

Title and Inventors (311 Patents and Applications Assigned by Ovonyx Inc. to Ovonyx Memory Technology, LLC (July 15, 2015; Recorded December 8, 2015)	Appl. No. & Fil. Date	Publ. No. & Publ. Date	Patent No. & Issue Date
Programmable Resistance Memory; Inventors: Ward Parkinson	<a href="#">12626988</a> 30-Nov-09	<a href="#">20110128766</a> 2-Jun-11	
» Forming Phase Change Memory Cell With Microtrenches; Inventors: Fabio Pellizzer, Charles H. Dennison	<a href="#">12756392</a> 8-Apr-10	<a href="#">20100197120</a> 5-Aug-10	
» Multi-Level Phase Change Memory; Inventors: Charles C. Kuo, Ilya V. Karpov	<a href="#">13028306</a> 16-Feb-11	<a href="#">20110136315</a> 9-Jun-11	
» Shaping a Phase Change Layer in a Phase Change Memory Cell; Inventors: Michele Magistretti, Pietro Petruzza	<a href="#">13558423</a> 26-Jul-12	<a href="#">20120298946</a> 29-Nov-12	
» Phase Change Memory With Threshold Switch Select Device; Inventors: Ilya V. Karpov, Sean Jong Lee, Yudong Kim, Greg Atwood	<a href="#">14132286</a> 18-Dec-13	<a href="#">20140104939</a> 17-Apr-14	<a href="#">9159915</a> 13-Oct-15
» FORMING SUBLITHOGRAPHIC HEATERS FOR PHASE CHANGE MEMORIES; Inventors: Jong-Won S. Lee, Gianpaolo Spadini	<a href="#">13564783</a> 2-Aug-12	<a href="#">20120294076</a> 22-Nov-12	
» IMMUNITY OF PHASE CHANGE MATERIAL TO DISTURB IN THE AMORPHOUS PHASE; Inventors: George A. Gordon, Semyon D. Savransky, Ward D. Parkinson, Sergey Kostylev, James Reed, Tyler A. Lowrey, Ilya V. Karpov, Gianpaolo Spadini	<a href="#">14512545</a> 13-Oct-14	<a href="#">20150109857</a> 23-Apr-15	<a href="#">9251895</a> 2-Feb-16
»			

IMMUNITY OF PHASE CHANGE MATERIAL TO DISTURB IN THE AMORPHOUS PHASE; Inventors: Semyon D. Savransky, Sergey Kostylev, Tyler A. Lowrey, Gianpaolo Spadini, George A. Gordon, Ward D. Parkinson, James Reed, Ilya V. Karpov	<a href="#">14672332</a>	<a href="#">20150206581</a>	
	30-Mar-15	23-Jul-15	
<a href="#">»</a> Multiple layer resistive memory; Inventors: Derchang Kau, Richard E. Fackenthal, Ferdinando Bedeschi	<a href="#">12082137</a>	<a href="#">20090256133</a>	
	9-Apr-08	15-Oct-09	
<a href="#">»</a> Seasoning Phase Change Memories; Inventors: Semyon D. Savransky, Ilya V. Karpov, Ward D. Parkinson	<a href="#">14533341</a>	<a href="#">20150055409</a>	
	5-Nov-14	26-Feb-15	
<a href="#">»</a> PHASE CHANGE MEMORY CELL AND MANUFACTURING METHOD THEREOF USING MINITRENCHES; Inventors: Roberto Bez, Fabio Pellizzer, Marina Tosi, Romina Zonca	<a href="#">13158291</a>	<a href="#">20110237045</a>	
	10-Jun-11	29-Sep-11	
<a href="#">»</a> Method and Apparatus for Decoding Memory; Inventors: Ward Parkinson	<a href="#">14791463</a>	<a href="#">20160064076</a>	
	5-Jul-15	3-Mar-16	
<a href="#">»</a> MULTIBIT SINGLE CELL MEMORY ELEMENT HAVING TAPERED CONTACT; Inventors: STANFORD R. OVSHINSKY	<a href="#">9436367</a>		<a href="#">RE37259</a>
	8-Nov-99		3-Jul-01
<a href="#">»</a> MEMORY ELEMENT WITH ENERGY CONTROL MECHANISM; Inventors: PATRICK KLERSY, BOIL PASHMAKOV, WOLODYMYR CZUBATYJ, SERGEY KOSTYLEV, STANFORD OVSHINSKY	<a href="#">8878870</a>		<a href="#">5933365</a>
	19-Jun-97		3-Aug-99
<a href="#">»</a> UNIVERSAL MEMORY ELEMENT AND METHOD OF PROGRAMMING SAME; Inventors: STANFORD R. OVSHINSKY, BOIL PASHMAKOV	<a href="#">9102887</a>		<a href="#">5912839</a>

<p><a href="#">»</a>  UNIVERSAL MEMORY ELEMENT WITH SYSTEMS EMPLOYING SAME AND APPARATUS AND METHOD FOR READING, WRITING AND PROGRAMMING SAME; Inventors: STANFORD R. OVSHINSKY, BOIL PASHMAKOV</p>	23-Jun-98		15-Jun-99
	<a href="#">9289713</a>		<a href="#">6141241</a>
<p><a href="#">»</a>  ELECTRICALLY PROGRAMMABLE MEMORY ELEMENT WITH IMPROVED CONTACTS; Inventors: TYLER LOWREY, STANFORD R. OVSHINSKY, GUY C. WICKER, PATRICK J. KLERSY, BOIL PASHMAKOV, WOLODYMYR CZUBATYI, SERGEY A. KOSTYLEV</p>	12-Apr-99		31-Oct-00
	<a href="#">9276273</a>		<a href="#">6969866</a>
<p><a href="#">»</a>  ELECTRICALLY PROGRAMMABLE MEMORY ELEMENT WITH MULTI-REGIONED CONTACT; Inventors: Tyler Lowrey, Stephen J. Hudgens, Patrick J. Klersy</p>	25-Mar-99		29-Nov-05
	<a href="#">9677957</a>		<a href="#">6617192</a>
<p><a href="#">»</a>  ELECTRICALLY PROGRAMMABLE MEMORY ELEMENT WITH REDUCED AREA OF CONTACT AND METHOD FOR MAKING SAME; Inventors: Tyler Lowrey, Stephen J. Hudgens, Patrick Klersy</p>	3-Oct-00		9-Sep-03
	<a href="#">9813267</a>	<a href="#">20020036931</a>	<a href="#">6943365</a>
<p><a href="#">»</a>  METHOD FOR MAKING PROGRAMMABLE RESISTANCE MEMORY ELEMENT; Inventors: Tyler Lowrey, Patrick Klersy, Stephen J. Hudgens, Jon Maimon</p>	20-Mar-01	28-Mar-02	13-Sep-05
	<a href="#">9891157</a>	<a href="#">20020045323</a>	<a href="#">6750079</a>
<p><a href="#">»</a>  ELECTRICALLY PROGRAMMABLE MEMORY ELEMENT WITH RAISED PORE; Inventors: Patrick Klersy, Tyler Lowrey</p>	26-Jun-01	18-Apr-02	15-Jun-04
	<a href="#">9921038</a>	<a href="#">20020017701</a>	<a href="#">6815705</a>
<p><a href="#">»</a>  METHOD FOR MAKING SMALL PORE FOR USE IN PROGRAMMABLE RESISTANCE MEMORY ELEMENT; Inventors: Jon Maimon, Patrick Klersy</p>	2-Aug-01	14-Feb-02	9-Nov-04
	<a href="#">9955408</a>	<a href="#">20030027398</a>	<a href="#">6613604</a>

» PROGRAMMABLE RESISTANCE MEMORY ELEMENT; Inventors: Jon Maimon	19-Sep-01	6-Feb-03	2-Sep-03
	<a href="#">10072369</a>	<a href="#">20020195621</a>	<a href="#">6774387</a>
	8-Feb-02	26-Dec-02	10-Aug-04
» PROGRAMMABLE RESISTANCE MEMORY ELEMENT AND METHOD FOR MAKING SAME; Inventors: Jon Maimon			
	<a href="#">10308399</a>	<a href="#">20030122156</a>	<a href="#">7365354</a>
	2-Dec-02	3-Jul-03	29-Apr-08
» METHOD FOR MAKING TAPERED OPENING FOR PROGRAMMABLE RESISTANCE MEMORY ELEMENT; Inventors: Jon Maimon, John Rodgers			
	<a href="#">10396587</a>	<a href="#">20030215978</a>	<a href="#">7045383</a>
	24-Mar-03	20-Nov-03	16-May-06
» METHOD OF MAKING PROGRAMMABLE RESISTANCE MEMORY ELEMENT; Inventors: Tyler Lowrey, Stephen J. Hudgens, Patrick J. Klersy			
	<a href="#">10649562</a>	<a href="#">20040038445</a>	<a href="#">6764897</a>
	26-Aug-03	26-Feb-04	20-Jul-04
» ELECTRICALLY PROGRAMMABLE MEMORY ELEMENT WITH IMPROVED CONTACTS; Inventors: Tyler Lowrey, Stanford R. Ovshinsky, Guy C. Wicker, Patrick J. Klersy, Boil Pashmakov, Wolodymyr Czubytyj, Sergey A. Kostylev			
	<a href="#">10799265</a>	<a href="#">20040245603</a>	<a href="#">7407829</a>
	12-Mar-04	9-Dec-04	5-Aug-08
» METHOD FOR MAKING PROGRAMMABLE RESISTANCE MEMORY ELEMENT; Inventors: Tyler Lowrey, Patrick Klersy, Stephen J. Hudgens, Jon Maimon			
	<a href="#">10801414</a>	<a href="#">20040175857</a>	<a href="#">6927093</a>
	16-Mar-04	9-Sep-04	9-Aug-05
» ELECTRICALLY PROGRAMMABLE MEMORY ELEMENT WITH IMPROVED CONTACTS; Inventors: Sergey A. Kostylev, Stanford R. Ovshinsky, Wolodymyr Czubytyi, Patrick Klersy, Boil Pashmakov			
	<a href="#">10848999</a>	<a href="#">20040256694</a>	<a href="#">7023009</a>
	19-May-04	23-Dec-04	4-Apr-06
»			

PROGRAMMABLE RESISTANCE MEMORY ELEMENT WITH MULTI-REGIONED CONTACT; Inventors: Tyler Lowrey, Stephen J. Hudgens, Patrick J. Klersy	<a href="#">10891970</a>	<a href="#">20050003602</a>	<a href="#">7576350</a>
	15-Jul-04	6-Jan-05	18-Aug-09
» PROGRAMMABLE RESISTANCE MEMORY ELEMENT; Inventors: Jon Maimon	<a href="#">10914480</a>	<a href="#">20050012086</a>	<a href="#">6972428</a>
	9-Aug-04	20-Jan-05	6-Dec-05
» ELECTRICALLY PROGRAMMABLE MEMORY ELEMENT; Inventors: Patrick Klersy, Tyler Lowrey	<a href="#">10981826</a>	<a href="#">20050062132</a>	<a href="#">7253429</a>
	5-Nov-04	24-Mar-05	7-Aug-07
» ELECTRICALLY PROGRAMMABLE MEMORY ELEMENT WITH REDUCED AREA OF CONTACT; Inventors: Tyler Lowrey, Stephen J. Hudgens, Patrick Klersy	<a href="#">11221627</a>	<a href="#">20060006443</a>	<a href="#">7092286</a>
	8-Sep-05	12-Jan-06	15-Aug-06
» MEMORY ELEMENT WITH IMPROVED CONTACTS; Inventors: Sergey A. Kostylev, Stanford R. Ovshinsky, Wolodymyr Czubytyj, Patrick Klersy, Boil Pashmakov	<a href="#">11394433</a>	<a href="#">20070235709</a>	<a href="#">7473574</a>
	1-Apr-06	11-Oct-07	6-Jan-09
» MEMORY DEVICE AND METHOD OF MAKING SAME; Inventors: Wolodymyr Czubytyj, Tyler Lowrey, Sergey Kostylev	<a href="#">11495927</a>	<a href="#">20070048945</a>	<a href="#">7902536</a>
	28-Jul-06	1-Mar-07	8-Mar-11
» MEMORY DEVICE AND METHOD OF MAKING SAME; Inventors: Wolodymyr Czubytyj, Tyler Lowrey, Isamu Asano	<a href="#">11602923</a>	<a href="#">20070063181</a>	<a href="#">7723715</a>
	21-Nov-06	22-Mar-07	25-May-10
» PROGRAMMABLE RESISTANCE MEMORY ELEMENT AND METHOD FOR MAKING SAME; Inventors: Patrick Klersy	<a href="#">12069046</a>	<a href="#">20080220560</a>	<a href="#">7833823</a>
	7-Feb-08	11-Sep-08	16-Nov-10
»			

