

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3989995

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT	
<b>CONVEYING PARTY DATA</b>		
<b>Name</b>		<b>Execution Date</b>
SANDISK CORPORATION		07/12/2016
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	SANDISK TECHNOLOGIES LLC	
<b>Street Address:</b>	6900 DALLAS PARKWAY	
<b>Internal Address:</b>	SUITE 325	
<b>City:</b>	PLANO	
<b>State/Country:</b>	TEXAS	
<b>Postal Code:</b>	75024	
<b>PROPERTY NUMBERS Total: 49</b>		
<b>Property Type</b>	<b>Number</b>	
Application Number:	09893277	
Application Number:	10323534	
Application Number:	10966451	
Application Number:	11205595	
Application Number:	10353574	
Application Number:	11004139	
Application Number:	11003046	
Application Number:	11419696	
Application Number:	10051372	
Application Number:	10656139	
Application Number:	11049535	
Application Number:	11417185	
Application Number:	11871441	
Application Number:	12168283	
Application Number:	12652418	
Application Number:	12967227	
Application Number:	13482577	
Application Number:	14078195	
Application Number:	14559265	

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Property Type	Number
Application Number:	14983802
Application Number:	10665685
Application Number:	11389557
Application Number:	10823737
Application Number:	11289509
Application Number:	11391299
Application Number:	11387818
Application Number:	12108272
Application Number:	12846118
Application Number:	13099024
Application Number:	10689333
Application Number:	11624052
Application Number:	60612089
Application Number:	11319895
Application Number:	61822009
Application Number:	14018790
Application Number:	14200819
Application Number:	14638817
Application Number:	61876539
Application Number:	14199082
Application Number:	60356455
Application Number:	09838817
Application Number:	12038666
Application Number:	60638804
Application Number:	60651128
Application Number:	60639442
Application Number:	11314032
Application Number:	60717164
Application Number:	60717163
Application Number:	11317339

#### CORRESPONDENCE DATA

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**PATENT**

**REEL: 039551 FRAME: 0232**

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<b>SIGNATURE:</b>	/SB/
<b>DATE SIGNED:</b>	08/03/2016
<b>Total Attachments: 9</b> source=executed assign#page1.tif source=executed assign#page2.tif source=executed assign#page3.tif source=executed assign#page4.tif source=executed assign#page5.tif source=executed assign#page6.tif source=executed assign#page7.tif source=executed assign#page8.tif source=executed assign#page9.tif	

## ASSIGNMENT

WHEREAS, SanDisk Corporation, a corporation doing business at 951 SanDisk Drive, Milpitas, CA 95035 (hereinafter referred to as Assignor), is a co-owner of all patents and patent applications listed on Schedule A together with all divisions, continuations, or continuations-in-part thereof, and all patents issuing thereon including reissues, renewals, substitutions, re-examinations and extensions thereof, and any and all corresponding foreign patents and patent applications (hereinafter referred to as, collectively, THE ASSIGNED PATENT RIGHTS);

WHEREAS, SanDisk Technologies LLC, a Texas company, doing business at 6900 Dallas Parkway, Suite 325, Plano, Texas 75024, (hereinafter referred to as Assignee), is desirous of acquiring Assignor's right, title and interest in THE ASSIGNED PATENT RIGHTS;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, Assignor hereby assigns, transfers and conveys unto the said Assignee, and Assignee accepts, all of Assignor's right, title and interest throughout the world in and to THE ASSIGNED PATENT RIGHTS and to all Letters Patent or applications or similar legal protection, not only in the United States and its territorial possessions, but in all countries foreign thereto to be obtained for THE ASSIGNED PATENT RIGHTS, and to any continuation, division, renewal, substitute or reissue thereof or any legal equivalent thereof in the United States or a foreign country for the full term or terms for which the same may be granted, including all priority rights under the International Convention; and Assignor hereby authorizes and requests the United States Commissioner of Patents and Trademarks and any officials of foreign countries whose duty it is to issue patents on applications as aforesaid, to issue all patents for THE ASSIGNED PATENT RIGHTS to Assignee in accordance with the terms of this ASSIGNMENT but subject to reserved rights including but not limited to those previously retained by, granted to, or owned by, the United States government, educational institutions or both and hereby transfers and conveys all rights of action, power and benefit belonging to or accruing from THE ASSIGNED PATENT RIGHTS including the right to undertake proceedings to recover past and future damages and claim all other relief in respect of any acts of infringement thereof whether such acts shall have been committed before or after the date of this assignment.

No other rights, immunities, or licenses, including, without limitation, any rights to any intellectual property owned, controlled or licensable by Assignor are granted or assigned to Assignee under this ASSIGNMENT, either expressly or by implication, estoppels, or otherwise, other than the rights expressly recited herein.

