13/736142	7/22/2014	8785799	EL1139-US-NP
METHOD OF MANUFACTURING NON-FIRING TYPE ELECTRODE	United States Of America	1/21/2013	13/746157	7/28/2015	9093675	EL1144-US-NP
METHOD OF MANUFACTURING NON-FIRING TYPE ELECTRODE	China	4/8/2014	201480032699.8	7/17/2018	201480032699.8	EL1145-CN-PCT
METHOD OF MANUFACTURING NON-FIRING TYPE ELECTRODE	United States Of America	3/18/2014	14/217631	10/25/2016	9480166	EL1145-US-NP
POLYMER TYPE CONDUCTIVE PASTE AND METHOD OF PRODUCING ELECTRODE BY USING THE SAME	Japan	4/8/2013	078669/13	11/24/2017	6347015	EL1148-JP-NP
METHOD OF MANUFACTURING NON-FIRING TYPE ELECTRODE	China	1/16/2015	201510022863.X	2/15/2019	201510022863.X	EL1181-CN-NP

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HEAT-CURABLE POLYMER PASTE	United States Of America	8/2/2014	14374543	12/6/2017	9540536	EL1164-US-NP
THERMALLY CONDUCTIVE DIELECTRIC FOR THERMOFORMABLE CIRCUITS	China	8/10/2021	202110859481.9			EL1165-CN-PCD
THERMALLY CONDUCTIVE DIELECTRIC FOR THERMOFORMABLE CIRCUITS	China	7/30/2014	201480035694.6			EL1165-CN-PCT
THERMALLY CONDUCTIVE DIELECTRIC FOR THERMOFORMABLE CIRCUITS	Germany	7/30/2014	14749290.0	7/14/2021	602014078756.8	EL1165-DE-EPT
THERMALLY CONDUCTIVE DIELECTRIC FOR THERMOFORMABLE CIRCUITS	European Procedure (Patents)	7/30/2014	14749290.0	7/14/2021	3027686	EL1165-EP-EPT
THERMALLY CONDUCTIVE DIELECTRIC FOR THERMOFORMABLE CIRCUITS	Japan	7/30/2014	2016-531845	5/10/2019	6523280	EL1165-JP-PCT
THERMALLY CONDUCTIVE DIELECTRIC FOR THERMOFORMABLE CIRCUITS	United States Of America	7/14/2014	14/330075	5/24/2016	9346992	EL1165-US-NP
POLYMER THICK FILM POSITIVE TEMPERATURE COEFFICIENT CARBON COMPOSITION	China	4/8/2014	201480019368.8	11/14/2017	201480019368.8	EL1168-CN-PCT
POLYMER THICK FILM POSITIVE TEMPERATURE COEFFICIENT CARBON COMPOSITION	Japan	4/8/2014	2016-507595	10/5/2018	6412106	EL1168-JP-PCT
POLYMER THICK FILM POSITIVE TEMPERATURE COEFFICIENT CARBON COMPOSITION	United States Of America	4/10/2013	13/859843	2/21/2017	9573438	EL1168-US-NP
EVACUABLE THERMOFORMABLE DIELECTRIC FOR THERMOFORMABLE CIRCUITS	United States Of America	10/9/2013	14/049610	4/21/2015	9012895	EL1169-US-CIP
FLEXIBLE WHITE REFLECTIVE DIELECTRIC FOR ELECTRONIC CIRCUITS	China	7/30/2014	201480037386.1	12/22/2019	201480037386.1	EL1179-CN-PCT
FLEXIBLE WHITE REFLECTIVE DIELECTRIC FOR ELECTRONIC CIRCUITS	Germany	7/30/2014	14750291.8	7/14/2021	602014078757.6	EL1179-DE-EPT
FLEXIBLE WHITE REFLECTIVE DIELECTRIC FOR ELECTRONIC CIRCUITS	European Procedure (Patents)	7/30/2014	14750291.8	7/14/2021	3027687	EL1179-EP-EPT
FLEXIBLE WHITE REFLECTIVE DIELECTRIC FOR ELECTRONIC CIRCUITS	United States Of America	2/24/2016	15/051789	2/21/2017	9574726	EL1179-US-DIV
FLEXIBLE WHITE REFLECTIVE DIELECTRIC FOR ELECTRONIC CIRCUITS	United States Of America	7/9/2014	14/326836	4/5/2016	9303828	EL1179-US-NP
METHOD OF FABRICATING ELECTROMAGNETIC BANDGAP (EBG) STRUCTURES FOR MICROWAVE/MILLIMETERWAVE APPLICATIONS USING LASER PROCESSING OF UNFIRED LOW TEMPERATURE COFIRED CERAMIC (LTCC) TAPE	United States Of America	6/4/2014	14/296847	2/28/2017	9579748	EL1181-US-NP