PHASE CHANGE DEVICE WITH OFFSET CONTACT; Inventors: Wolodymyr Czubytyj, Tyler Lowrey	<a href="#">12152330</a>	<a href="#">20080224120</a>	<a href="#">7952087</a>
	14-May-08	18-Sep-08	31-May-11
<a href="#">»</a>			
PROGRAMMABLE RESISTANCE MEMORY ELEMENT; Inventors: Patrick Klersy	<a href="#">12944312</a>	<a href="#">20110114911</a>	<a href="#">8089059</a>
	11-Nov-10	19-May-11	3-Jan-12
<a href="#">»</a>			
Memory Device and Method of Making Same; Inventors: Wolodymyr Czubytyj, Tyler Lowrey, Sergey Kostylev	<a href="#">13039952</a>	<a href="#">20110227027</a>	<a href="#">8581223</a>
	3-Mar-11	22-Sep-11	12-Nov-13
<a href="#">»</a>			
PHASE CHANGE DEVICE WITH OFFSET CONTACT; Inventors: Wolodymyr Czubytyj, Tyler Lowrey	<a href="#">13093109</a>	<a href="#">20110194340</a>	<a href="#">8344350</a>
	25-Apr-11	11-Aug-11	1-Jan-13
<a href="#">»</a>			
METHOD OF PROGRAMMING PHASE-CHANGE MEMORY ELEMENT; Inventors: TYLER LOWREY, GUY C. WICKER, BOIL PASHMAKOV, PATRICK J. KLERSY, SERGEY A, KOSTYLEV, WOLODYMYR CZUBATYJ	<a href="#">9337778</a>		<a href="#">6075719</a>
	22-Jun-99		13-Jun-00
<a href="#">»</a>			
PROGRAMMABLE RESISTANCE MEMORY ARRAYS WITH REFERENCE CELLS; Inventors: TYLER LOWREY, GUY C. WICKER	<a href="#">9464898</a>		<a href="#">6314014</a>
	16-Dec-99		6-Nov-01
<a href="#">»</a>			
PROGRAMMABLE RESISTANCE MEMORY ARRAY; Inventors: Tyler Lowrey, Guy C. Wicker	<a href="#">9974590</a>	<a href="#">20020154531</a>	<a href="#">6608773</a>
	10-Oct-01	24-Oct-02	19-Aug-03
<a href="#">»</a>			
HIGH VOLTAGE ROW AND COLUMN DRIVER FOR PROGRAMMABLE RESISTANCE MEMORY; Inventors: Ward Parkinson	<a href="#">10137476</a>	<a href="#">20030206428</a>	<a href="#">6781860</a>
	1-May-02	6-Nov-03	24-Aug-04
<a href="#">»</a>			

PROGRAMMABLE RESISTANCE MEMORY ELEMENT WITH LAYERED MEMORY MATERIAL; Inventors: Sergey A. Kostylev, Wolodymyr Czubytyj, Patrick Klersy	<a href="#">10215315</a>	<a href="#">20040026730</a>	<a href="#">6872963</a>
	8-Aug-02	12-Feb-04	29-Mar-05
»			
PROGRAMMABLE RESISTANCE MEMORY ELEMENT WITH TITANIUM RICH ADHESION LAYER; Inventors: Jeffrey P. Fournier, Sergey A. Kostylev	<a href="#">10442877</a>	<a href="#">20040026731</a>	<a href="#">7129531</a>
	21-May-03	12-Feb-04	31-Oct-06
»			
METHOD OF OPERATING PROGRAMMABLE RESISTANT ELEMENT; Inventors: Ward Parkinson	<a href="#">10254489</a>	<a href="#">20040057271</a>	<a href="#">6778420</a>
	25-Sep-02	25-Mar-04	17-Aug-04
»			
METHOD OF DATA STORAGE USING ONLY AMORPHOUS PHASE OF ELECTRICALLY PROGRAMMABLE PHASE-CHANGE MEMORY ELEMENT; Inventors: Boil Pashmakov	<a href="#">10252628</a>	<a href="#">20040057180</a>	<a href="#">6831856</a>
	23-Sep-02	25-Mar-04	14-Dec-04
»			
PHASE-CHANGE MEMORY ELEMENT AND METHOD OF STORING DATA THEREIN; Inventors: Boil Pashmakov	<a href="#">10755169</a>	<a href="#">20040145944</a>	<a href="#">6859390</a>
	9-Jan-04	29-Jul-04	22-Feb-05
»			
METHOD OF ELIMINATING DRIFT IN PHASE-CHANGE MEMORY; Inventors: Sergey A. Kostylev, Wolodymyr Czubytyj, Tyler Lowrey	<a href="#">10437134</a>	<a href="#">20040228159</a>	<a href="#">6914801</a>
	13-May-03	18-Nov-04	5-Jul-05
»			
DIE CUSTOMIZATION USING PROGRAMMABLE RESISTANCE MEMORY ELEMENTS; Inventors: Tyler Lowrey, Guy C. Wicker, Edward J. Spall	<a href="#">10459632</a>	<a href="#">20040252544</a>	<a href="#">6987688</a>
	11-Jun-03	16-Dec-04	17-Jan-06
»			
PROGRAMMABLE MATRIX ARRAY WITH PHASE-CHANGE MATERIAL; Inventors: Ward Parkinson	<a href="#">11012571</a>	<a href="#">20060097343</a>	<a href="#">7365355</a>
	15-Dec-04	11-May-06	29-Apr-08

<p><a href="#">»</a>          STATIC RANDOM ACCESS MEMORY CELL USING CHALCOGENIDE; Inventors:          Tyler A. Lowrey, Ward D. Parkinson</p>	<p><a href="#">11158619</a>          22-Jun-05</p>	<p><a href="#">20060291272</a>          28-Dec-06</p>	<p><a href="#">7426135</a>          16-Sep-08</p>
<p><a href="#">»</a>          PROGRAMMABLE MATRIX ARRAY WITH CHALCOGENIDE MATERIAL;          Inventors: Tyler Lowrey, Ward Parkinson, Guy Wicker</p>	<p><a href="#">11209079</a>          22-Aug-05</p>	<p><a href="#">20060097240</a>          11-May-06</p>	<p><a href="#">7646630</a>          12-Jan-10</p>
<p><a href="#">»</a>          DIE CUSTOMIZATION USING PROGRAMMABLE RESISTANCE MEMORY          ELEMENTS; Inventors: Tyler Lowrey, Guy C. Wicker, Edward J. Spall</p>	<p><a href="#">11229955</a>          19-Sep-05</p>	<p><a href="#">20060013034</a>          19-Jan-06</p>	<p><a href="#">7663907</a>          16-Feb-10</p>
<p><a href="#">»</a>          PROGRAMMABLE MATRIX ARRAY WITH CHALCOGENIDE MATERIAL;          Inventors: Tyler Lowrey, Ward Parkinson, Guy Wicker</p>	<p><a href="#">11318789</a>          24-Dec-05</p>	<p><a href="#">20060171194</a>          3-Aug-06</p>	<p><a href="#">7499315</a>          3-Mar-09</p>
<p><a href="#">»</a>          PROGRAMMABLE MATRIX ARRAY WITH PHASE-CHANGE MATERIAL;          Inventors: Ward Parkinson</p>	<p><a href="#">12069092</a>          6-Feb-08</p>	<p><a href="#">20080211539</a>          4-Sep-08</p>	<p><a href="#">7706178</a>          27-Apr-10</p>
<p><a href="#">»</a>          PROGRAMMABLE MATRIX ARRAY WITH CHALCOGENIDE MATERIAL;          Inventors: Tyler Lowrey, Ward Parkinson, Guy Wicker</p>	<p><a href="#">12286784</a>          2-Oct-08</p>	<p><a href="#">20090034325</a>          5-Feb-09</p>	<p><a href="#">7839674</a>          23-Nov-10</p>
<p><a href="#">»</a>          PROGRAMMABLE MATRIX ARRAY WITH CHALCOGENIDE MATERIAL;          Inventors: Tyler Lowrey, Ward Parkinson, Guy Wicker</p>	<p><a href="#">12640723</a>          17-Dec-09</p>	<p><a href="#">20100091561</a>          15-Apr-10</p>	<p><a href="#">8379439</a>          19-Feb-13</p>
<p><a href="#">»</a>          PROGRAMMABLE RESISTANCE MEMORY ELEMENT WITH THRESHOLD          SWITCHING MATERIAL; Inventors: Sergey A. Kostylev, Wolodymyr Czubytyj</p>	<p><a href="#">10681781</a>          8-Oct-03</p>	<p><a href="#">20050077515</a>          14-Apr-05</p>	<p><a href="#">6992369</a>          31-Jan-06</p>
<p><a href="#">»</a></p>			



PROGRAMMABLE RESISTANCE MEMORY ELEMENT WITH THRESHOLD SWITCHING MATERIAL; Inventors: Sergey A. Kostylev, Wolodymyr Czubytyj	<a href="#">11339868</a>	<a href="#">20060118911</a>	<a href="#">7459762</a>
	26-Jan-06	8-Jun-06	2-Dec-08
»			
METHOD OF OPERATING A PROGRAMMABLE RESISTANCE MEMORY ARRAY; Inventors: Guy C. Wicker	<a href="#">10956555</a>	<a href="#">20060072357</a>	<a href="#">7423897</a>
	1-Oct-04	6-Apr-06	9-Sep-08
»			
METHOD OF OPERATING A PROGRAMMABLE RESISTANCE MEMORY ARRAY; Inventors: Guy C. Wicker	<a href="#">11524670</a>	<a href="#">20070014144</a>	<a href="#">7339815</a>
	21-Sep-06	18-Jan-07	4-Mar-08
»			
METHODS OF ACCELERATED LIFE TESTING OF PROGRAMMABLE RESISTANCE MEMORY ELEMENTS; Inventors: Sergey A. Kostylev, Tyler Lowrey, Wolodymyr Czubytyj	<a href="#">10960263</a>	<a href="#">20060077705</a>	<a href="#">7327602</a>
	7-Oct-04	13-Apr-06	5-Feb-08
»			
CHALCOGENIDE SWITCH WITH LASER RECRYSTALLIZED DIODE ISOLATION DEVICE AND USE THEREOF IN THREE DIMENSIONAL MEMORY ARRAYS; Inventors: Ward Parkinson	<a href="#">11501255</a>	<a href="#">20080035905</a>	<a href="#">7838864</a>
	8-Aug-06	14-Feb-08	23-Nov-10
»			
METHOD FOR FORMING CHALCOGENIDE SWITCH WITH CRYSTALLIZED THIN FILM DIODE ISOLATION; Inventors: Ward Parkinson	<a href="#">12564386</a>	<a href="#">20100009522</a>	<a href="#">8716056</a>
	22-Sep-09	14-Jan-10	6-May-14
»			
WRITE-ONCE MEMORY ARRAY INCLUDING PHASE-CHANGE ELEMENTS AND THRESHOLD SWITCH ISOLATION; Inventors: Ward Parkinson	<a href="#">12565224</a>	<a href="#">20100012918</a>	<a href="#">8373151</a>
	23-Sep-09	21-Jan-10	12-Feb-13
»			
MULTI-TERMINAL CHALCOGENIDE LOGIC CIRCUITS; Inventors: Tyler Lowrey	<a href="#">11724485</a>	<a href="#">20080224734</a>	<a href="#">7969769</a>
	15-Mar-07	18-Sep-08	28-Jun-11

<a href="#">»</a> THIN FILM LOGIC DEVICE AND SYSTEM; Inventors: Tyler Lowrey	<a href="#">12157049</a> 6-Jun-08	<a href="#">20080272807</a> 6-Nov-08	<a href="#">7978506</a> 12-Jul-11
<a href="#">»</a> THREE-DIMENSIONAL PHASE-CHANGE MEMORY; Inventors: Tyler Lowrey	<a href="#">11522584</a> 18-Sep-06	<a href="#">20080067492</a> 20-Mar-08	<a href="#">7391045</a> 24-Jun-08
<a href="#">»</a> THREE-DIMENSIONAL PHASE-CHANGE MEMORY ARRAY; Inventors: Tyler Lowrey	<a href="#">12152557</a> 15-May-08	<a href="#">20080210926</a> 4-Sep-08	<a href="#">7763879</a> 27-Jul-10
<a href="#">»</a> THREE-DIMENSIONAL PHASE-CHANGE MEMORY ARRAY; Inventors: Tyler Lowrey	<a href="#">12834352</a> 12-Jul-10	<a href="#">20100276659</a> 4-Nov-10	<a href="#">8093577</a> 10-Jan-12
<a href="#">»</a> LIQUID PHASE DEPOSITION OF CONTACTS IN PROGRAMMABLE RESISTANCE AND SWITCHING DEVICES; Inventors: Wolodymyr Czubyty, Tyler Lowrey, Ed Spall	<a href="#">11880587</a> 23-Jul-07	<a href="#">20090029534</a> 29-Jan-09	<a href="#">7566643</a> 28-Jul-09
<a href="#">»</a> TEMPERATURE AND PRESSURE CONTROL METHODS TO FILL FEATURES WITH PROGRAMMABLE RESISTANCE AND SWITCHING DEVICES; Inventors: Jeff Fournier, Wolodymyr Czubyty, Tyler Lowrey	<a href="#">12075180</a> 10-Mar-08	<a href="#">20090227092</a> 10-Sep-09	<a href="#">7994034</a> 9-Aug-11
<a href="#">»</a> ACCESSING A PHASE CHANGE MEMORY; Inventors: Ward Parkinson, Tyler Lowrey	<a href="#">11983098</a> 7-Nov-07	<a href="#">20090116280</a> 7-May-09	<a href="#">7778064</a> 17-Aug-10
<a href="#">»</a> ACCESSING A PHASE CHANGE MEMORY; Inventors: Ward Parkinson, Tyler Lowrey	<a href="#">12574005</a> 6-Oct-09	<a href="#">20100020595</a> 28-Jan-10	<a href="#">8120943</a> 21-Feb-12
<a href="#">»</a>			