Assignor hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would knowingly conflict with this Agreement;

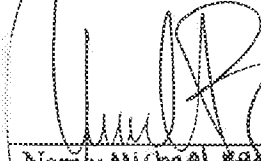
Assignor further covenants that Assignee will, upon its lawful request, reasonably be provided with all pertinent facts and documents relating to THE ASSIGNED PATENT RIGHTS and legal equivalents as may be known and reasonably accessible to Assignor and that Assignor will testify as to the same in any administrative contest or litigation related thereto and will promptly execute and deliver to Assignee or its legal representative any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce THE ASSIGNED PATENT RIGHTS and said equivalents

in the United States or in any foreign country, which may be necessary or desirable to carry out the purposes thereof.

IN TESTIMONY WHEREOF, I hereunto set my hand as of the date indicated below:

July 12, 2016  
Date

SANDISK CORPORATION

  
Name: Michael Wang  
Title: President & Secretary

IN TESTIMONY WHEREOF, in accepting said Assignment, I hereunto set my hand as of the date indicated below:

SANDISK TECHNOLOGIES LLC

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name: E. Earle Thompson  
Title: Manager

in the United States or in any foreign country, which may be necessary or desirable to carry out the purposes thereof.

IN TESTIMONY WHEREOF, I hereunto set my hand as of the date indicated below:

**SANDISK CORPORATION**

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name:

Title:

IN TESTIMONY WHEREOF, in accepting said Assignment, I hereunto set my hand as of the date indicated below:

**SANDISK TECHNOLOGIES LLC**

July 12, 2016  
Date

E. Earle Thompson  
Name: E. Earle Thompson  
Title: Manager

## Schedule A

File #	Title	Country	Matter type	Application #	Date Filed	Patent #	Grant Date	Status
FLV0001.000CN	Operating Techniques For Reducing Effects Of Coupling Between Storage Elements Of A Non-Volatile Memory Operated In Multiple Data States	CN	Utility - NSPCT	02143467.0	Jun 27, 2002	ZL02143467.0	Jul 6, 2007	Issued
FLV0001.001CN	Operating Techniques For Reducing Effects Of Coupling Between Storage Elements Of A Non-Volatile Memory Operated In Multiple Data States	CN	Utility - DIV	200710153755.5	Jun 27, 2002	ZL200710153755.5	Feb 8, 2012	Issued
FLV0002.000CN	Data States							
FLV0002.000CN	Non-Volatile Semiconductor Memory With Large Erase Blocks	CN	Utility - ORG	200360109217.6	Dec 18, 2003	ZL200360109217.6	Oct 6, 2010	Issued
FLV0003.000CN	Storing Cycle Counts							
FLV0003.000CN	Non-Volatile Semiconductor Memory Device Adapted To Store a Multi-Valued Data in a Single Memory Cell	CN	Utility - ORG	02106452.0	Feb 28, 2002	ZL02106452.0	Sep 19, 2007	Issued
FLV0003.002CN	Non-Volatile Semiconductor Memory Device Adapted To Store a Multi-Valued Data in a Single Memory Cell	CN	Utility - DIV	200510116413.7	Feb 28, 2002	ZL200510116413.7	Sep 9, 2009	Issued