STRETCHABLE POLYMER THICK FILM SILVER CONDUCTOR FOR HIGHLY PERMEABLE SUBSTRATES	China	11/13/2014	201480063115.3	11/9/2018	201480063115.3	EL1184-CN-PCT
STRETCHABLE POLYMER THICK FILM SILVER CONDUCTOR FOR HIGHLY PERMEABLE SUBSTRATES	Germany	11/13/2014	14815122.8	12/20/2017	602014041916.4	EL1184-DE-EPT
STRETCHABLE POLYMER THICK FILM SILVER CONDUCTOR FOR HIGHLY PERMEABLE SUBSTRATES	European Procedure (Patents)	11/13/2014	14815122.8	12/20/2017	3072136	EL1184-EP-EPT
STRETCHABLE POLYMER THICK FILM SILVER CONDUCTOR FOR HIGHLY PERMEABLE SUBSTRATES	Japan	5/26/2016	2016-555769	10/20/2020	6772226	EL1184-JP-PCD
STRETCHABLE POLYMER THICK FILM SILVER CONDUCTOR FOR HIGHLY PERMEABLE SUBSTRATES	Japan	11/13/2014	2016-532180	6/7/2019	6535080	EL1184-JP-PCT

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STRETCHABLE POLYMER THICK FILM SILVER CONDUCTOR FOR HIGHLY PERMEABLE SUBSTRATES	United States Of America	11/18/2013	14/082660	2/2/2016	9253883	EL1184-US-NP
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	China	3/17/2015	201580013222.X	7/31/2018	201580013222.X	EL1189-CN-PCT
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	China	3/17/2015	201580013169.3	7/3/2018	201580013169.3	EL1189-CN-PCT[2]
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	Germany	3/17/2015	15714697.1	8/21/2019	602015036224.1	EL1189-DE-EPT
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	Germany	3/17/2015	15714100.3	8/28/2019	602015036600.3	EL1189-DE-EPT[2]
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	European Procedure (Patents)	3/17/2015	15714697.1	8/21/2019	3123366	EL1189-EP-EPT
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	European Procedure (Patents)	3/17/2015	15714100.3	8/28/2019	3123367	EL1189-EP-EPT[2]
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	Japan	3/17/2015	2017-501078	6/7/2019	6538081	EL1189-JP-PCT
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	Japan	3/17/2015	2016-555471	12/27/2019	6646938	EL1189-JP-PCT[2]
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	United States Of America	3/20/2014	14/220285	3/7/2017	9587132	EL1189-US-NP
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR WITH HAPTIC RESPONSE AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	China	3/19/2015	201580015576.3	7/23/2019	201580015576.3	EL1190-CN-PCT
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR WITH HAPTIC RESPONSE AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	China	3/19/2015	201580015579.1	7/23/2019	201580015579.1	EL1190-CN-PCT[2]
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR WITH HAPTIC RESPONSE AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	Germany	3/19/2015	15716028.5	9/12/2018	602015018078.9	EL1190-DE-EPT
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR WITH HAPTIC RESPONSE AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	Germany	3/19/2015	15717995.3	10/3/2018	602015017472.0	EL1190-DE-EPT[2]
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR WITH HAPTIC RESPONSE AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	European Procedure (Patents)	3/19/2015	15716028.5	9/12/2018	3123481	EL1190-EP-EPT