METHOD OF RESTORING VARIABLE RESISTANCE MEMORY DEVICE; Inventors: Sergey A. Kostylev	<a href="#">11981343</a>	<a href="#">20090109737</a>	<a href="#">8098517</a>
	31-Oct-07	30-Apr-09	17-Jan-12
<a href="#">»</a>			
METHOD AND APPARATUS FOR REDUCING PROGRAMMED VOLUME OF PHASE CHANGE MEMORY; Inventors: Jim Ricker	<a href="#">11983026</a>	<a href="#">20090114898</a>	<a href="#">7964861</a>
	6-Nov-07	7-May-09	21-Jun-11
<a href="#">»</a>			
METHOD AND APPARATUS FOR REDUCING PROGRAMMED VOLUME OF PHASE CHANGE MEMORY; Inventors: Jim Ricker	<a href="#">13163783</a>	<a href="#">20110240945</a>	<a href="#">8569729</a>
	20-Jun-11	6-Oct-11	29-Oct-13
<a href="#">»</a>			
METHOD AND APPARATUS FOR CHALCOGENIDE DEVICE FORMATION; Inventors: Tyler Lowrey, Stanford R. Ovshinsky	<a href="#">11977520</a>	<a href="#">20090111212</a>	<a href="#">7967994</a>
	25-Oct-07	30-Apr-09	28-Jun-11
<a href="#">»</a>			
ACTIVE MATERIAL DEVICES WITH CONTAINMENT LAYER; Inventors: Regino Sandoval	<a href="#">11999158</a>	<a href="#">20090140229</a>	<a href="#">7718990</a>
	4-Dec-07	4-Jun-09	18-May-10
<a href="#">»</a>			
ACTIVE MATERIAL DEVICES WITH CONTAINMENT LAYER; Inventors: Regino Sandoval	<a href="#">12780966</a>	<a href="#">20100221868</a>	<a href="#">7935567</a>
	17-May-10	2-Sep-10	3-May-11
<a href="#">»</a>			
METHOD AND APPARATUS FOR ACCESSING A PHASE-CHANGE MEMORY; Inventors: Tyler Lowrey	<a href="#">11999419</a>	<a href="#">20090147565</a>	<a href="#">7817475</a>
	5-Dec-07	11-Jun-09	19-Oct-10
<a href="#">»</a>			
METHOD AND APPARATUS FOR DRIVING AN ELECTRONIC LOAD; Inventors: Ward Parkinson, John Peters	<a href="#">12006391</a>		<a href="#">7466584</a>
	2-Jan-08		16-Dec-08
<a href="#">»</a>			

SELF-ALIGNED MEMORY CELLS AND METHOD FOR FORMING; Charles H. Dennison	Inventors:	<a href="#">12075913</a>	<a href="#">20090230505</a>	<a href="#">7838341</a>
		14-Mar-08	17-Sep-09	23-Nov-10
<a href="#">»</a>				
SELF-ALIGNED MEMORY CELLS AND METHOD FOR FORMING; Charles H. Dennison	Inventors:	<a href="#">12908406</a>	<a href="#">20110031460</a>	<a href="#">8067761</a>
		20-Oct-10	10-Feb-11	29-Nov-11
<a href="#">»</a>				
METHOD AND APPARATUS FOR ACCESSING A BIDIRECTIONAL MEMORY; Inventors: Ward Parkinson	Inventors:	<a href="#">12070682</a>	<a href="#">20090207645</a>	<a href="#">8194433</a>
		20-Feb-08	20-Aug-09	5-Jun-12
<a href="#">»</a>				
METHOD AND APPARATUS FOR ACCESSING A MULTI-MODE PROGRAMMABLE RESISTANCE MEMORY; Inventors: Ward Parkinson	Inventors:	<a href="#">12072411</a>	<a href="#">20090213644</a>	<a href="#">8203872</a>
		26-Feb-08	27-Aug-09	19-Jun-12
<a href="#">»</a>				
METHOD AND APPARATUS FOR ACCESSING A MULTI-MODE PROGRAMMABLE RESISTANCE MEMORY; Inventors: Ward Parkinson, Stefan Lai	Inventors:	<a href="#">12075665</a>	<a href="#">20090213645</a>	<a href="#">7808807</a>
		13-Mar-08	27-Aug-09	5-Oct-10
<a href="#">»</a>				
SECOND-LAYER PHASE CHANGE MEMORY ARRAY ON TOP OF A LOGIC DEVICE; Inventors: STANFORD R. OVSHINSKY, GUY C. WICKER	Inventors:	<a href="#">8547349</a>		<a href="#">5714768</a>
		24-Oct-95		3-Feb-98
<a href="#">»</a>				
COMPOSITE MEMORY MATERIAL COMPRISING A MIXTURE OF PHASE-CHANGE MEMORY MATERIAL AND DIELECTRIC MATERIAL; Inventors: WOLODYMYR CZUBATYJ, STANFORD R. OVSHINSKY, DAVID A. STRAND, PATRICK KLERSY, SERGEY KOSTYLEV, BOIL PASHMAKOV	Inventors:	<a href="#">8739080</a>		<a href="#">5825046</a>
		28-Oct-96		20-Oct-98
<a href="#">»</a>				

MEMORY ELEMENT WITH MEMORY MATERIAL COMPRISING PHASE-CHANGE MATERIAL AND DIELECTRIC MATERIAL; Inventors: STANDFORD R. OVSHINSKY, WOLODYMYR CZUBATYJ, DAVID A. STRAND, PATRICK J. KLERSY, SERGEY KOSTYLEV, BOIL PASHMAKOV	<a href="#">9063174</a>		<a href="#">6087674</a>
	20-Apr-98		11-Jul-00
<a href="#">»</a>			
COMPOSITE CHALCOGENIDE MATERIALS AND DEVICES; Inventors: Wolodymyr Czubytyj, Sergey Kostylev, Tyler Lowrey	<a href="#">11874719</a>	<a href="#">20080035907</a>	<a href="#">7935951</a>
	18-Oct-07	14-Feb-08	3-May-11
<a href="#">»</a>			
CHEMICAL VAPOR DEPOSITION OF CHALCOGENIDE MATERIALS VIA ALTERNATING LAYERS; Inventors: Stanford R. Ovshinsky, Smuruthi Kamepalli	<a href="#">12284425</a>	<a href="#">20090022883</a>	<a href="#">7858152</a>
	22-Sep-08	22-Jan-09	28-Dec-10
<a href="#">»</a>			
METHODS OF COMPUTING WITH DIGITAL MULTISTATE PHASE CHANGE MATERIALS; Inventors: Stanford R. Ovshinsky, Alastair K. Livesey	<a href="#">10144319</a>	<a href="#">20030212724</a>	<a href="#">6671710</a>
	10-May-02	13-Nov-03	30-Dec-03
<a href="#">»</a>			
METHODS OF FACTORING AND MODULAR ARITHMETIC; Inventors: Stanford R. Ovshinsky, Boil Pashmakov	<a href="#">10155527</a>	<a href="#">20030212725</a>	<a href="#">6714954</a>
	24-May-02	13-Nov-03	30-Mar-04
<a href="#">»</a>			
METHODS OF FACTORING AND MODULAR ARITHMETIC; Inventors: Stanford R. Ovshinsky, Boil Pashmakov	<a href="#">10726785</a>	<a href="#">20040078406</a>	<a href="#">7440990</a>
	3-Dec-03	22-Apr-04	21-Oct-08
<a href="#">»</a>			
ANALOG NEURONS AND NEUROSYNAPTIC NETWORKS; Inventors: Stanford R. Ovshinsky	<a href="#">10189749</a>	<a href="#">20040006545</a>	<a href="#">6999953</a>
	3-Jul-02	8-Jan-04	14-Feb-06
<a href="#">»</a>			
MULTI-TERMINAL CHALCOGENIDE SWITCHING DEVICES; Inventors: Stanford R. Ovshinsky, Boil Pashmakov	<a href="#">10384994</a>	<a href="#">20040178401</a>	<a href="#">6967344</a>
	10-Mar-03	16-Sep-04	22-Nov-05

» FIELD EFFECT CHALCOGENIDE DEVICES; Inventors: Stanford R. Ovshinsky	<a href="#">10426321</a> 30-Apr-03	<a href="#">20040178403</a> 16-Sep-04	<a href="#">6969867</a> 29-Nov-05
» MULTIPLE BIT CHALCOGENIDE STORAGE DEVICE; Inventors: Stanford R. Ovshinsky	<a href="#">10657285</a> 8-Sep-03	<a href="#">20040178404</a> 16-Sep-04	<a href="#">7227170</a> 5-Jun-07
» MULTI-TERMINAL DEVICE HAVING LOGIC FUNCTIONAL; Inventors: Stanford R. Ovshinsky, Boil Pashmakov	<a href="#">10761022</a> 20-Jan-04	<a href="#">20040178402</a> 16-Sep-04	<a href="#">7186998</a> 6-Mar-07
» SECURED PHASE-CHANGE DEVICES; Inventors: Stanford R. Ovshinsky, Morrel H. Cohen	<a href="#">10775431</a> 10-Feb-04	<a href="#">20040179394</a> 16-Sep-04	<a href="#">7085155</a> 1-Aug-06
» MULTIPLE BIT CHALCOGENIDE STORAGE DEVICE; Inventors: Stanford R. Ovshinsky	<a href="#">11339869</a> 26-Jan-06	<a href="#">20060118774</a> 8-Jun-06	<a href="#">7227221</a> 5-Jun-07
» METHOD OF OPERATING A MULTI-TERMINAL ELECTRONIC DEVICE; Inventors: Stanford R. Ovshinsky, Boil Pashmakov	<a href="#">11451740</a> 13-Jun-06	<a href="#">20060234462</a> 19-Oct-06	<a href="#">7529123</a> 5-May-09
» ERROR REDUCTION CIRCUIT FOR CHALCOGENIDE DEVICES; Inventors: Stanford R. Ovshinsky, Morrel H. Cohen	<a href="#">11064637</a> 24-Feb-05	<a href="#">20060198186</a> 7-Sep-06	<a href="#">7186999</a> 6-Mar-07
» MULTI-FUNCTIONAL CHALCOGENIDE ELECTRONIC DEVICES HAVING GAIN; Inventors: Stanford R. Ovshinsky	<a href="#">11438709</a> 22-May-06	<a href="#">20070267624</a> 22-Nov-07	<a href="#">7547906</a> 16-Jun-09
»			

MULTI-FUNCTIONAL CHALCOGENIDE ELECTRONIC DEVICES HAVING GAIN; Inventors: Stanford R. Ovshinsky	<a href="#">11446798</a>	<a href="#">20070267622</a>	<a href="#">7754603</a>
	5-Jun-06	22-Nov-07	13-Jul-10
<a href="#">»</a>			
NITROGENATED CARBON ELECTRODE FOR CHALCOGENIDE DEVICE AND METHOD OF MAKING SAME; Inventors: Jeffrey P. Fournier	<a href="#">11448184</a>	<a href="#">20070284635</a>	<a href="#">7473950</a>
	7-Jun-06	13-Dec-07	6-Jan-09
<a href="#">»</a>			
NITROGENATED CARBON ELECTRODE FOR CHALCOGENIDE DEVICE AND METHOD OF MAKING SAME; Inventors: Jeffrey P. Fournier	<a href="#">12348979</a>	<a href="#">20090146130</a>	<a href="#">7943922</a>
	6-Jan-09	11-Jun-09	17-May-11
<a href="#">»</a>			
MEMORY DEVICE; Inventors: David Sargent, Jon Maimon	<a href="#">11849632</a>	<a href="#">20090057642</a>	<a href="#">7906772</a>
	4-Sep-07	5-Mar-09	15-Mar-11
<a href="#">»</a>			
MEMORY DEVICE; Inventors: David Sargent, Jon Maimon	<a href="#">13041955</a>	<a href="#">20110154663</a>	<a href="#">8440501</a>
	7-Mar-11	30-Jun-11	14-May-13
<a href="#">»</a>			
MEMORY DEVICE WITH LOW RESET CURRENT; Inventors: Sergey Kostylev, Tyler Lowrey, Wolodymyr Czubytyj	<a href="#">11871761</a>	<a href="#">20090095951</a>	<a href="#">9000408</a>
	12-Oct-07	16-Apr-09	7-Apr-15
<a href="#">»</a>			
MEMORY DEVICE; Inventors: Guy Wicker, Wolodymyr Czubytyj	<a href="#">12244421</a>	<a href="#">20100084625</a>	<a href="#">8344348</a>
	2-Oct-08	8-Apr-10	1-Jan-13
<a href="#">»</a>			
LOW AREA CONTACT PHASE-CHANGE MEMORY; Inventors: Sergey Kostylev, Tyler Lowrey	<a href="#">11871786</a>	<a href="#">20090095949</a>	<a href="#">7755074</a>
	12-Oct-07	16-Apr-09	13-Jul-10
<a href="#">»</a>			
MEMORY DEVICE; Inventors: Wolodymyr Czubytyj, Regino Sandoval	<a href="#">12044407</a>	<a href="#">20090225588</a>	<a href="#">8269208</a>
	7-Mar-08	10-Sep-09	18-Sep-12
<a href="#">»</a>			
MEMORY DEVICE; Inventors: Wolodymyr Czubytyj, Regino Sandoval	<a href="#">13590085</a>	<a href="#">20120329237</a>	<a href="#">8796101</a>