FLV0004.000CN	Methods For Identifying Non-Volatile Memory Elements With Poor Subthreshold Slope Or Weak Transconductance	CN	Utility - NSPCT	200480026763.8	Sep 16, 2004	ZL200480026763.8	Oct 12, 2011	Issued
FLV0004.001CN	Methods For Identifying Non-Volatile Memory Elements With Poor Subthreshold Slope Or Weak Transconductance	CN	Utility - DIV	201110204417.6	Sep 16, 2004	ZL201110204417.6	Jul 16, 2014	Issued
FLV0005.000CN	Behavior Based Programming Of Non-Volatile Memory	CN	Utility - ORG	200410032925.0	Apr 16, 2004	ZL200410032925.0	Aug 19, 2009	Issued
FLV0006.000CN	Non-Volatile Semiconductor Memory Device Which Uses Some Memory Blocks in Multilevel Memory as Binary Memory Blocks	CN	Utility - NSPCT	200480027371.3	Aug 23, 2004	ZL200480027371.3	Oct 6, 2010	Issued
FLV0007.000CN	Non-Volatile Semiconductor Memory Device Having Protection Function For Each Memory Block	CN	Utility - NSPCT	200480027761.0	Aug 23, 2004	ZL200480027761.0	Sep 22, 2010	Issued
FLV0008.000CN	Behavior Based Programming Of Non-Volatile Memory	CN	Utility - NSPCT	200480030734.9	Oct 12, 2004	ZL200480030734.9	Apr 14, 2010	Issued
SDK0572.000CN	Secure Memory Card With Life Cycle Phases	CN	Utility - NSPCT	200680004229.6	Feb 1, 2006	ZL200680004229.6	Jun 16, 2010	Issued
SDK0733.000CN	Secure yet flexible system architecture for secure devices with flash mass storage memory	CN	Utility - NSPCT	200680033896.7	Sep 13, 2006	ZL200680033896.7	Jul 17, 2013	Issued
FLV0001.000DE	Operating Techniques For Reducing Effects Of Coupling Between Storage Elements Of A Non-Volatile Memory Operated In Multiple Data States	DE	Utility - EPPAT	02254491.0	Jun 26, 2002	1271553	Jun 13, 2007	Issued
FLV0001.001DE	Operating Techniques For Reducing Effects Of Coupling Between Storage Elements Of A Non-Volatile Memory Operated In Multiple Data States	DE	Utility - EPPAT	070063441	Jun 26, 2002	1814122	May 15, 2013	Issued
FLV0002.000DE	Non-Volatile Semiconductor Memory With Large Erase Blocks	DE	Utility - EPPAT	03915779.8	Dec 18, 2003	1588379	Feb 27, 2008	Issued
FLV0002.001DE	Non-Volatile Semiconductor Memory With Large Erase Blocks	DE	Utility - EPPAT	070760277	Dec 18, 2003	1975942	Jun 6, 2012	Issued
FLV0003.000DE	Storing Cycle Counts							
FLV0003.000DE	Non-Volatile Semiconductor Memory Device Adapted To Store a Multi-Valued Data in a Single Memory Cell	DE	Utility - EPPAT	02001104.5	Jan 23, 2002	1324343	May 7, 2014	Issued
FLV0004.000DE	Methods For Identifying Non-Volatile Memory Elements With Poor Subthreshold Slope Or Weak Transconductance	DE	Utility - EPPAT	04784376.8	Sep 16, 2004	1665285	Apr 23, 2008	Issued
FLV0004.001DE	Methods For Identifying Non-Volatile Memory Elements With Poor Subthreshold Slope Or Weak Transconductance	DE	Utility - EPPAT	08003458	Sep 16, 2004	2015310	Nov 9, 2011	Issued
FLV0005.000DE	Behavior Based Programming Of Non-Volatile Memory	DE	Utility - EPPAT	04008974.0	Apr 15, 2003	1469480	Aug 5, 2009	Issued
FLV0008.000DE	BEHAVIOR BASED PROGRAMMING OF NON-VOLATILE MEMORY (FLV0008.000EP) (formerly SDK0468.000US)	DE	Utility - EPPAT	04795181.9	Oct 12, 2004	1678722	Jan 19, 2011	Issued