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR WITH HAPTIC RESPONSE AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	European Procedure (Patents)	3/19/2015	15717995.3	10/3/2018	3123482	EL1190-EP-EPT[2]

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THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR WITH HAPTIC RESPONSE AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	Japan	3/19/2015	2016-559295	8/8/2019	6568100	EL1190-JP-PCT[2]
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR WITH HAPTIC RESPONSE AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	United States Of America	3/17/2015	14666366	10/3/2017	9779861	EL1190-US-NP
HIGH K DIELECTRIC COMPOSITION FOR THERMOFORMABLE CAPACITIVE CIRCUITS	China	11/5/2020	202011223613.7			EL1194-CN-PCD
HIGH K DIELECTRIC COMPOSITION FOR THERMOFORMABLE CAPACITIVE CIRCUITS	China	6/18/2015	201580035903.9			EL1194-CN-PCT
HIGH K DIELECTRIC COMPOSITION FOR THERMOFORMABLE CAPACITIVE CIRCUITS	Japan	6/18/2015	2017-501248	7/12/2019	6553703	EL1194-JP-PCT
HIGH K DIELECTRIC COMPOSITION FOR THERMOFORMABLE CAPACITIVE CIRCUITS	United States Of America	7/7/2014	14324760	6/20/2017	9685270	EL1194-US-NP
COMPOSITIONS FOR HIGH SPEED PRINTING OF CONDUCTIVE MATERIALS FOR ELECTRONIC CIRCUITRY TYPE APPLICATIONS AND METHODS RELATING THERETO	Germany	1/30/2015	112015000622.2			EL1195-DE-PCT
PRINTABLE COMPOSITIONS USEFUL IN ELECTRONIC APPLICATIONS AND METHODS RELATING THERETO	China	5/22/2015	201510266706.7	2/26/2021	2015102667067	EL1221-CN-NP
PRINTABLE COMPOSITIONS USEFUL IN ELECTRONIC APPLICATIONS AND METHODS RELATING THERETO	Japan	5/22/2015	2015-104844	8/9/2019	6567875	EL1221-JP-NP
PRINTABLE COMPOSITIONS USEFUL IN ELECTRONIC APPLICATIONS AND METHODS RELATING THERETO	United States Of America	5/22/2015	14/719630	1/9/2018	9862846	EL1221-US-NP
POLYMER THICK FILM SILVER CONDUCTOR WITH INVERTED CURE PROFILE BEHAVIOR	China	7/2/2015	201580035873.9	7/30/2019	201580035873.9	EL1223-CN-PCT
POLYMER THICK FILM SILVER CONDUCTOR WITH INVERTED CURE PROFILE BEHAVIOR	Germany	7/2/2015	15745018.0	8/21/2019	602015025282.9	EL1223-DE-EPT
POLYMER THICK FILM SILVER CONDUCTOR WITH INVERTED CURE PROFILE BEHAVIOR	European Procedure (Patents)	7/2/2015	15745018.0	8/21/2019	3176188	EL1223-EP-EPT
POLYMER THICK FILM SILVER CONDUCTOR WITH INVERTED CURE PROFILE BEHAVIOR	Japan	7/2/2015	2017-502579	4/26/2019	6517915	EL1223-JP-PCT
POLYMER THICK FILM SILVER CONDUCTOR WITH INVERTED CURE PROFILE BEHAVIOR	United States Of America	6/18/2015	14736791	8/1/2017	9718966	EL1223-US-NP
FLOWABLE COMPOSITIONS WITH LOW TEMPERATURE CURING TO FORM THERMALLY CONDUCTIVE PATHWAYS IN ELECTRONICS TYPE APPLICATIONS AND METHODS RELATING THERETO	China	7/1/2015	201580048196.4	8/28/2019	201580048196.4	EL1224-CN-PCT
FLOWABLE COMPOSITIONS WITH LOW TEMPERATURE CURING TO FORM THERMALLY CONDUCTIVE PATHWAYS IN ELECTRONICS TYPE APPLICATIONS AND METHODS RELATING THERETO	Germany	7/1/2015	15744765.7	4/29/2020	602015031644.3	EL1224-DE-EPT