» PHASE CHANGE MEMORY LATCH; Inventors: Edward J. Spall, Tyler Lowrey	20-Aug-12	27-Dec-12	5-Aug-14
	<a href="#">11341983</a>	<a href="#">20070177432</a>	<a href="#">7471554</a>
	27-Jan-06	2-Aug-07	30-Dec-08
» THIN FILM INPUT/OUTPUT; Inventors: Tyler Lowrey	<a href="#">12157001</a>	<a href="#">20090303783</a>	<a href="#">8228719</a>
	6-Jun-08	10-Dec-09	24-Jul-12
» STANDALONE THIN FILM MEMORY; Inventors: Tyler Lowrey	<a href="#">12156998</a>	<a href="#">20090303782</a>	<a href="#">7859895</a>
	6-Jun-08	10-Dec-09	28-Dec-10
» MEMORY CONTROLLER; Inventors: Tyler Lowrey	<a href="#">12157083</a>	<a href="#">20090307410</a>	<a href="#">8363458</a>
	6-Jun-08	10-Dec-09	29-Jan-13
» THIN-FILM MEMORY SYSTEM HAVING THIN-FILM PERIPHERAL CIRCUIT AND MEMORY CONTROLLER FOR INTERFACING WITH A STANDALONE THIN-FILM MEMORY; Inventors: Tyler Lowrey	<a href="#">12157045</a>	<a href="#">20090302303</a>	<a href="#">7839673</a>
	6-Jun-08	10-Dec-09	23-Nov-10
» THIN-FILM MEMORY SYSTEM EQUIPPED WITH A THIN-FILM ADDRESS DECODER AND MEMORY CONTROLLER; Inventors: Tyler Lowrey	<a href="#">12909113</a>	<a href="#">20110093668</a>	<a href="#">7974149</a>
	21-Oct-10	21-Apr-11	5-Jul-11
» THIN FILM LOGIC CIRCUITRY; Inventors: Tyler Lowrey	<a href="#">12156996</a>	<a href="#">20090303781</a>	<a href="#">8053753</a>
	6-Jun-08	10-Dec-09	8-Nov-11
» METHOD FOR THIN FILM MEMORY; Inventors: Tyler Lowrey	<a href="#">13291127</a>	<a href="#">20120052651</a>	<a href="#">8198158</a>
	8-Nov-11	1-Mar-12	12-Jun-12
» ASYMMETRIC-THRESHOLD THREE-TERMINAL SWITCHING DEVICE; Inventors: Tyler Lowrey	<a href="#">12157076</a>	<a href="#">20090303784</a>	<a href="#">7920414</a>
	6-Jun-08	10-Dec-09	5-Apr-11
»			



METHOD AND APPARATUS FOR DECODING MEMORY; Inventors: Ward Parkinson	<a href="#">12214144</a>	<a href="#">20090310402</a>	<a href="#">8223580</a>
	17-Jun-08	17-Dec-09	17-Jul-12
<a href="#">»</a>			
Method and Apparatus for Decoding Memory; Inventors: Ward Parkinson	<a href="#">13549436</a>	<a href="#">20120281454</a>	<a href="#">9076521</a>
	14-Jul-12	8-Nov-12	7-Jul-15
<a href="#">»</a>			
METHOD AND APPARATUS FOR DECODING MEMORY; Inventors: Ward Parkinson	<a href="#">13549437</a>	<a href="#">20120281492</a>	<a href="#">8773941</a>
	14-Jul-12	8-Nov-12	8-Jul-14
<a href="#">»</a>			
PROGRAMMABLE RESISTANCE MEMORY; Inventors: Tyler Lowrey	<a href="#">12229997</a>	<a href="#">20100054030</a>	<a href="#">8351250</a>
	28-Aug-08	4-Mar-10	8-Jan-13
<a href="#">»</a>			
PROGRAMMABLE RESISTANCE MEMORY WITH FEEDBACK CONTROL; Inventors: Ward Parkinson	<a href="#">12287986</a>	<a href="#">20100091559</a>	<a href="#">7961495</a>
	15-Oct-08	15-Apr-10	14-Jun-11
<a href="#">»</a>			
PROGRAMMABLE RESISTANCE MEMORY WITH FEEDBACK CONTROL; Inventors: Ward Parkinson	<a href="#">13158531</a>	<a href="#">20110242887</a>	<a href="#">8503219</a>
	13-Jun-11	6-Oct-11	6-Aug-13
<a href="#">»</a>			
PROGRAMMABLE RESISTANCE MEMORY WITH FEEDBACK CONTROL; Inventors: Ward Parkinson	<a href="#">13958538</a>	<a href="#">20130336054</a>	<a href="#">8755216</a>
	3-Aug-13	19-Dec-13	17-Jun-14
<a href="#">»</a>			
PROGRAMMABLE RESISTANCE MEMORY; Inventors: Guy Wicker	<a href="#">12291111</a>	<a href="#">20100110780</a>	<a href="#">8120940</a>
	6-Nov-08	6-May-10	21-Feb-12
<a href="#">»</a>			
OPTICAL OVONIC THRESHOLD SWITCH; Inventors: Stanford R. Ovshinsky	<a href="#">12269901</a>	<a href="#">20100117040</a>	<a href="#">8111546</a>
	13-Nov-08	13-May-10	7-Feb-12
<a href="#">»</a>			

REDUCTION OF DRIFT IN PHASE-CHANGE MEMORY VIA THERMALLY-MANAGED PROGRAMMING; Inventors: Wolodymyr Czubytyj	<a href="#">12356236</a>	<a href="#">20100182826</a>	<a href="#">7978508</a>
	20-Jan-09	22-Jul-10	12-Jul-11
<a href="#">»</a>			
PROGRAMMABLE RESISTANCE MEMORY; Inventors: Tyler Lowrey, Carl Schell, Wally Czubytyj, Steve Hudgens, Jeff Fournier, Ed Spall, Jon Maimon, Mike Hennessey	<a href="#">12321223</a>	<a href="#">20100182825</a>	<a href="#">8009455</a>
	20-Jan-09	22-Jul-10	30-Aug-11
<a href="#">»</a>			
Programmable Resistance Memory; Inventors: Tyler Lowrey, Ed Spall, Jon Maimon, Carl Schell, Wally Czubytyj, Steve Hudgens, Jeff Fournier, Mike Hennessey	<a href="#">13216675</a>	<a href="#">20110305075</a>	<a href="#">8908413</a>
	24-Aug-11	15-Dec-11	9-Dec-14
<a href="#">»</a>			
PROGRAMMABLE RESISTANCE MEMORY WITH INTERFACE CIRCUITRY FOR PROVIDING READ INFORMATION TO EXTERNAL CIRCUITRY FOR PROCESSING; Inventors: Ward Parkinson	<a href="#">12381259</a>	<a href="#">20100232205</a>	<a href="#">7957207</a>
	10-Mar-09	16-Sep-10	7-Jun-11
<a href="#">»</a>			
PROGRAMMABLE RESISTANCE MEMORY; Inventors: Ward Parkinson	<a href="#">13104062</a>	<a href="#">20110211391</a>	<a href="#">8792270</a>
	10-May-11	1-Sep-11	29-Jul-14
<a href="#">»</a>			
PROGRAMMABLE RESISTANCE MEMORY ARRAY WITH DEDICATED TEST CELL; Inventors: Ward Parkinnson	<a href="#">12383489</a>	<a href="#">20100244023</a>	<a href="#">8183565</a>
	25-Mar-09	30-Sep-10	22-May-12
<a href="#">»</a>			
BREAKDOWN LAYER VIA LATERAL DIFFUSION; Inventors: Wolodymyr Czubytyj, Tyler Lowrey, Edward J. Spall	<a href="#">12471937</a>	<a href="#">20100301988</a>	<a href="#">8350661</a>
	26-May-09	2-Dec-10	8-Jan-13
<a href="#">»</a>			
ARSENIC-CONTAINING VARIABLE RESISTANCE MATERIALS; Inventors: Carl Schell, Guy Wicker, Jon Maimon	<a href="#">12505854</a>	<a href="#">20110012080</a>	<a href="#">8217379</a>
	20-Jul-09	20-Jan-11	10-Jul-12
<a href="#">»</a>			

PHASE CHANGE MEMORY THAT SWITCHES BETWEEN CRYSTALLINE PHASES; Inventors: Wolodymyr Czubytyj	<a href="#">11032345</a>	<a href="#">20060151849</a>	<a href="#">7923724</a>
	10-Jan-05	13-Jul-06	12-Apr-11
<a href="#">»</a>			
MULTILEVEL VARIABLE RESISTANCE MEMORY CELL UTILIZING CRYSTALLINE PROGRAMMING STATES; Inventors: Wolodymyr Czubytyj, Tyler Lowrey, Charles Dennison, Carl Schell	<a href="#">12578638</a>	<a href="#">20100027328</a>	<a href="#">8363446</a>
	14-Oct-09	4-Feb-10	29-Jan-13
<a href="#">»</a>			
PHASE CHANGE MEMORY THAT SWITCHES BETWEEN CRYSTALLINE PHASES; Inventors: Wolodymyr Czubytyj	<a href="#">13042681</a>	<a href="#">20110157970</a>	<a href="#">8178385</a>
	8-Mar-11	30-Jun-11	15-May-12
<a href="#">»</a>			
Variable Resistance Materials with Superior Data Retention Characteristics; Inventors: Carl Schell, Wolodymyr Czubytyj	<a href="#">12775078</a>	<a href="#">20110084240</a>	<a href="#">8685291</a>
	6-May-10	14-Apr-11	1-Apr-14
<a href="#">»</a>			
REDUCING LEAKAGE CURRENTS IN MEMORIES WITH PHASE-CHANGE MATERIAL; Inventors: Daniel Xu, Tyler A. Lowery	<a href="#">9976641</a>	<a href="#">20030073262</a>	<a href="#">6992365</a>
	12-Oct-01	17-Apr-03	31-Jan-06
<a href="#">»</a>			
REDUCING LEAKAGE CURRENTS IN MEMORIES WITH PHASE-CHANGE MATERIAL; Inventors: Daniel Xu, Tyler A. Lowery	<a href="#">11272308</a>	<a href="#">20060063297</a>	<a href="#">7906391</a>
	10-Nov-05	23-Mar-06	15-Mar-11
<a href="#">»</a>			
CARBON-CONTAINING INTERFACIAL LAYER FOR PHASE-CHANGE MEMORY; Inventors: Daniel Xu	<a href="#">9975272</a>	<a href="#">20030073295</a>	<a href="#">6566700</a>
	11-Oct-01	17-Apr-03	20-May-03
<a href="#">»</a>			
CARBON-CONTAINING INTERFACIAL LAYER FOR PHASE-CHANGE MEMORY; Inventors: Daniel Xu	<a href="#">10384667</a>	<a href="#">20030164515</a>	<a href="#">6869841</a>
	11-Mar-03	4-Sep-03	22-Mar-05
<a href="#">»</a>			