## Schedule A

File #	Title	Country	Matter type	Application #	Date Filed	Patent #	Grant Date	Status
FLV0006.000EP	Non-Volatile Semiconductor Memory Device Which Uses Some Memory Blocks in Multilevel Memory as Binary Memory Blocks	EP	Utility - NSPCT	04772376.2	Aug 23, 2004			Published
FLV0007.000EP	Non-Volatile Semiconductor Memory Device Having Protection Function For Each Memory Block	EP	Utility - NSPCT	04772375.4	Aug 23, 2004			Published
FLV0001.001FR	Operating Techniques For Reducing Effects Of Coupling Between Storage Elements Of A Non-Volatile Memory Operated In Multiple Data States	FR	Utility - EPPAT	070063441	Jun 26, 2002	1814122	May 15, 2013	Issued
FLV0002.000FR	Non-Volatile Semiconductor Memory With Large Erase Blocks	FR	Utility - EPPAT	03815779.8	Dec 18, 2003	1588379	Feb 27, 2008	Issued
FLV0002.001FR	Storing Cycle Counts	FR	Utility - EPPAT	070760277	Dec 18, 2003	1975942	Jun 6, 2012	Issued
FLV0004.000FR	Methods For Identifying Non-Volatile Memory Elements With Poor Subthreshold Slope Or Weak Transconductance	FR	Utility - EPPAT	04784376.8	Sep 16, 2004	1665285	Apr 23, 2008	Issued
FLV0004.001FR	Methods For Identifying Non-Volatile Memory Elements With Poor Subthreshold Slope Or Weak Transconductance	FR	Utility - EPPAT	080043458	Sep 16, 2004	2015310	Nov 9, 2011	Issued
FLV0005.000FR	Behavior Based Programming Of Non-Volatile Memory	FR	Utility - EPPAT	04008974.0	Apr 15, 2003	1469480	Aug 5, 2009	Issued
FLV0008.000FR	BEHAVIOR BASED PROGRAMMING OF NON-VOLATILE MEMORY (FLV0008.000EP) (formerly SDK0466.000US)	FR	Utility - EPPAT	04795181.9	Oct 12, 2004	1678722	Jan 19, 2011	Issued
FLV0001.000GB	Operating Techniques For Reducing Effects Of Coupling Between Storage Elements Of A Non-Volatile Memory Operated In Multiple Data States	GB	Utility - EPPAT	02254491.0	Jun 26, 2002	1271553	Jun 13, 2007	Issued
FLV0001.001GB	Operating Techniques For Reducing Effects Of Coupling Between Storage Elements Of A Non-Volatile Memory Operated In Multiple Data States	GB	Utility - EPPAT	070063441	Jun 26, 2002	1814122	May 15, 2013	Issued
FLV0002.000GB	Non-Volatile Semiconductor Memory With Large Erase Blocks	GB	Utility - EPPAT	03815779.8	Dec 18, 2003	1588379	Feb 27, 2008	Issued
FLV0002.001GB	Storing Cycle Counts	GB	Utility - EPPAT	070760277	Dec 18, 2003	1975942	Jun 6, 2012	Issued
FLV0003.000GB	Non-Volatile Semiconductor Memory Device Adapted To Store a Multi-Valued Data in a Single Memory Cell	GB	Utility - EPPAT	02001104.5	Jan 23, 2002	1324343	May 7, 2014	Issued
FLV0004.000GB	Methods For Identifying Non-Volatile Memory Elements With Poor Subthreshold Slope Or Weak Transconductance	GB	Utility - EPPAT	04784376.8	Sep 16, 2004	1665285	Apr 23, 2008	Issued
FLV0004.001GB	Methods For Identifying Non-Volatile Memory Elements With Poor Subthreshold Slope Or Weak Transconductance	GB	Utility - EPPAT	080043458	Sep 16, 2004	2015310	Nov 9, 2011	Issued
FLV0005.000GB	Behavior Based Programming Of Non-Volatile Memory	GB	Utility - EPPAT	04008974.0	Apr 15, 2003	1469480	Aug 5, 2009	Issued
FLV0008.000GB	BEHAVIOR BASED PROGRAMMING OF NON-VOLATILE MEMORY (FLV0008.000EP) (formerly SDK0466.000US)	GB	Utility - EPPAT	04795181.9	Oct 12, 2004	1678722	Jan 19, 2011	Issued
FLV0001.000IT	Operating Techniques For Reducing Effects Of Coupling Between Storage Elements Of A Non-Volatile Memory Operated In Multiple Data States	IT	Utility - EPPAT	02254491.0	Jun 26, 2002	1271553	Jun 13, 2007	Issued
FLV0002.000IT	Non-Volatile Semiconductor Memory With Large Erase Blocks	IT	Utility - EPPAT	03815779.8	Dec 18, 2003	1588379	Feb 27, 2008	Issued
FLV0004.000IT	Methods For Identifying Non-Volatile Memory Elements With Poor Subthreshold Slope Or Weak Transconductance	IT	Utility - EPPAT	04784376.8	Sep 16, 2004	1665285	Apr 23, 2008	Issued
FLV0001.000JP	Operating Techniques For Reducing Effects Of Coupling Between Storage Elements Of A Non-Volatile Memory Operated In Multiple Data States	JP	Utility - NSPCT	2002-187020	Jun 27, 2002	4221196	Nov 21, 2008	Issued