FLOWABLE COMPOSITIONS WITH LOW TEMPERATURE CURING TO FORM THERMALLY CONDUCTIVE PATHWAYS IN ELECTRONICS TYPE APPLICATIONS AND METHODS RELATING THERETO	European Procedure (Patents)	7/1/2015	15744765.7	4/29/2020	3167458	EL1224-EP-EPT
FLOWABLE COMPOSITIONS WITH LOW TEMPERATURE CURING TO FORM THERMALLY	Japan	7/1/2015	2017-501597	10/4/2019	6595575	EL1224-JP-PCT

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CONDUCTIVE PATHWAYS IN ELECTRONICS TYPE APPLICATIONS AND METHODS RELATING THERETO						
FLOWABLE COMPOSITIONS WITH LOW TEMPERATURE CURING TO FORM THERMALLY CONDUCTIVE PATHWAYS IN ELECTRONICS TYPE APPLICATIONS AND METHODS RELATING THERETO	United States Of America	7/6/2015	14/791535	12/12/2017	9840651	EL1224-US-NP
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	China	9/1/2015	201580049697.4	2/18/2020	201580049697.4	EL1227-CN-PCT
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	Germany	9/1/2015	15778073.0	11/28/2018	602015020533.2	EL1227-DE-EPT
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	European Procedure (Patents)	9/1/2015	15778073.0	11/28/2018	3193328	EL1227-EP-EPT
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	Japan	9/1/2015	2017-513801	9/27/2019	6592086	EL1227-JP-PCT
THERMOFORMABLE POLYMER THICK FILM TRANSPARENT CONDUCTOR AND ITS USE IN CAPACITIVE SWITCH CIRCUITS	United States Of America	9/18/2014	14/489878	8/30/2016	9431147	EL1227-US-NP
STRETCHABLE POLYMER THICK FILM COMPOSITIONS FOR THERMOPLASTIC POLYURETHANE SUBSTRATES AND WEARABLES ELECTRONICS	China	11/3/2015	201580060367.5	6/25/2019	201580060367.5	EL1229-CN-PCT
STRETCHABLE POLYMER THICK FILM COMPOSITIONS FOR THERMOPLASTIC POLYURETHANE SUBSTRATES AND WEARABLES ELECTRONICS	European Procedure (Patents)	11/3/2015	15801023.4			EL1229-EP-EPT
STRETCHABLE POLYMER THICK FILM COMPOSITIONS FOR THERMOPLASTIC SUBSTRATES AND WEARABLES ELECTRONICS	United States Of America	8/8/2018	16/058344	5/5/2020	10640678	EL1229-US-CNT
STRETCHABLE POLYMER THICK FILM COMPOSITIONS FOR THERMOPLASTIC SUBSTRATES AND WEARABLES ELECTRONICS	United States Of America	8/8/2018	16/058304	1/12/2021	10889734	EL1229-US-DIV
STRETCHABLE POLYMER THICK FILM COMPOSITIONS FOR THERMOPLASTIC SUBSTRATES AND WEARABLES ELECTRONICS	United States Of America	11/2/2015	14/929498	9/11/2018	10072177	EL1229-US-NP
METALLIC CONDUCTIVE HOT MELT PASTE BASED ON THERMOPLASTIC POLYMER	China	3/16/2016	201680022381.0	8/3/2021	201680022381.0	EL1232-CN-PCT
ELECTRONIC COMPONENT	Japan	3/16/2016	2017-548230	9/28/2020	6768086	EL1232-JP-PCT
ELECTRIC COMPONENT	United States Of America	7/12/2017	15/647789	1/22/2019	10188494	EL1232-US-DIV
ELECTRIC COMPONENT	China	12/20/2016	201611254738.6	10/8/2021	201611254738.6	EL1241-CN-NP
ELECTRIC COMPONENT	Germany	1/10/2017	102017000391.1			EL1241-DE-NP
ELECTRIC COMPONENT	Japan	1/6/2017	2017-001109	10/12/2021	6959706	EL1241-JP-NP
CHIP RESISTOR	China	8/28/2017	201710784875.5	5/7/2021	201710784875.5	EL1246-CN-NP
CHIP RESISTOR	China	2/22/2018	201810154039.7	1/22/2022	201810154039.7	EL1247-CN-NP

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CHIP RESISTOR	United States Of America	2/23/2017	15/440040	10/30/2018	10115505	EL1242-US-NP