ELEVATED PORE PHASE-CHANGE MEMORY; Inventors: Tyler A. Lowrey	<a href="#">9944478</a>	<a href="#">20030116794</a>	<a href="#">6764894</a>
<a href="#">»</a>	31-Aug-01	26-Jun-03	20-Jul-04
ELEVATED PORE PHASE-CHANGE MEMORY; Inventors: Tyler A. Lowrey	<a href="#">10839311</a>	<a href="#">20040202033</a>	<a href="#">7326952</a>
<a href="#">»</a>	5-May-04	14-Oct-04	5-Feb-08
FORMING TAPERED LOWER ELECTRODE PHASE-CHANGE MEMORIES; Inventors: Daniel Xu	<a href="#">9975163</a>	<a href="#">20030071255</a>	<a href="#">6800563</a>
<a href="#">»</a>	11-Oct-01	17-Apr-03	5-Oct-04
FORMING TAPERED LOWER ELECTRODE PHASE-CHANGE MEMORIES; Inventors: Daniel Xu	<a href="#">10839499</a>	<a href="#">20040209478</a>	<a href="#">6933516</a>
<a href="#">»</a>	5-May-04	21-Oct-04	23-Aug-05
FORMING TAPERED LOWER ELECTRODE PHASE-CHANGE MEMORIES; Inventors: Daniel Xu	<a href="#">11102998</a>	<a href="#">20050180191</a>	<a href="#">7422917</a>
<a href="#">»</a>	11-Apr-05	18-Aug-05	9-Sep-08
TECHNIQUE AND APPARATUS FOR PERFORMING WRITE OPERATIONS TO A PHASE CHANGE MATERIAL MEMORY DEVICE; Inventors: Tyler A. Lowrey, Ward D. Parkinson, Manzur Gill	<a href="#">10021469</a>	<a href="#">20030081451</a>	<a href="#">6545907</a>
<a href="#">»</a>	30-Oct-01	1-May-03	8-Apr-03
PHASE CHANGE MATERIAL MEMORY DEVICE; Inventors: Tyler A. Lowrey	<a href="#">10020757</a>	<a href="#">20030082908</a>	<a href="#">7319057</a>
<a href="#">»</a>	30-Oct-01	1-May-03	15-Jan-08
ADHESION LAYER FOR A POLYMER MEMORY DEVICE AND METHOD THEREFOR; Inventors: Mac Apodaca, Jon-Won S. Lee, Kuo-Wei Chang	<a href="#">10036833</a>	<a href="#">20030122170</a>	<a href="#">6885021</a>
<a href="#">»</a>	31-Dec-01	3-Jul-03	26-Apr-05
ISOLATING PHASE CHANGE MEMORIES WITH SCHOTTKY DIODES AND GUARD RINGS; Inventors: Ilya Karpov, Manzur Gill	<a href="#">10318704</a>	<a href="#">20040113183</a>	<a href="#">6995446</a>
<a href="#">»</a>	13-Dec-02	17-Jun-04	7-Feb-06

<p><a href="#">»</a>          USING AN MOS SELECT GATE FOR A PHASE CHANGE MEMORY; Inventors:          Manzur Gill, Tyler Lowrey</p>	<p><a href="#">10318705</a>          13-Dec-02</p>	<p><a href="#">20040113134</a>          17-Jun-04</p>	<p><a href="#">6912146</a>          28-Jun-05</p>
<p><a href="#">»</a>          FORMING PHASE CHANGE MEMORIES; Inventors: Chien Chiang, Charles Dennison,          Tyler Lowrey</p>	<p><a href="#">10319214</a>          13-Dec-02</p>	<p><a href="#">20040114317</a>          17-Jun-04</p>	<p><a href="#">6869883</a>          22-Mar-05</p>
<p><a href="#">»</a>          FORMING PHASE CHANGE MEMORIES; Inventors: Chien Chiang, Charles Dennison,          Tyler Lowrey</p>	<p><a href="#">11013036</a>          15-Dec-04</p>	<p><a href="#">20050104231</a>          19-May-05</p>	<p><a href="#">7196351</a>          27-Mar-07</p>
<p><a href="#">»</a>          FORMING PHASE CHANGE MEMORIES; Inventors: Chien Chiang, Charles Dennison,          Tyler Lowrey</p>	<p><a href="#">11706000</a>          13-Feb-07</p>	<p><a href="#">20070138467</a>          21-Jun-07</p>	<p><a href="#">7348620</a>          25-Mar-08</p>
<p><a href="#">»</a>          VERTICAL ELEVATED PORE PHASE CHANGE MEMORY; Inventors: Tyler Lowrey</p>	<p><a href="#">10319179</a>          13-Dec-02</p>	<p><a href="#">20040115372</a>          17-Jun-04</p>	<p><a href="#">7049623</a>          23-May-06</p>
<p><a href="#">»</a>          VERTICAL ELEVATED PORE PHASE CHANGE MEMORY; Inventors: Tyler Lowrey</p>	<p><a href="#">11270909</a>          10-Nov-05</p>	<p><a href="#">20060054878</a>          16-Mar-06</p>	<p><a href="#">7364937</a>          29-Apr-08</p>
<p><a href="#">»</a>          UTILIZING ATOMIC LAYER DEPOSITION FOR PROGRAMMABLE DEVICE;          Inventors: Tyler A. Lowrey, Charles H. Dennison</p>	<p><a href="#">9896529</a>          30-Jun-01</p>	<p><a href="#">20030003634</a>          2-Jan-03</p>	<p><a href="#">6511867</a>          28-Jan-03</p>
<p><a href="#">»</a>          UTILIZING ATOMIC LAYER DEPOSITION FOR PROGRAMMABLE DEVICE;          Inventors: Tyler A. Lowrey, Charles H. Dennison</p>	<p><a href="#">10313785</a>          6-Dec-02</p>	<p><a href="#">20030098461</a>          29-May-03</p>	<p><a href="#">6919578</a>          19-Jul-05</p>
<p><a href="#">»</a></p>			

PORE STRUCTURE FOR PROGRAMMABLE DEVICE; Inventors: Tyler A. Lowrey	<a href="#">9896616</a>	<a href="#">20030002312</a>	<a href="#">6747286</a>
	30-Jun-01	2-Jan-03	8-Jun-04
»			
METHOD FOR FORMING PORE STRUCTURE FOR PROGRAMMABLE DEVICE; Inventors: Tyler A. Lowrey	<a href="#">10738804</a>	<a href="#">20040082153</a>	<a href="#">6841397</a>
	17-Dec-03	29-Apr-04	11-Jan-05
»			
PORE STRUCTURE FOR PROGRAMMABLE DEVICE; Inventors: Tyler A. Lowrey	<a href="#">10958613</a>	<a href="#">20050042799</a>	<a href="#">6961258</a>
	5-Oct-04	24-Feb-05	1-Nov-05
»			
METHOD AND APPARATUS TO OPERATE A MEMORY CELL; Inventors: Tyler Lowrey, Daniel Xu	<a href="#">10034331</a>	<a href="#">20030123284</a>	<a href="#">6667900</a>
	28-Dec-01	3-Jul-03	23-Dec-03
»			
SINGLE LEVEL METAL MEMORY CELL USING CHALCOGENIDE CLADDING; Inventors: Tyler A. Lowrey, MANZUR GILL	<a href="#">9675285</a>		<a href="#">6567293</a>
	29-Sep-00		20-May-03
»			
SINGLE LEVEL METAL MEMORY CELL USING CHALCOGENIDE CLADDING; Inventors: Tyler A. Lowrey, MANZUR GILL	<a href="#">9774353</a>	<a href="#">20020039306</a>	<a href="#">6757190</a>
	30-Jan-01	4-Apr-02	29-Jun-04
»			
SINGLE LEVEL METAL MEMORY CELL USING CHALCOGENIDE CLADDING; Inventors: Tyler A. Lowrey, Manzur Gill	<a href="#">10281337</a>	<a href="#">20030090922</a>	<a href="#">6836423</a>
	25-Oct-02	15-May-03	28-Dec-04
»			
SINGLE LEVEL METAL MEMORY CELL USING CHALCOGENIDE CLADDING; Inventors: Tyler A. Lowrey, Manzur Gill	<a href="#">10389114</a>	<a href="#">20030156482</a>	<a href="#">7223688</a>
	14-Mar-03	21-Aug-03	29-May-07
»			
SINGLE LEVEL METAL MEMORY CELL USING CHALCOGENIDE CLADDING; Inventors: Tyler A. Lowrey, Manzur Gill	<a href="#">10838966</a>	<a href="#">20040208039</a>	<a href="#">7157304</a>
	5-May-04	21-Oct-04	2-Jan-07

» PROGRAMMING A PHASE-CHANGE MATERIAL MEMORY; Inventors: Tyler A. Lowrey	<a href="#">9895135</a> 29-Jun-01	<a href="#">20030002332</a> 2-Jan-03	<a href="#">6570784</a> 27-May-03
» PROGRAMMING A PHASE-CHANGE MATERIAL MEMORY; Inventors: Tyler A. Lowrey	<a href="#">10404171</a> 1-Apr-03	<a href="#">20030218904</a> 27-Nov-03	<a href="#">6687153</a> 3-Feb-04
» PROVIDING EQUAL CELL PROGRAMMING CONDITIONS ACROSS A LARGE AND HIGH DENSITY ARRAY OF PHASE-CHANGE MEMORY CELLS; Inventors: Eungjoon Park	<a href="#">9881439</a> 12-Jun-01		<a href="#">6480438</a> 12-Nov-02
» METHOD TO SELECTIVELY INCREASE THE TOP RESISTANCE OF THE LOWER PROGRAMMING ELECTRODE IN A PHASE-CHANGE MEMORY.; Inventors: Charles Dennison	<a href="#">9737363</a> 14-Dec-00	<a href="#">20030036232</a> 20-Feb-03	<a href="#">6696355</a> 24-Feb-04
» METHOD TO SELECTIVELY INCREASE THE TOP RESISTANCE OF THE LOWER PROGRAMMING ELECTRODE IN A PHASE-CHANGE MEMORY CELL AND STRUCTURES OBTAINED THEREBY; Inventors: Charles Dennison	<a href="#">10679637</a> 6-Oct-03	<a href="#">20040067608</a> 8-Apr-04	<a href="#">7005666</a> 28-Feb-06
» COMPOSITIONALLY MODIFIED RESISTIVE ELECTRODE; Inventors: Tyler A. Lowrey, Daniel Xu, Chien Chiang, Patrick J. Neschleba	<a href="#">9675803</a> 29-Sep-00		<a href="#">6404665</a> 11-Jun-02
» COMPOSITIONALLY MODIFIED RESISTIVE ELECTRODE; Inventors: Tyler A. Lowrey, Daniel Xu, Chien Chiang, Patrick J. Neschleba	<a href="#">9780805</a> 8-Feb-01	<a href="#">20020038883</a> 4-Apr-02	<a href="#">6563164</a> 13-May-03
»			

COMPOSITIONALLY MODIFIED RESISTIVE ELECTRODE; Inventors: Tyler A. Lowrey, Daniel Xu, Chien Chiang, Patrick J. Neschleba	<a href="#">10371253</a>	<a href="#">20040069982</a>	<a href="#">6878618</a>
	20-Feb-03	15-Apr-04	12-Apr-05
<a href="#">»</a>			
A METHOD OF FORMING A PHASE-CHANGE MEMORY CELL USING SILICON-ON-INSULATOR LOW ELECTRODE IN CHALCOGENIDE ELEMENTS; Inventors: Manzur Gill, Tyler Lowrey	<a href="#">9751485</a>	<a href="#">20020081804</a>	<a href="#">6531373</a>
	27-Dec-00	27-Jun-02	11-Mar-03
<a href="#">»</a>			
SILICON ON INSULATOR PHASE CHANGE MEMORY; Inventors: Manzur Gill, Tyler Lowrey	<a href="#">10336171</a>	<a href="#">20030132501</a>	<a href="#">6791107</a>
	3-Jan-03	17-Jul-03	14-Sep-04
<a href="#">»</a>			
PHASE-CHANGE MEMORY BIPOLAR ARRAY UTILIZING A SINGLE SHALLOW TRENCH ISOLATION FOR CREATING AN INDIVIDUAL ACTIVE AREA REGION FOR TWO MEMORY ARRAY ELEMENTS AND ONE BIPOLAR BASE CONTACT; Inventors: Charles Dennison	<a href="#">9749126</a>	<a href="#">20020079483</a>	<a href="#">6534781</a>
	26-Dec-00	27-Jun-02	18-Mar-03
<a href="#">»</a>			
METHOD FOR FORMING PHASE-CHANGE MEMORY BIPOLAR ARRAY UTILIZING A SINGLE SHALLOW TRENCH ISOLATION FOR CREATING AN INDIVIDUAL ACTIVE AREA REGION FOR TWO MEMORY ARRAY ELEMENTS AND ONE BIPOLAR BASE CONTACT; Inventors: Charles Dennison	<a href="#">10196870</a>	<a href="#">20020177292</a>	<a href="#">6593176</a>
	15-Jul-02	28-Nov-02	15-Jul-03
<a href="#">»</a>			
Method to enhance performance of thermal resistor device; Inventors: Chien Chiang, Guy C. Wicker	<a href="#">9676317</a>		<a href="#">6339544</a>
	29-Sep-00		15-Jan-02
<a href="#">»</a>			
METHOD TO ENHANCE PERFORMANCE OF THERMAL RESISTOR DEVICE; Inventors: Chien Chiang, Guy C. Wicker	<a href="#">9944349</a>	<a href="#">20020039310</a>	<a href="#">6621095</a>
	29-Aug-01	4-Apr-02	16-Sep-03
<a href="#">»</a>			