## Schedule A

File #	Title	Country	Master type	Application #	Date Filed	Patent #	Grant Date	Status
FLV0002.000JP	Non-Volatile Semiconductor Memory With Large Erase Blocks	JP	Utility - NSPCT	2004-568035	Dec 18, 2003	4648006	Dec 17, 2010	Issued
FLV0003.000JP	Storing Cycle Counts	JP	Utility - ORG	2001-397446	Dec 27, 2001	3631463	Dec 24, 2004	Issued
FLV0004.000JP	Multi-Valued Data in a Single Memory Cell	JP	Utility - NSPCT	2004-304919	Sep 17, 2004	5198717	Feb 15, 2013	Issued
FLV0005.000JP	Methods For Identifying Non-Volatile Memory Elements With Poor Subthreshold Slope Or Weak Transconductance	JP	Utility - ORG	2003-114762	Apr 18, 2003	4314057	May 22, 2009	Issued
FLV0006.000JP	Behavior Based Programming of Non-Volatile Memory	JP	Utility - ORG	2003-338545	Sep 29, 2003	4270994	Mar 6, 2009	Issued
FLV0008.000JP	Non-Volatile Semiconductor Memory Device Which Uses Some Memory Blocks in Multilevel Memory as Binary Memory Blocks	JP	Utility - NSPCT	2004-76471	Mar 17, 2004	4646534	Dec 17, 2010	Issued
FLV0013.000JP	BEHAVIOR BASED PROGRAMMING OF NON-VOLATILE MEMORY	JP	Utility - NSPCT	2008-548758	Dec 27, 2006	4934149	Feb 24, 2012	Issued
FLV0013.000JP	FABRICATION OF SEMICONDUCTOR DEVICE FOR FLASH MEMORY WITH INCREASED SELECT GATE WIDTH (FLV0011.000US)	JP	Utility - ORG	2008-254988	Sep 30, 2008	5548350	May 23, 2014	Issued
FLV0015.001JP	Nonvolatile semiconductor memory device and manufacturing method thereof	JP	Utility - ORG	2013-182442	Sep 17, 2013			Pending
SDK0571.0001-JP	Resistance Change Memory	JP	Utility - DIV	2010-049119	Dec 21, 2005	4848039	Oct 21, 2011	Issued
SDK0571.000JP	Memory System with Versatile Content Control	JP	Utility - NSPCT	2007-548449	Dec 21, 2005	4847967	Oct 21, 2011	Issued
SDK0572.000JP	Memory System With Versatile Content Control	JP	Utility - NSPCT	2007-554249	Feb 1, 2006	4787273	Jul 22, 2011	Issued
SDK0726.000JP	Secure Memory Card With Life Cycle Phases	JP	Utility - NSPCT	2007-548469	Dec 21, 2005	5118494	Oct 26, 2012	Issued
SDK0733.000JP	Memory System With In Stream Data Encryption / Decryption	JP	Utility - NSPCT	2008-531323	Sep 13, 2006	4891324	Dec 22, 2011	Issued
FLV0001.000KR	Secure yet flexible system architecture for secure devices with Flash mass storage memory	KR	Utility - NSPCT	2002-36424	Jun 27, 2002	10-0926950	Nov 9, 2009	Issued
FLV0002.000KR	Operating Techniques For Reducing Effects Of Coupling Between Storage Elements Of A Non-Volatile Memory Operated In Multiple Data States	KR	Utility - NSPCT	2005-7013970	Dec 18, 2003	10-1089575	Nov 29, 2011	Issued
FLV0003.000KR	Non-Volatile Semiconductor Memory With Large Erase Blocks	KR	Utility - ORG	2002-0010414	Jul 8, 2004	467410	Jan 12, 2005	Issued
FLV0004.000KR	Storing Cycle Counts	KR	Utility - NSPCT	2006-7005470	Sep 16, 2004	19-1124175	Feb 29, 2012	Issued
FLV0005.000KR	Multi-Valued Data in a Single Memory Cell	KR	Utility - NSPCT	2006-7005470	Sep 16, 2004	19-1124175	Feb 29, 2012	Issued
FLV0006.000KR	Methods For Identifying Non-Volatile Memory Elements With Poor Subthreshold Slope Or Weak Transconductance	KR	Utility - ORG	2004-24773	Apr 14, 2004	599905	Jul 5, 2006	Issued
FLV0007.000KR	Behavior Based Programming of Non-Volatile Memory	KR	Utility - NSPCT	2006-7005576	Aug 23, 2004	10-721062	May 16, 2007	Issued
FLV0008.000KR	Non-Volatile Semiconductor Memory Device Which Uses Some Memory Blocks in Multilevel Memory as Binary Memory Blocks	KR	Utility - NSPCT	2006-7005766	Aug 23, 2004	10-721061	May 16, 2007	Issued
FLV0008.000KR	Function for Each Memory Block	KR	Utility - NSPCT	2006-7007560	Oct 12, 2004	10-1161429	Jun 25, 2012	Issued
FLV0008.001KR	BEHAVIOR BASED PROGRAMMING OF NON-VOLATILE MEMORY	KR	Utility - DIV	2012-7009782	Oct 12, 2004	10-1323843	Oct 24, 2013	Issued