CONDUCTIVE PASTE FOR BONDING	China	9/13/2017	201710821431.8	7/27/2021	201710821431.8	EL1248-CN-NP
CONDUCTIVE PASTE FOR BONDING	Germany	9/14/2017	102017008633.8	9/9/2021	102017008633	EL1248-DE-NP
CONDUCTIVE PASTE FOR BONDING	Japan	9/15/2016	2016-180702	11/16/2020	6793362	EL1248-JP-NP
CONDUCTIVE PASTE FOR BONDING	United States Of America	4/22/2020	16/856605			EL1248-US-DIV
CONDUCTIVE PASTE FOR BONDING	United States Of America	9/14/2017	15/704456	6/30/2020	10696875	EL1248-US-NP
CONDUCTIVE PASTE FOR BONDING	Japan	9/15/2016	2016-180705	3/1/2021	6844973	EL1249-JP-NP
CONDUCTIVE PASTE FOR BONDING	China	9/20/2017	201710914228.5	10/29/2021	201710914228.5	EL1250-CN-NP
CONDUCTIVE PASTE FOR BONDING	Germany	10/6/2017	102017009293.1			EL1250-DE-NP
CONDUCTIVE PASTE FOR BONDING	Japan	10/6/2016	2016-198342	3/8/2021	6849574	EL1250-JP-NP
CONDUCTIVE PASTE FOR BONDING	United States Of America	9/19/2017	15/708490	8/25/2020	10756047	EL1250-US-NP
PHOTONIC SINTERING OF A POLYMER THICK FILM COPPER CONDUCTOR COMPOSITION	China	8/9/2016	201680058463.0	8/7/2020	201680058463.0	EL1253-CN-PCT
PHOTONIC SINTERING OF A POLYMER THICK FILM COPPER CONDUCTOR COMPOSITION	Germany	8/9/2016	16754362.8	11/13/2019	602016020434.2	EL1253-DE-EPT
PHOTONIC SINTERING OF A POLYMER THICK FILM COPPER CONDUCTOR COMPOSITION	European Procedure (Patents)	8/9/2016	16754362.8	11/13/2019	3335223	EL1253-EP-EPT
PHOTONIC SINTERING OF A POLYMER THICK FILM COPPER CONDUCTOR COMPOSITION	Japan	8/9/2016	2018-507594	7/20/2020	6737873	EL1253-JP-PCT
PHOTONIC SINTERING OF A POLYMER THICK FILM COPPER CONDUCTOR COMPOSITION	United States Of America	9/23/2015	14/862284	5/2/2017	9637647	EL1253-US-NP
PROCESS FOR FORMING A SOLDERABLE POLYIMIDE-BASED POLYMER THICK FILM CONDUCTOR	Japan	8/8/2016	2018-507593	7/20/2020	6737872	EL1254-JP-PCT
PASTE AND PROCESS FOR FORMING A SOLDERABLE POLYIMIDE-BASED POLYMER THICK FILM CONDUCTOR	China	8/8/2016	201680058560.X	7/31/2020	201680058560.X	EL1255-CN-PCT
PASTE AND PROCESS FOR FORMING A SOLDERABLE POLYIMIDE-BASED POLYMER THICK FILM CONDUCTOR	Germany	8/8/2016	16751796.0	6/12/2019	602016019594.3	EL1255-DE-EPT
PASTE AND PROCESS FOR FORMING A SOLDERABLE POLYIMIDE-BASED POLYMER THICK FILM CONDUCTOR	European Procedure (Patents)	8/8/2016	16751796.0	6/12/2019	3335224	EL1255-EP-EPT
PASTE AND PROCESS FOR FORMING A SOLDERABLE POLYIMIDE-BASED POLYMER THICK FILM CONDUCTOR	Japan	8/8/2016	2018-507563	7/20/2020	6737874	EL1256-JP-PCT
PASTE AND PROCESS FOR FORMING A SOLDERABLE POLYIMIDE-BASED POLYMER THICK FILM CONDUCTOR	United States Of America	8/12/2015	14/824892	5/16/2017	9649738	EL1253-US-NP
PHOTONIC SINTERING OF A SOLDERABLE POLYMER THICK FILM COPPER CONDUCTOR COMPOSITION	China	8/9/2016	201680058281.3	4/14/2020	201680058281.3	EL1256-CN-PCT
PHOTONIC SINTERING OF A SOLDERABLE POLYMER THICK FILM COPPER CONDUCTOR COMPOSITION	Germany	8/9/2016	16754064.0	3/11/2020	602016019563.7	EL1256-DE-EPT
PHOTONIC SINTERING OF A SOLDERABLE POLYMER THICK FILM COPPER CONDUCTOR COMPOSITION	European Procedure (Patents)	8/9/2016	16754064.0	3/11/2020	3335226	EL1256-EP-EPT