METHOD TO ENHANCE PERFORMANCE OF THERMAL RESISTOR DEVICE; Inventors: Chien Chiang, Guy C. Wicker	<a href="#">10611600</a>	<a href="#">20040051128</a>	<a href="#">6770524</a>
	1-Jul-03	18-Mar-04	3-Aug-04
<a href="#">»</a>			
REDUCED AREA INTERSECTION BETWEEN ELECTRODE AND PROGRAMMING ELEMENT; Inventors: Charles H. Dennison, Guy C. Wicker, Tyler A. Lowrey, Stephen J. Hudgens, Daniel Xu, Chien Chiang	<a href="#">9895020</a>	<a href="#">20030003691</a>	<a href="#">6673700</a>
	30-Jun-01	2-Jan-03	6-Jan-04
<a href="#">»</a>			
MODIFIED CONTACT FOR PROGRAMMABLE DEVICES; Inventors: Stephen J. Hudgens, Tyler A. Lowrey	<a href="#">9896009</a>	<a href="#">20030001211</a>	<a href="#">6511862</a>
	30-Jun-01	2-Jan-03	28-Jan-03
<a href="#">»</a>			
MODIFIED CONTACT FOR PROGRAMMABLE DEVICES; Inventors: Stephen J. Hudgens, Tyler A. Lowrey	<a href="#">10310603</a>	<a href="#">20030094652</a>	<a href="#">6774388</a>
	5-Dec-02	22-May-03	10-Aug-04
<a href="#">»</a>			
MODIFIED CONTACT FOR PROGRAMMABLE DEVICES; Inventors: Stephen J. Hudgens, Tyler A. Lowrey	<a href="#">10864232</a>	<a href="#">20040222445</a>	<a href="#">6917052</a>
	9-Jun-04	11-Nov-04	12-Jul-05
<a href="#">»</a>			
LOWER ELECTRODE ISOLATION IN A DOUBLE-WIDE TRENCH; Inventors: Charles Dennison	<a href="#">9749127</a>	<a href="#">20020079524</a>	<a href="#">6646297</a>
	26-Dec-00	27-Jun-02	11-Nov-03
<a href="#">»</a>			
LOWER ELECTRODE ISOLATION IN A DOUBLE-WIDE TRENCH AND METHOD OF MAKING SAME; Inventors: Charles Dennison	<a href="#">10652631</a>	<a href="#">20040042329</a>	<a href="#">6969633</a>
	29-Aug-03	4-Mar-04	29-Nov-05
<a href="#">»</a>			
PROGRAMMING A PHASE-CHANGE MEMORY WITH SLOW QUENCH TIME; Inventors: Eungjoon Park, Tyler A. Lowrey	<a href="#">9895054</a>	<a href="#">20030002331</a>	<a href="#">6487113</a>
	29-Jun-01	2-Jan-03	26-Nov-02
<a href="#">»</a>			

METHOD AND SYSTEM TO STORE INFORMATION; Inventors: Tyler A. Lowrey, Ward D. Parkinson	<a href="#">10319756</a>	<a href="#">20040114419</a>	<a href="#">6813177</a>
<a href="#">»</a>	13-Dec-02	17-Jun-04	2-Nov-04
MEMORY AND ACCESS DEVICES; Inventors: Ward D. Parkinson, Tyler A. Lowrey	<a href="#">10319769</a>	<a href="#">20040114413</a>	<a href="#">6795338</a>
<a href="#">»</a>	13-Dec-02	17-Jun-04	21-Sep-04
METHOD TO MANUFACTURE A PHASE CHANGE MEMORY; Inventors: Brian G. Johnson, Charles H. Dennison	<a href="#">10319741</a>	<a href="#">20040115860</a>	<a href="#">7314776</a>
<a href="#">»</a>	13-Dec-02	17-Jun-04	1-Jan-08
METHOD TO MANUFACTURE A PHASE CHANGE MEMORY; Inventors: Brian G. Johnson, Charles H. Dennison	<a href="#">11983188</a>	<a href="#">20080064200</a>	<a href="#">7803655</a>
<a href="#">»</a>	7-Nov-07	13-Mar-08	28-Sep-10
DAMASCENE CONDUCTIVE LINE FOR CONTACTING AN UNDERLYING MEMORY ELEMENT; Inventors: Charles H. Dennison	<a href="#">10633886</a>	<a href="#">20050029627</a>	<a href="#">7399655</a>
<a href="#">»</a>	4-Aug-03	10-Feb-05	15-Jul-08
DAMASCENE CONDUCTIVE LINE FOR CONTACTING AN UNDERLYING MEMORY ELEMENT; Inventors: Charles H. Dennison	<a href="#">12157086</a>	<a href="#">20080246161</a>	<a href="#">7728352</a>
<a href="#">»</a>	6-Jun-08	9-Oct-08	1-Jun-10
OPTICALLY ACCESSIBLE PHASE CHANGE MEMORY; Inventors: Brian G. Johnson	<a href="#">10634146</a>	<a href="#">20050030784</a>	<a href="#">7596016</a>
<a href="#">»</a>	4-Aug-03	10-Feb-05	29-Sep-09
DAMASCENE PHASE CHANGE MEMORY; Inventors: Ilya V. Karpov	<a href="#">10634139</a>	<a href="#">20050032307</a>	<a href="#">7211819</a>
<a href="#">»</a>	4-Aug-03	10-Feb-05	1-May-07
DAMASCENE PHASE CHANGE MEMORY; Inventors: Ilya V. Karpov	<a href="#">11649389</a>	<a href="#">20070108432</a>	<a href="#">7420200</a>
<a href="#">»</a>	4-Jan-07	17-May-07	2-Sep-08

<a href="#">»</a>	A METHOD FOR FORMING A PHASE CHANGE DEVICE; Inventors: Ilya V. Karpov	<a href="#">11725434</a>	<a href="#">20070187663</a>	<a href="#">7811885</a>
		19-Mar-07	16-Aug-07	12-Oct-10
<a href="#">»</a>	PHASE CHANGE ACCESS DEVICE FOR MEMORIES; Inventors: Tyler A. Lowrey	<a href="#">10634140</a>	<a href="#">20050029505</a>	<a href="#">6914255</a>
		4-Aug-03	10-Feb-05	5-Jul-05
<a href="#">»</a>	ANALOG PHASE CHANGE MEMORY; Inventors: Ward D. Parkinson, Allen Benn	<a href="#">10634153</a>	<a href="#">20050030788</a>	<a href="#">7471552</a>
		4-Aug-03	10-Feb-05	30-Dec-08
<a href="#">»</a>	USING A PHASE CHANGE MEMORY AS A HIGH VOLUME MEMORY; Inventors: Ward D. Parkinson	<a href="#">10939273</a>	<a href="#">20060059405</a>	<a href="#">7590918</a>
		10-Sep-04	16-Mar-06	15-Sep-09
<a href="#">»</a>	USING A PHASE CHANGE MEMORY AS A HIGH VOLUME MEMORY; Inventors: Ward D. Parkinson	<a href="#">12538906</a>	<a href="#">20090300467</a>	<a href="#">8566674</a>
		11-Aug-09	3-Dec-09	22-Oct-13
<a href="#">»</a>	USING A BIT SPECIFIC REFERENCE LEVEL TO READ A RESISTIVE MEMORY; Inventors: Tyler Lowrey, Ward D. Parkinson, Ferdinando Bedeschi, Claudio Resta, Roberto Gastaldi, Giulio Casagrande	<a href="#">11093877</a>	<a href="#">20060221712</a>	<a href="#">8116159</a>
		30-Mar-05	5-Oct-06	14-Feb-12
<a href="#">»</a>	USING A BIT SPECIFIC REFERENCE LEVEL TO READ A MEMORY; Inventors: Tyler Lowrey, Ward D. Parkinson, Claudio Resta, Roberto Gastaldi, Giulio Casagrande, Ferdinando Bedeschi	<a href="#">13353531</a>	<a href="#">20120113711</a>	<a href="#">8259525</a>
		19-Jan-12	10-May-12	4-Sep-12
<a href="#">»</a>	METHOD FOR USING A BIT SPECIFIC REFERENCE LEVEL TO READ A PHASE CHANGE MEMORY; Inventors: Tyler Lowrey, Ward D. Parkinson, Ferdinando Bedeschi, Claudio Resta, Roberto Gastaldi, Giulio Casagrande	<a href="#">13555346</a>	<a href="#">20120287698</a>	<a href="#">8705306</a>
		23-Jul-12	15-Nov-12	22-Apr-14

<p><a href="#">»</a>          USING HIGHER CURRENT TO READ A TRIGGERED PHASE CHANGE MEMORY;          Inventors: Tyler Lowrey, Ward D. Parkinson, George A. Gordon</p>	<p><a href="#">11093864</a></p>	<p><a href="#">20060227591</a></p>	<p><a href="#">8036013</a></p>
	<p>30-Mar-05</p>	<p>12-Oct-06</p>	<p>11-Oct-11</p>
<p><a href="#">»</a>          READING PHASE CHANGE MEMORIES; Inventors: Ward D. Parkinson, Giulio Casagrande, Claudio Resta, Roberto Gastaldi, Ferdinando Bedeschi</p>	<p><a href="#">11093878</a></p>	<p><a href="#">20060227592</a></p>	<p><a href="#">7495944</a></p>
	<p>30-Mar-05</p>	<p>12-Oct-06</p>	<p>24-Feb-09</p>
<p><a href="#">»</a>          READING PHASE CHANGE MEMORIES; Inventors: Ward D. Parkinson, Giulio Casagrande, Claudio Resta, Ferdinando Bedeschi, Roberto Gastaldi</p>	<p><a href="#">12354425</a></p>	<p><a href="#">20090116281</a></p>	<p><a href="#">7936584</a></p>
	<p>15-Jan-09</p>	<p>7-May-09</p>	<p>3-May-11</p>
<p><a href="#">»</a>          READING PHASE CHANGE MEMORIES; Inventors: Ward D. Parkinson, Giulio Casagrande, Claudio Resta, Roberto Gastaldi, Ferdinando Bedeschi</p>	<p><a href="#">13072911</a></p>	<p><a href="#">20110176358</a></p>	<p><a href="#">8098512</a></p>
	<p>28-Mar-11</p>	<p>21-Jul-11</p>	<p>17-Jan-12</p>
<p><a href="#">»</a>          INCREASING ADHERENCE OF DIELECTRICS TO PHASE CHANGE MATERIALS;          Inventors: Paola Besana, Tina Marangon, Amos Galbiati</p>	<p><a href="#">10965129</a></p>	<p><a href="#">20060084227</a></p>	<p><a href="#">7338857</a></p>
	<p>14-Oct-04</p>	<p>20-Apr-06</p>	<p>4-Mar-08</p>
<p><a href="#">»</a>          INCREASING ADHERENCE OF DIELECTRICS TO PHASE CHANGE MATERIALS;          Inventors: Paola Besana, Tina Marangon, Amos Galbiati</p>	<p><a href="#">11986350</a></p>	<p><a href="#">20080067485</a></p>	<p><a href="#">7470922</a></p>
	<p>21-Nov-07</p>	<p>20-Mar-08</p>	<p>30-Dec-08</p>
<p><a href="#">»</a>          PHASE CHANGE MEMORY WITH OVONIC THRESHOLD SWITCH; Inventors: Fabio Pellizzer, Agostino Pirovano</p>	<p><a href="#">10943409</a></p>	<p><a href="#">20060073652</a></p>	<p><a href="#">7687830</a></p>
	<p>17-Sep-04</p>	<p>6-Apr-06</p>	<p>30-Mar-10</p>
<p><a href="#">»</a>          PHASE CHANGE MEMORY WITH OVONIC THRESHOLD SWITCH; Inventors: Fabio Pellizzer, Agostino Pirovano</p>	<p><a href="#">12700440</a></p>	<p><a href="#">20100136742</a></p>	<p><a href="#">8084789</a></p>
	<p>4-Feb-10</p>	<p>3-Jun-10</p>	<p>27-Dec-11</p>
<p><a href="#">»</a></p>			