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REEL: 039551 FRAME: 0239

## Schedule A

File #	Title	Country	Matter type	Application #	Date filed	Patent #	Grant Date	Status
SPK0571.0000-I-KR	Memory System With Versatile Content Control	KR	Utility - DIV	2009-7026876	Dec 21, 2005	10-1213118	Dec 11, 2012	Issued
SPK0571.0000-KR	Memory System With Versatile Content Control	KR	Utility - NSPCT	2007-7016643	Dec 21, 2005	10-1214497	Dec 14, 2012	Issued
SPK0572.0000-KR	Secure Memory Card With Life Cycle Phases	KR	Utility - NSPCT	2007-7018143	Feb 1, 2006	10-0972540	Jul 21, 2010	Issued
SPK0726.0000-KR	Memory System With In Stream Data Encryption / Decryption	KR	Utility - NSPCT	2007-7016700	Dec 21, 2005	10-1297760	Aug 12, 2013	Issued
SPK0726.001KR	Memory System With In Stream Data Encryption / Decryption	KR	Utility - DIV	2012-7027415	Dec 21, 2005	10-1323746	Oct 22, 2013	Issued
SPK0733.0000-KR	Secure yet flexible system architecture for secure devices with flash mass storage memory	KR	Utility - NSPCT	2008-7006257	Sep 13, 2006	10-1014179	Feb 7, 2011	Issued
FLV0001.0000-NL	Operating Techniques For Reducing Effects Of Coupling Between Storage Elements Of A Non-Volatile Memory Operated In Multiple Data States	NL	Utility - EPPAT	02254491.0	Jun 26, 2002	1271553	Jun 13, 2007	Issued
FLV0001.001NL	Operating Techniques For Reducing Effects Of Coupling Between Storage Elements Of A Non-Volatile Memory Operated In Multiple Data States	NL	Utility - EPPAT	070063441	Jun 26, 2002	1814122	May 15, 2013	Issued
FLV0002.0000-NL	Non-Volatile Semiconductor Memory With Large Erase Blocks	NL	Utility - EPPAT	03815779.8	Dec 18, 2003	1588379	Feb 27, 2008	Issued
FLV0002.001NL	Non-Volatile Semiconductor Memory With Large Erase Blocks	NL	Utility - EPPAT	070760277	Dec 18, 2003	1975942	Jun 6, 2012	Issued
FLV0004.0000-NL	Storage Cycle Counts	NL	Utility - EPPAT	04784376.8	Sep 16, 2004	1665285	Apr 23, 2008	Issued
FLV0004.001NL	Methods For Identifying Non-Volatile Memory Elements With Poor Subthreshold Slope Or Weak Transconductance	NL	Utility - EPPAT	080043458	Sep 16, 2004	2015310	Nov 9, 2011	Issued
FLV0008.0000-NL	Poor Subthreshold Slope Or Weak Transconductance BEHAVIOR BASED PROGRAMMING OF NON-VOLATILE MEMORY (FLV0008.0000EP) (formerly SPK0468.0001US)	NL	Utility - EPPAT	04795181.9	Oct 12, 2004	1678722	Jan 19, 2011	Issued
FLV0001.0007TW	Operating Techniques For Reducing Effects Of Coupling Between Storage Elements Of A Non-Volatile Memory Operated In Multiple Data States	TW	Utility - ORG	091113894	Jun 25, 2002	1199878	Aug 3, 2004	Issued
FLV0002.0007TW	Non-Volatile Semiconductor Memory With Large Erase Blocks	TW	Utility - ORG	93101054	Jan 15, 2004	1323466	Apr 11, 2010	Issued
FLV0003.0007TW	Storage Cycle Counts	TW	Utility - ORG	091103610	Feb 27, 2002	182686	Nov 24, 2003	Issued
FLV0004.0007TW	Multi-Valued Data In A Single Memory Cell	TW	Utility - ORG	093128293	Sep 17, 2004	1264009	Oct 11, 2006	Issued
FLV0005.0007TW	Methods For Identifying Non-Volatile Memory Elements With Poor Subthreshold Slope Or Weak Transconductance	TW	Utility - ORG	093110558	Apr 15, 2004	1237270	Aug 1, 2005	Issued
FLV0006.0007TW	Behavior Based Programming Of Non-Volatile Memory	TW	Utility - ORG	93125649	Aug 26, 2004	1251833	Mar 21, 2006	Issued
FLV0007.0007TW	Non-Volatile Semiconductor Memory Device Which Uses Some Memory Blocks In Multilevel Memory as Binary Memory Blocks	TW	Utility - ORG	93125655	Aug 26, 2004	1266326	Nov 11, 2006	Issued
FLV0008.0007TW	Function For Each Memory Block	TW	Utility - ORG	093131854	Oct 20, 2004	1262506	Sep 21, 2006	Issued
FLV0011.0007TW	Behavior Based Programming Of Non-Volatile Memory	TW	Utility - ORG	093149282	Dec 27, 2006	1333263	Nov 11, 2010	Issued