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PHOTONIC SINTERING OF A SOLDERABLE POLYMER THICK FILM COPPER CONDUCTOR COMPOSITION	Japan	8/9/2016	2018-507542	7/20/2020	6737871	EL1256-JP-PCT
PHOTONIC SINTERING OF A SOLDERABLE POLYMER THICK FILM COPPER CONDUCTOR COMPOSITION	United States Of America	9/23/2015	14/862259	5/2/2017	9637648	EL1256-US-NP
POLYIMIDE-BASED POLYMER THICK FILM COMPOSITIONS	China	12/21/2016	201611191597.8	12/15/2020	201611191597.8	EL1258-CN-NP
POLYIMIDE-BASED POLYMER THICK FILM COMPOSITIONS	European Procedure (Patents)	12/20/2016	16879952.6			EL1258-EP-EPT
POLYIMIDE-BASED POLYMER THICK FILM COMPOSITIONS	Japan	1/28/2021	2021-011843			EL1258-JP-DIV
POLYIMIDE-BASED POLYMER THICK FILM COMPOSITIONS	United States Of America	12/12/2016	15/375544	1/29/2019	10189950	EL1258-US-NP
POLYIMIDE–BASED POLYMER THICK FILM RESISTOR COMPOSITION	United States Of America	12/3/2018	16/207801	12/17/2019	10508217	EL1259-US-CIP
POLYIMIDE–BASED POLYMER THICK FILM RESISTOR COMPOSITION	United States Of America	12/15/2016	15/380210	12/11/2018	10153075	EL1259-US-NP
ELECTRICAL CONNECTIONS AND THEIR USE IN WEARABLES AND OTHER APPLICATIONS	China	9/27/2017	201721253180.X	10/12/2018	201721253180.X	EL1264-CN-UM
ELECTRICAL CONNECTIONS FOR WEARABLES AND OTHER ARTICLES	China	11/30/2017	201711240451.2	12/7/2021	201711240451.2	EL1265-CN-NP
ELECTRICAL CONNECTIONS FOR WEARABLES AND OTHER ARTICLES	China	11/30/2017	201721645999.0	11/16/2018	201721645999.0	EL1265-CN-UM
ELECTRICAL CONNECTIONS FOR WEARABLES AND OTHER ARTICLES	Japan	12/1/2017	2017-231677	1/31/2022	7017383	EL1265-JP-NP
ELECTRICAL CONNECTIONS FOR WEARABLES AND OTHER ARTICLES	United States Of America	1/10/2019	16/244601	1/12/2021	10892588	EL1265-US-CIP
ARTICLES AND SUBSTRATES PROVIDING IMPROVED PERFORMANCE OF PRINTABLE ELECTRONICS	China	10/31/2017	201780081236.4			EL1269-CN-PCT
ARTICLES AND SUBSTRATES PROVIDING IMPROVED PERFORMANCE OF PRINTABLE ELECTRONICS	Germany	10/31/2017	112017005605.5			EL1269-DE-PCT
ARTICLES AND SUBSTRATES PROVIDING IMPROVED PERFORMANCE OF PRINTABLE ELECTRONICS	Japan	10/31/2017	2019-523818			EL1269-JP-PCT
ARTICLES AND SUBSTRATES PROVIDING IMPROVED PERFORMANCE OF PRINTABLE ELECTRONICS	United States Of America	11/7/2017	15/805226	11/3/2020	10827610	EL1269-US-NP
CONDUCTIVE PASTE FOR BONDING	Japan	9/21/2016	2016-184511			EL1270-JP-NP
CONDUCTIVE PASTE FOR BONDING AND MANUFACTURING METHOD OF ELECTRIC DEVICE USING THEREOF	Japan	11/1/2017	2017-212139	3/8/2022	7037332	EL1274-JP-NP
METHOD OF MANUFACTURING AN ELECTRONIC DEVICE AND CONDUCTIVE PASTE FOR THE SAME	European Procedure (Patents)	3/4/2019	19714511.3			EL1276-EP-EPT
CONDUCTIVE PASTE FOR BONDING	Japan	3/2/2018	2018-037566			EL1276-JP-NP
METHOD OF MANUFACTURING AN ELECTRONIC DEVICE AND CONDUCTIVE PASTE FOR THE SAME	United States Of America	11/9/2021	17/454098			EL1276-US-CNT
CONDUCTIVE PASTE AND ELECTRICAL COMPONENT	China	11/7/2019	201911083137.7			EL1282-CN-NP
DIELECTRIC FILTER AND METHOD FOR MANUFACTURING THE SAME	United States Of America	11/5/2019	16/674133	1/18/2022	11228080	EL1282-US-NP