BIASING CIRCUIT FOR USE IN A NON-VOLATILE MEMORY DEVICE; Ferdinando Bedeschi, Claudio Resta	Inventors:	<a href="#">10948885</a>	<a href="#">20060067154</a>	<a href="#">7149132</a>
		24-Sep-04	30-Mar-06	12-Dec-06
<a href="#">»</a>				
READING A PHASE CHANGE MEMORY;	Inventors: Ward D. Parkinson	<a href="#">11093710</a>	<a href="#">20060227590</a>	<a href="#">7453715</a>
		30-Mar-05	12-Oct-06	18-Nov-08
<a href="#">»</a>				
READING A PHASE CHANGE MEMORY;	Inventors: Ward D. Parkinson	<a href="#">12283560</a>	<a href="#">20090010051</a>	<a href="#">7849712</a>
		11-Sep-08	8-Jan-09	14-Dec-10
<a href="#">»</a>				
READING A PHASE CHANGE MEMORY;	Inventors: Ward D. Parkinson	<a href="#">12939218</a>	<a href="#">20110103141</a>	<a href="#">8077498</a>
		4-Nov-10	5-May-11	13-Dec-11
<a href="#">»</a>				
READING A PHASE CHANGE MEMORY;	Inventors: Ward D. Parkinson	<a href="#">13295334</a>	<a href="#">20120057393</a>	<a href="#">8427862</a>
		14-Nov-11	8-Mar-12	23-Apr-13
<a href="#">»</a>				
DETECTING SWITCHING OF ACCESS ELEMENTS OF PHASE CHANGE MEMORY CELLS;	Inventors: Ferdinando Bedeschi, Claudio Resta, Ward D. Parkinson, Roberto Gastaldi	<a href="#">11093709</a>	<a href="#">20060221734</a>	<a href="#">7154774</a>
		30-Mar-05	5-Oct-06	26-Dec-06
<a href="#">»</a>				
DETECTING SWITCHING OF ACCESS ELEMENTS OF PHASE CHANGE MEMORY CELLS;	Inventors: Ferdinando Bedeschi, Claudio Resta, Ward D. Parkinson, Roberto Gastaldi	<a href="#">11527147</a>	<a href="#">20070019465</a>	<a href="#">7388775</a>
		26-Sep-06	25-Jan-07	17-Jun-08
<a href="#">»</a>				
CIRCUITRY FOR READING PHASE CHANGE MEMORY CELLS HAVING A CLAMPING CIRCUIT;	Inventors: Ferdinando Bedeschi, Claudio Resta	<a href="#">11093879</a>	<a href="#">20060221678</a>	<a href="#">7570524</a>
		30-Mar-05	5-Oct-06	4-Aug-09
<a href="#">»</a>				
CIRCUITRY FOR READING PHASE-CHANGE MEMORY CELLS HAVING A CLAMPING CIRCUIT;	Inventors: Ferdinando Bedeschi, Claudio Resta	<a href="#">12491352</a>	<a href="#">20090285016</a>	<a href="#">8259515</a>
		25-Jun-09	19-Nov-09	4-Sep-12

» METHOD FOR READING PHASE CHANGE MEMORY CELLS HAVING A CLAMPING CIRCUIT; Inventors: Ferdinando Bedeschi, Claudio Resta	<a href="#">13561172</a>	<a href="#">20120307553</a>	<a href="#">8565031</a>
	30-Jul-12	6-Dec-12	22-Oct-13
» MULTI-LEVEL PHASE CHANGE MEMORY; Inventors: Charles C. Kuo, Ilya V. Karpov	<a href="#">11127482</a>	<a href="#">20060257787</a>	<a href="#">7910904</a>
	12-May-05	16-Nov-06	22-Mar-11
» MULTILEVEL PHASE CHANGE MEMORY; Inventors: Jong-Won S. Lee	<a href="#">11122363</a>	<a href="#">20060249725</a>	<a href="#">7488968</a>
	5-May-05	9-Nov-06	10-Feb-09
» MULTILEVEL PHASE CHANGE MEMORY; Inventors: Jong-Won S. Lee	<a href="#">12349077</a>	<a href="#">20090111249</a>	<a href="#">7833824</a>
	6-Jan-09	30-Apr-09	16-Nov-10
» READING PHASE CHANGE MEMORIES WITHOUT TRIGGERING RESET CELL THRESHOLD DEVICES; Inventors: Sergey A. Kostylev, Tyler Arthur Lowrey, Wolodymyr Czubytyj, Ward D. Parkinson	<a href="#">11105829</a>	<a href="#">20060233019</a>	<a href="#">7280390</a>
	14-Apr-05	19-Oct-06	9-Oct-07
» FORMING A PHASE CHANGE MEMORY WITH AN OVONIC THRESHOLD SWITCH; Inventors: Charles H. Dennison	<a href="#">11262246</a>	<a href="#">20070096090</a>	<a href="#">8188454</a>
	28-Oct-05	3-May-07	29-May-12
» Forming a Phase Change Memory With an Ovonic Threshold Switch; Inventors: Charles H. Dennison	<a href="#">13463072</a>	<a href="#">20120220099</a>	<a href="#">8440535</a>
	3-May-12	30-Aug-12	14-May-13
» PHASE CHANGE MEMORY WITH THRESHOLD SWITCH SELECT DEVICE; Inventors: Ilya V. Karpov, Sean Jong Lee, Yudong Kim, Greg Atwood	<a href="#">11272208</a>	<a href="#">20070105267</a>	<a href="#">8637342</a>
	10-Nov-05	10-May-07	28-Jan-14
»			

PROGRAMMING A NORMALLY SINGLE PHASE CHALCOGENIDE MATERIAL FOR USE AS A MEMORY OR FPLA; Inventors: George A. Gordon, Ward D. Parkinson, John M. Peters, Tyler Arthur Lowrey, Stanford Ovshinsky, Guy C. Wicker, Ilya V. Karpov, Charles C. Kuo	<a href="#">11407573</a>	<a href="#">20070247899</a>	<a href="#">7414883</a>
	20-Apr-06	25-Oct-07	19-Aug-08
»			
PROGRAMMING A NORMALLY SINGLE PHASE CHALCOGENIDE MATERIAL FOR USE AS A MEMORY OF FPLA; Inventors: George A. Gordon, Ward D. Parkinson, John M. Peters, Tyler A. Lowrey, Stanford Ovshinsky, Guy C. Wicker, Ilya V. Karpov, Charles C. Kuo	<a href="#">12218122</a>	<a href="#">20080273379</a>	<a href="#">7864567</a>
	11-Jul-08	6-Nov-08	4-Jan-11
»			
FORMING AN INTERMEDIATE ELECTRODE BETWEEN AN OVONIC THRESHOLD SWITCH AND A CHALCOGENIDE MEMORY ELEMENT; Inventors: John M. Peters	<a href="#">11724112</a>	<a href="#">20080224116</a>	<a href="#">7531378</a>
	14-Mar-07	18-Sep-08	12-May-09
»			
FORMING AN INTERMEDIATE ELECTRODE BETWEEN AN OVONIC THRESHOLD SWITCH AND A CHALCOGENIDE MEMORY ELEMENT; Inventors: John M. Peters	<a href="#">12414739</a>	<a href="#">20090184308</a>	<a href="#">7638789</a>
	31-Mar-09	23-Jul-09	29-Dec-09
»			
SEMICONDUCTOR PHASE CHANGE MEMORY USING MULTIPLE PHASE CHANGE LAYERS; Inventors: Charles H. Dennison, Stephen J. Hudgens	<a href="#">11973565</a>	<a href="#">20090091971</a>	<a href="#">7729162</a>
	9-Oct-07	9-Apr-09	1-Jun-10
»			
SEMICONDUCTOR PHASE CHANGE MEMORY USING MULTIPLE PHASE CHANGE LAYERS; Inventors: Charles H. Dennison, Stephen J. Hudgens	<a href="#">12764157</a>	<a href="#">20100200829</a>	<a href="#">8098519</a>
	21-Apr-10	12-Aug-10	17-Jan-12
»			
SEMICONDUCTOR PHAST CHANGE MEMORY USING MULTIPLE PHASE CHANGE LAYERS; Inventors: Charles H. Dennison, Stephen J. Hudgens	<a href="#">13315374</a>	<a href="#">20120081956</a>	<a href="#">8223538</a>
	9-Dec-11	5-Apr-12	17-Jul-12

<a href="#">»</a> Semiconductor Phase Change Memory Using Multiple Phase Change Layers; Inventors: CHARLES H. DENNISON, STEPHEN J. HUDGENS	<a href="#">13526686</a>	<a href="#">20120256154</a>	<a href="#">8462545</a>
	19-Jun-12	11-Oct-12	11-Jun-13
<a href="#">»</a> SEMICONDUCTOR PHASE CHANGE MEMORY USING FACE CENTER CUBIC CRYSTALLINE PHASE CHANGE MATERIAL; Inventors: Charles H. Dennison, Stephen J. Hudgens	<a href="#">13910237</a>	<a href="#">20130270502</a>	<a href="#">8699267</a>
	5-Jun-13	17-Oct-13	15-Apr-14
<a href="#">»</a> IMMUNITY OF PHASE CHANGE MATERIAL TO DISTURB IN THE AMORPHOUS PHASE; Inventors: George Gordon, Semyon D. Savransky, Ward Parkinson, Sergey A. Kostylev, James Reed, Tyler Lowrey, Ilya V. Karpov, Gianpaolo Spadini	<a href="#">12080001</a>	<a href="#">20090244962</a>	<a href="#">7990761</a>
	31-Mar-08	1-Oct-09	2-Aug-11
<a href="#">»</a> Immunity of Phase Change Material to Disturb in the Amorphous Phase; Inventors: George Gordon, Semyon D. Savransky, Ward Parkinson, Sergey A. Kostylev, James Reed, Tyler Lowrey, Ilya V. Karpov, Gianpaolo Spadini	<a href="#">13158565</a>	<a href="#">20110240943</a>	<a href="#">8634226</a>
	13-Jun-11	6-Oct-11	21-Jan-14
<a href="#">»</a> IMMUNITY OF PHASE CHANGE MATERIAL TO DISTURB IN THE AMORPHOUS PHASE; Inventors: George A. Gordon, Semyon D. Savransky, Ward D. Parkinson, Sergey Kostylev, James Reed, Tyler A. Lowrey, Ilya V. Karpov, Gianpaolo Spadini	<a href="#">14102820</a>	<a href="#">20140098604</a>	<a href="#">8861293</a>
	11-Dec-13	10-Apr-14	14-Oct-14
<a href="#">»</a> IMMUNITY OF PHASE CHANGE MATERIAL TO DISTURB IN THE AMORPHOUS PHASE; Inventors: Semyon D. Savransky, Sergey Kostylev, George A. Gordon, Ward D. Parkinson, James Reed, Ilya V. Karpov, Tyler A. Lowrey, Gianpaolo Spadini	<a href="#">14336600</a>	<a href="#">20140328121</a>	<a href="#">9036409</a>
	21-Jul-14	6-Nov-14	19-May-15
<a href="#">»</a>			



ELECTROSTATIC DISCHARGE PROTECTION CIRCUIT INCLUDING OVONIC THRESHOLD SWITCHES; Inventors: Stephen H. Tang, Derchang Kau, Charles C. Kuo	<a href="#">12080081</a>	<a href="#">20090244796</a>	<a href="#">7764477</a>
31-Mar-08	1-Oct-09	27-Jul-10	
»			
REDUCING DRIFT IN CHALCOGENIDE DEVICES; Inventors: Semyon D. Savransky	<a href="#">12082070</a>	<a href="#">20090250677</a>	<a href="#">7936593</a>
8-Apr-08	8-Oct-09	3-May-11	
»			
REDUCING DRIFT IN CHALCOGENIDE DEVICES; Inventors: Semyon D. Savransky	<a href="#">13072002</a>	<a href="#">20110168965</a>	<a href="#">8164949</a>
25-Mar-11	14-Jul-11	24-Apr-12	
»			
CHALCOGENIDE DEVICES AND MATERIALS HAVING REDUCED GERMANIUM OR TELLURUIM CONTENT; Inventors: Sergey A. Kostylev, Tyler Lowrey, Guy Wicker, Wolodymyr Czubytyj	<a href="#">11301211</a>	<a href="#">20070034851</a>	<a href="#">7525117</a>
12-Dec-05	15-Feb-07	28-Apr-09	
»			
MULTI-LAYER CHALCOGENIDE DEVICES; Inventors: Regino Sandoval, Sergey A. Kostylev, Wolodymyr Czubytyj, Tyler Lowrey	<a href="#">11451913</a>	<a href="#">20070034849</a>	<a href="#">7767992</a>
13-Jun-06	15-Feb-07	3-Aug-10	
»			
CHALCOGENIDE DEVICES EXHIBITING STABLE OPERATION FROM THE AS-FABRICATED STATE; Inventors: Sergey A. Kostylev, Tyler Lowrey, Guy Wicker, Wolodymyr Czubytyj	<a href="#">11975615</a>	<a href="#">20080048167</a>	<a href="#">7786462</a>
19-Oct-07	28-Feb-08	31-Aug-10	
»			
METHOD OF PROGRAMMING MULTI-LAYER CHALCOGENIDE DEVICES; Inventors: Regino Sandoval, Sergey A. Kostylev, Wolodymyr Czubytyj, Tyler Lowrey	<a href="#">12178148</a>	<a href="#">20080273372</a>	<a href="#">8000125</a>
23-Jul-08	6-Nov-08	16-Aug-11	
»			
SEQUENTIAL AND VIDEO ACCESS FOR NON-VOLATILE MEMORY ARRAYS; Inventors: WARD PARKINSON	<a href="#">11549178</a>	<a href="#">20080094871</a>	<a href="#">7684225</a>