PATENT

REEL: 039551 FRAME: 0240

## Schedule A

File #	Title	Country	Matter type	Application #	Date Filed	Patent #	Grant Date	Status
FLV0001.000US	Operating Techniques For Reducing Effects Of Coupling Between Storage Elements Of A Non-Volatile Memory Operated In Multiple Data States	US	Utility - ORG	09/893,277	Jun 27, 2001	6,522,580	Feb 18, 2003	Issued
FLV0001.001US	Multi-State Non-Volatile Memory Capable of Reducing Effects of Coupling Between Storage Elements	US	Utility - CON	10/323,534	Dec 18, 2002	6,807,095	Oct 19, 2004	Issued
FLV0001.002US	Operating Techniques for Reducing Effects of Coupling Between Storage Elements of a Non-Volatile Memory Operated in Multiple Data States	US	Utility - CON	10/966,451	Oct 15, 2004	7,061,798	Jun 13, 2006	Issued
FLV0001.003US	Operating Techniques for Reducing Effects of Coupling Between Storage Elements of a Non-Volatile Memory Operated in Multiple Data States	US	Utility - DIV	11/205,595	Aug 16, 2005	7,224,613	May 29, 2007	Issued
FLV0002.000US	Non-Volatile Semiconductor Memory With Large Erase Blocks	US	Utility - ORG	10/353,574	Jan 28, 2003	6,944,063	Sep 13, 2005	Issued
FLV0002.001US	Storage Cycle Counts	US	Utility - DIV	11/004,139	Dec 2, 2004	7,307,881	Dec 11, 2007	Issued
FLV0002.002US	Storage Cycle Counts	US	Utility - DIV	11/003,046	Dec 2, 2004	7,085,161	Aug 1, 2006	Issued
FLV0002.003US	Storage Cycle Counts	US	Utility - CON	11/419,696	May 22, 2006	7,394,692	Jul 1, 2008	Issued
FLV0003.000US	Non-Volatile Semiconductor Memory Device Adapted to Store a Multi-Valued Data in a Single Memory Cell	US	Utility - ORG	10/051,372	Jan 22, 2002	6,643,188	Nov 4, 2003	Issued
FLV0003.001US	Non-Volatile Semiconductor Memory Device Adapted to Store a Multi-Valued Data in a Single Memory Cell	US	Utility - DIV	10/656,139	Sep 8, 2003	6,990,019	Jan 24, 2006	Issued
FLV0003.002US	Non-Volatile Semiconductor Memory Device Adapted to Store a Multi-Valued Data in a Single Memory Cell	US	Utility - DIV	11/049,535	Feb 3, 2005	7,088,616	Aug 8, 2006	Issued
FLV0003.003US	Non-Volatile Semiconductor Memory Device Adapted to Store a Multi-Valued Data in a Single Memory Cell	US	Utility - CON	11/417,185	May 4, 2006	7,286,404	Oct 23, 2007	Issued
FLV0003.004US	Non-Volatile Semiconductor Memory Device Adapted to Store a Multi-Valued Data in a Single Memory Cell	US	Utility - CON	11/871,441	Oct 12, 2007	7,405,970	Jul 29, 2008	Issued
FLV0003.005US	Non-Volatile Semiconductor Memory Device Adapted to Store a Multi-Valued Data in a Single Memory Cell	US	Utility - CON	12/168,283	Jul 7, 2008	7,672,168	Mar 2, 2010	Issued
FLV0003.006US	Non-Volatile Semiconductor Memory Device Adapted to Store a Multi-Valued Data in a Single Memory Cell	US	Utility - CON	12/652,418	Jan 5, 2010	7,864,591	Jan 4, 2011	Issued
FLV0003.007US	Non-Volatile Semiconductor Memory Device Adapted to Store a Multi-Valued Data in a Single Memory Cell	US	Utility - CON	12/967,227	Dec 14, 2010	8,208,311	Jun 26, 2012	Issued
FLV0003.008US	Non-Volatile Semiconductor Memory Device Adapted to Store a Multi-Valued Data in a Single Memory Cell	US	Utility - CON	13/482,577	May 29, 2012	8,605,511	Dec 10, 2013	Issued
FLV0003.009US	Non-Volatile Semiconductor Memory Device Adapted to Store a Multi-Valued Data in a Single Memory Cell	US	Utility - CON	14/078,195	Nov 12, 2013	8,929,135	Jan 6, 2015	Issued
FLV0003.010US	Non-Volatile Semiconductor Memory Device Adapted to Store a Multi-Valued Data in a Single Memory Cell	US	Utility - CON	14/559,265	Dec 3, 2014	9,257,189	Feb 9, 2016	Issued
FLV0003.011US	Non-Volatile Semiconductor Memory Device Adapted to Store a Multi-Valued Data in a Single Memory Cell	US	Utility - CON	14/983,802	Dec 30, 2015			Pending
FLV0004.000US	Poor Subthreshold Slope Of Weak Transconductance	US	Utility - ORG	10/665,685	Sep 17, 2003	7,046,555	May 16, 2006	Issued
FLV0004.001US	Methods for Identifying Non-Volatile Memory Elements with poor subthreshold slope or weak transconductance	US	Utility - DIV	11/389,557	Mar 23, 2006	7,414,894	Aug 19, 2008	Issued
FLV0005.000US	Non-Volatile Semiconductor Memory Device, Electronic Card using the same and Electronic apparatus	US	Utility - ORG	10/823,737	Apr 14, 2004	6,990,018	Jan 24, 2006	Issued
FLV0005.001US	Non-Volatile Semiconductor Memory Device, Electronic Card using the same and Electronic apparatus	US	Utility - CON	11/289,509	Nov 30, 2005	7,394,704	Jul 1, 2008	Issued