IMPROVED PRINTABLE HEATERS TO HEAT WEARABLES AND OTHER ARTICLES	China	6/7/2018	201810579518.3			EL1295-CN-NP

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IMPROVED PRINTABLE HEATERS TO HEAT WEARABLES AND OTHER ARTICLES	United States Of America	1/7/2021	17/143747			EL1295-US-DIV
BENDABLE ELECTRICAL CONDUCTOR IN A THERMOFORMED ARTICLE	Germany	6/7/2018	102018004616.9	9/30/2019	102018004616	EL1296-DE-NP
BENDABLE ELECTRICAL CONDUCTOR IN A THERMOFORMED ARTICLE	Japan	6/7/2018	2018-109621			EL1296-JP-NP
HAND AND FOOT HEATERS	China	1/15/2019	201910035537.4			EL1307-CN-NP
HAND AND FOOT HEATERS	Germany	1/15/2019	102019100917.0			EL1307-DE-NP
HAND AND FOOT HEATERS	United States Of America	4/8/2021	17/225285			EL1307-US-DIV
HAND AND FOOT HEATERS	United States Of America	8/7/2018	16/057154	5/18/2021	11006685	EL1307-US-NP
POLYMER THICK FILM DIELECTRIC PASTE COMPOSITION	Germany	6/18/2019	112019003063.9			EL1309-DE-PCT
POLYMER THICK FILM DIELECTRIC PASTE COMPOSITION	Japan	6/18/2019	2020-570874			EL1309-JP-PCT
POLYMER THICK FILM DIELECTRIC PASTE COMPOSITION	United States Of America	6/18/2019	16/444331	7/13/2021	11064605	EL1309-US-NP
STRETCHABLE CONDUCTIVE FLUOROELASTOMER PASTE COMPOSITION	China	10/15/2019	201910978285.9			EL1313-CN-NP
STRETCHABLE CONDUCTIVE FLUOROELASTOMER PASTE COMPOSITION	Germany	10/16/2019	102019007189.1			EL1313-DE-NP
STRETCHABLE CONDUCTIVE FLUOROELASTOMER PASTE COMPOSITION	Japan	10/16/2019	2019-189553			EL1313-JP-NP
STRETCHABLE CONDUCTIVE FLUOROELASTOMER PASTE COMPOSITION	Taiwan	10/14/2019	108136917			EL1313-TW-NP
STRETCHABLE CONDUCTIVE FLUOROELASTOMER PASTE COMPOSITION	United States Of America	11/4/2021	17/519339			EL1313-US-DIV
FLEXIBLE ELECTRICALLY CONDUCTIVE PASTES AND DEVICES MADE THEREWITH	Germany	6/18/2019	112019003061.2			EL1314-DE-PCT
FLEXIBLE ELECTRICALLY CONDUCTIVE PASTES AND DEVICES MADE THEREWITH	Japan	6/18/2019	2020-570869			EL1314-JP-PCT
FLEXIBLE ELECTRICALLY CONDUCTIVE PASTES AND DEVICES MADE THEREWITH	United States Of America	6/18/2019	16/444304			EL1314-US-NP
FINE SILVER PARTICLE DISPERSION	United States Of America	4/4/2019	16/375095	7/27/2021	11072715	EL1319-US-NP
STRETCHABLE POLYMER THICK FILM CARBON BLACK COMPOSITION FOR WEARABLE HEATERS	China	5/13/2020	202010404482.2			EL1404-CN-NP
STRETCHABLE POLYMER THICK FILM CARBON BLACK COMPOSITION FOR WEARABLE HEATERS	Germany	5/13/2020	102020112920.3			EL1404-DE-NP
STRETCHABLE POLYMER THICK FILM CARBON BLACK COMPOSITION FOR WEARABLE HEATERS	Japan	5/13/2020	2020-084435			EL1404-JP-NP
STRETCHABLE POLYMER THICK FILM CARBON BLACK COMPOSITION FOR WEARABLE HEATERS	Taiwan	5/13/2020	109115797			EL1404-TW-NP
STRETCHABLE POLYMER THICK FILM CARBON BLACK COMPOSITION FOR WEARABLE HEATERS	United States Of America	5/11/2020	16/871789	1/11/2022	11220587	EL1404-US-NP
Dielectric Filter	International Procedure	6/16/2022	PCT/US22/072979			EL2103-WO-PCT

Title	Country	Filing	Filing Number	Grant	Grant Number	Case Reference
Thermoformable conductive Ag composition	United States Of America					EL2104-US-PSP
Thermoformable conductive Ag composition (ME102)	United States Of America					EL2105-US-PSP