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## Schedule A

File #	Title	Country	Matter type	Application #	Date Filed	Patent #	Grant Date	Status
FLV0006.000US	Non-Volatile Semiconductor Memory Device Which Uses Some Memory Blocks in Multilevel Memory as Binary Memory Blocks	US	Utility - NSPCT	11/391,299	Mar 29, 2006			Abandoned
FLV0007.000US	Non-Volatile Semiconductor Memory Device Having Protection Function for Each Memory Block	US	Utility - NSPCT	11/387,818	Aug 23, 2004	7,376,010	May 20, 2008	Issued
FLV0007.001US	Non-Volatile Semiconductor Memory Device Having Protection Function for Each Memory Block	US	Utility - DIV	12/108,272	Apr 23, 2008	7,787,296	Aug 31, 2010	Issued
FLV0007.002US	Non-Volatile Semiconductor Memory Device Having Protection Function for Each Memory Block	US	Utility - DIV	12/846,118	Jul 29, 2010	7,952,925	May 31, 2011	Issued
FLV0007.003US	Non-Volatile Semiconductor Memory Device Having Protection Function for Each Memory Block	US	Utility - DIV	13/099,024	May 2, 2011	8,111,551	Feb 7, 2012	Issued
FLV0008.000US	Behavior Based Programming on Non-Volatile Memories	US	Utility - ORG	10/689,353	Oct 20, 2003	7,177,199	Feb 13, 2007	Issued
FLV0008.001US	BEHAVIOR BASED PROGRAMMING OF NON-VOLATILE MEMORY	US	Utility - CON	11/624,052	Jan 17, 2007	7,633,807	Dec 15, 2009	Issued
FLV0009.000US	A 146mm2 8Gb Flash Memory with 70nm CMOS Technology	US	Prov - ORG	60/612,089	Sep 21, 2004			Abandoned
FLV0011.000US	FABRICATION OF SEMICONDUCTOR DEVICE FOR FLASH MEMORY WITH INCREASED SELECT GATE WIDTH	US	Utility - ORG	11/319,895	Dec 28, 2005	7,365,018	Apr 29, 2008	Issued
FLV0015.000US	Resistance Change Memory	US	Prov - ORG	61/822,009	Jun 10, 2013			Completed
FLV0015.001US	Resistance Change Memory	US	Utility - NPREG	14/018,790	Sep 5, 2013	9,117,516	Aug 25, 2015	Issued
FLV0016.000US	Semiconductor Device	US	Utility - ORG	14/200,819	Mar 7, 2014			Abandoned
FLV0016.001US	Semiconductor Device	US	Utility - CIP	14/638,817	Mar 4, 2015			Published
FLV0017.000US	Temperature Sensor	US	Prov - ORG	61/876,539	Sep 11, 2013			Completed
FLV0017.001US	Temperature Sensor	US	Utility - NPREG	14/199,062	Mar 6, 2014			Pending
FLV0343.000PP	125mm2 1GB NAND Flash Memory With 10 MB/s Program Throughout	US	Prov - ORG	60/356,455	Feb 11, 2002			Completed
SDK0022.000US	Wear Leveling Techniques for Flash EEPROM Systems	US	Utility - ORG	09/838,817	Apr 19, 2001			Abandoned
SDK0022.006US	Wear Leveling Techniques for Flash EEPROM Systems	US	Utility - DIV	12/038,666	Feb 27, 2008			Abandoned
SDK0571.000US	Memory System With Versatile Content Control	US	Prov - ORG	60/638,804	Dec 21, 2004			Completed
SDK0572.000US	Secure Memory Card With Life Cycle Phases	US	Prov - ORG	60/651,128	Feb 7, 2005			Completed
SDK0726.000US	Memory System With In-Stream Data Encryption/Decryption	US	Prov - ORG	60/639,442	Dec 21, 2004			Completed
SDK0726.002US	Memory system with an in stream data encryption/decryption	US	Utility - NPREG	11/314,032	Dec 20, 2005			Abandoned
SDK0733.000US	Secure Yet Flexible System Architecture for Secure Devices With Flash Mass Storage Memory	US	Prov - ORG	60/717,164	Sep 14, 2005			Completed
SDK0733.001US	Secure Yet Flexible System Architecture for Secure Devices With Flash Mass Storage Memory	US	Prov - ORG	60/717,163	Sep 14, 2005			Completed
SDK0733.003US	Secure Yet Flexible System Architecture for Secure Devices With Flash Mass Storage Memory	US	Utility - ORG	11/317,339	Dec 22, 2005			Abandoned

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