<p><a href="#">»</a>  PAGE MODE ACCESS FOR NON-VOLATILE MEMORY ARRAYS; Inventors: WARD  PARKINSON, YUKIO FUJI</p>	13-Oct-06	24-Apr-08	23-Mar-10
	<a href="#">11380612</a>	<a href="#">20070253242</a>	<a href="#">7391664</a>
<p><a href="#">»</a>  PAGE MODE ACCESS FOR NON-VOLATILE MEMORY ARRAYS; Inventors: Ward  Parkinson, Yukio Fuji</p>	27-Apr-06	1-Nov-07	24-Jun-08
	<a href="#">12074274</a>	<a href="#">20080225625</a>	<a href="#">7646626</a>
<p><a href="#">»</a>  PAGE MODE ACCESS FOR NON-VOLATILE MEMORY ARRAYS; Inventors: Ward  Parkinson, Yukio Fuji</p>	3-Mar-08	18-Sep-08	12-Jan-10
	<a href="#">12683735</a>	<a href="#">20100110782</a>	<a href="#">7983104</a>
<p><a href="#">»</a>  PLANAR SEGMENTED CONTACT; Inventors: Guy Wicker</p>	7-Jan-10	6-May-10	19-Jul-11
	<a href="#">12054919</a>		<a href="#">7579210</a>
<p><a href="#">»</a>  PROCESS FOR MANUFACTURING AN ARRAY OF CELLS INCLUDING SELECTION  BIPOLAR JUNCTION TRANSISTORS; Inventors: Fabio Pellizzer, Giulio Casagrande,  Roberto Gastaldi, Loris Vendrame, Augusto Benvenuti, Tyler Lowrey</p>	25-Mar-08		25-Aug-09
	<a href="#">10680721</a>	<a href="#">20040130000</a>	<a href="#">6989580</a>
<p><a href="#">»</a>  PROCESS FOR MANUFACTURING AN ARRAY OF CELLS INCLUDING SELECTION  BIPOLAR JUNCTION TRANSISTORS; Inventors: Fabio Pellizzer, Giulio Casagrande,  Roberto Gastaldi, Loris Vendrame, Augusto Benvenuti, Tyler Lowrey</p>	7-Oct-03	8-Jul-04	24-Jan-06
	<a href="#">11264084</a>	<a href="#">20060049392</a>	<a href="#">7563684</a>
<p><a href="#">»</a>  ARRAY OF CELLS INCLUDING A SELECTION BIPOLAR TRANSISTOR AND  FABRICATION METHOD THEREOF; Inventors: Fabio Pellizzer, Giulio Casagrande,  Roberto Bez</p>	1-Nov-05	9-Mar-06	21-Jul-09
	<a href="#">10680727</a>	<a href="#">20040150093</a>	<a href="#">7135756</a>
<p><a href="#">»</a></p>	7-Oct-03	5-Aug-04	14-Nov-06

<p>ARRAY OF CELLS INCLUDING A SELECTION BIPOLAR TRANSISTOR AND FABRICATION METHOD THEREOF; Inventors: Fabio Pellizzer, Giulio Casagrande, Roberto Bez</p>	<p><a href="#">11551170</a></p>	<p><a href="#">20070099347</a></p>	<p><a href="#">7446011</a></p>
	<p>19-Oct-06</p>	<p>3-May-07</p>	<p>4-Nov-08</p>
<p>» PROCESS FOR DEFINING A CHALCOGENIDE MATERIAL LAYER, IN PARTICULAR IN A PROCESS FOR MANUFACTURING PHASE CHANGE MEMORY CELLS; Inventors: Alessandro Spandre</p>	<p><a href="#">10837491</a></p>	<p><a href="#">20050032374</a></p>	<p><a href="#">7256130</a></p>
	<p>30-Apr-04</p>	<p>10-Feb-05</p>	<p>14-Aug-07</p>
<p>» PROCESS FOR FORMING A THIN FILM OF TISIN, IN PARTICULAR FOR PHASE CHANGE MEMORY DEVICES; Inventors: Romina Zonca</p>	<p><a href="#">10853015</a></p>	<p><a href="#">20050006722</a></p>	<p><a href="#">7253108</a></p>
	<p>25-May-04</p>	<p>13-Jan-05</p>	<p>7-Aug-07</p>
<p>» PROCESS FOR FORMING TAPERED TRENCHES IN A DIELECTRIC MATERIAL; Inventors: Alessandro Spandre</p>	<p><a href="#">11018213</a></p>	<p><a href="#">20050142863</a></p>	<p><a href="#">7247573</a></p>
	<p>20-Dec-04</p>	<p>30-Jun-05</p>	<p>24-Jul-07</p>
<p>» SMALL AREA CONTACT REGION, HIGH EFFICIENCY PHASE CHANGE MEMORY CELL AND FABRICATION METHOD THEREOF; Inventors: Roberto Bez, Fabio Pellizzer, Caterina Riva, Romina Zonca</p>	<p><a href="#">10313991</a></p>	<p><a href="#">20030219924</a></p>	<p><a href="#">7227171</a></p>
	<p>5-Dec-02</p>	<p>27-Nov-03</p>	<p>5-Jun-07</p>
<p>» SUBLITHOGRAPHIC CONTACT STRUCTURE, PHASE CHANGE MEMORY CELL WITH OPTIMIZED HEATER SHAPE, AND MANUFACTURING METHOD THEREOF; Inventors: Giulio Casagrande, Roberto Bez, Fabio Pellizzer</p>	<p><a href="#">10371154</a></p>	<p><a href="#">20040012009</a></p>	<p><a href="#">6972430</a></p>
	<p>20-Feb-03</p>	<p>22-Jan-04</p>	<p>6-Dec-05</p>
<p>» CONTACT STRUCTURE, PHASE CHANGE MEMORY CELL, AND MANUFACTURING METHOD THEREOF WITH ELIMINATION OF DOUBLE CONTACTS; Inventors: Fabio Pellizzer, Agostino Pirovano</p>	<p><a href="#">10372639</a></p>	<p><a href="#">20030214856</a></p>	<p><a href="#">6930913</a></p>
	<p>20-Feb-03</p>	<p>20-Nov-03</p>	<p>16-Aug-05</p>
<p>»</p>			

PHASE CHANGE MEMORY CELL AND MANUFACTURING METHOD THEREOF USING MINITRENCHES; Inventors: Roberto Bez, Fabio Pellizzer, Marina Tosi, Romina Zonca	<a href="#">10372761</a>	<a href="#">20030231530</a>	<a href="#">6891747</a>
	20-Feb-03	18-Dec-03	10-May-05
»			
PHASE CHANGE MEMORY CELL AND MANUFACTURING METHOD THEREOF USING MINITRENCHES; Inventors: Roberto Bez, Fabio Pellizzer, Marina Tosi, Romina Zonca	<a href="#">11045170</a>	<a href="#">20050152208</a>	<a href="#">7993957</a>
	27-Jan-05	14-Jul-05	9-Aug-11
»			
MANUFACTURING METHOD OF A CONTACT STRUCTURE AND PHASE CHANGE MEMORY CELL WITH ELIMINATION OF DOUBLE CONTACTS; Inventors: Fabio Pellizzer, Agostino Pirovano	<a href="#">11156989</a>	<a href="#">20050255665</a>	<a href="#">7402455</a>
	20-Jun-05	17-Nov-05	22-Jul-08
»			
SUBLITHOGRAPHIC CONTACT STRUCTURE, PHASE CHANGE MEMORY CELL WITH OPTIMIZED HEATER SHAPE, AND MANUFACTURING METHOD THEREOF; Inventors: Giulio Casagrande, Roberto Bez, Fabio Pellizzer	<a href="#">11258340</a>	<a href="#">20060049391</a>	<a href="#">7372166</a>
	24-Oct-05	9-Mar-06	13-May-08
»			
CONTENT ADDRESSABLE MEMORY CELL; Inventors: Guido De Sandre, Roberto Bez, Fabio Pellizzer	<a href="#">10970842</a>	<a href="#">20060018183</a>	<a href="#">7227765</a>
	20-Oct-04	26-Jan-06	5-Jun-07
»			
FAST READING, LOW CONSUMPTION MEMORY DEVICE AND READING METHOD THEREOF; Inventors: Claudio Resta, Ferdinando Bedeschi, Guido Torelli	<a href="#">11018550</a>	<a href="#">20050185572</a>	<a href="#">7203087</a>
	20-Dec-04	25-Aug-05	10-Apr-07
»			
SUBLITHOGRAPHIC CONTACT STRUCTURE, IN PARTICULAR FOR A PHASE CHANGE MEMORY CELL, AND FABRICATION PROCESS THEREOF; Inventors: Osama Khouri, Giorgio Pollaccia, Fabio Pellizzer	<a href="#">10756195</a>	<a href="#">20040211953</a>	<a href="#">7122824</a>
	13-Jan-04	28-Oct-04	17-Oct-06
»			

<p>SUBLITHOGRAPHIC CONTACT STRUCTURE, IN PARTICULAR FOR A PHASE CHANGE MEMORY CELL, AND FABRICATION PROCESS THEREOF; Inventors: Osama Khouri, Giorgio Pollaccia, Fabio Pellizzer</p>	<a href="#">11468153</a>	<a href="#">20060284160</a>	<a href="#">7618840</a>
	29-Aug-06	21-Dec-06	17-Nov-09
»			
<p>SINGLE SUPPLY VOLTAGE, NONVOLATILE PHASE CHANGE MEMORY DEVICE WITH CASCODED COLUMN SELECTION AND SIMULTANEOUS WORD READ/WRITE OPERATIONS; Inventors: Osama Khouri, Ferdinando Bedeschi</p>	<a href="#">10331185</a>	<a href="#">20030223285</a>	<a href="#">6754107</a>
	27-Dec-02	4-Dec-03	22-Jun-04
»			
<p>PHASE CHANGE MEMORY DEVICE; Inventors: Osama Khouri, Claudio Resta</p>	<a href="#">10782737</a>	<a href="#">20040228163</a>	<a href="#">7050328</a>
	18-Feb-04	18-Nov-04	23-May-06
»			
<p>METHOD OF WRITING TO A PHASE CHANGE MEMORY DEVICE; Inventors: Osama Khouri, Claudio Resta</p>	<a href="#">11350300</a>	<a href="#">20060126381</a>	<a href="#">7324371</a>
	7-Feb-06	15-Jun-06	29-Jan-08
»			
<p>CIRCUIT AND METHOD FOR TEMPERATURE TRACING OF DEVICES INCLUDING AN ELEMENT OF CHALCOGENIC MATERIAL, IN PARTICULAR PHASE CHANGE MEMORY DEVICES; Inventors: Osama Khouri, Ferdinando Bedeschi, Claudio Resta</p>	<a href="#">10715883</a>	<a href="#">20040151023</a>	<a href="#">7020014</a>
	18-Nov-03	5-Aug-04	28-Mar-06
»			
<p>PROCESS FOR MANUFACTURING A MEMORY DEVICE, IN PARTICULAR A PHASE CHANGE MEMORY, INCLUDING A SILICIDATION STEP; Inventors: Fabio Pellizzer, Roberto Bez, Marina Tosi</p>	<a href="#">10758289</a>	<a href="#">20040214415</a>	<a href="#">6974734</a>
	15-Jan-04	28-Oct-04	13-Dec-05
»			
<p>INTEGRATED RESISTOR, PHASE-CHANGE MEMORY ELEMENT INCLUDING THIS RESISTOR, AND PROCESS FOR THE FABRICATION THEREOF; Inventors: Romina Zonca, Maria Santina Marangon, Giorgio De Santi</p>	<a href="#">10345129</a>	<a href="#">20030161195</a>	<a href="#">6946673</a>
	14-Jan-03	28-Aug-03	20-Sep-05

<p><a href="#">»</a>  ARCHITECTURE OF A PHASE-CHANGE NONVOLATILE MEMORY ARRAY;  Inventors: Osama Khouri, Ferdinando Bedeschi, Giorgio Bosisio, Fabio Pellizzer</p>	<p><a href="#">10319439</a>  12-Dec-02</p>	<p><a href="#">20030185047</a>  2-Oct-03</p>	<p><a href="#">6816404</a>  9-Nov-04</p>
<p><a href="#">»</a>  MEMORY DEVICE; Inventors: Giulio Casagrande, Tyler Lowrey, Roberto Bez, Guy Wicker, Edward Spall, Stephen Hudgens, Wolodymyr Czubyj</p>	<p><a href="#">10041684</a>  24-Oct-01</p>		<p><a href="#">6567296</a>  20-May-03</p>
<p><a href="#">»</a>  WRITE CIRCUIT FOR PROVIDING DISTINCTIVE WRITE CURRENTS TO A CHALCOGENIDE MEMORY CELL; Inventors: Bin Li, George Michael</p>	<p><a href="#">12531849</a>  17-Sep-09</p>	<p><a href="#">20100039857</a>  18-Feb-10</p>	<p><a href="#">8027191</a>  27-Sep-11</p>
<p><a href="#">»</a>  READ REFERENCE CIRCUIT FOR A SENSE AMPLIFIER WITHIN A CHALCOGENIDE MEMORY DEVICE; Inventors: Bin Li, Adam Matthew Bumgarner, Daniel Pirkl</p>	<p><a href="#">12525482</a>  31-Jul-09</p>	<p><a href="#">20100002500</a>  7-Jan-10</p>	<p><a href="#">7916527</a>  29-Mar-11</p>
<p><a href="#">»</a>  ADJUSTABLE WRITE PULSE GENERATOR WITHIN A CHALCOGENIDE MEMORY DEVICE; Inventors: Bin Li, Adam Matthew Bumgarner, Daniel Pirkl, George Michael</p>	<p><a href="#">12531851</a>  11-Jan-10</p>	<p><a href="#">20100135070</a>  3-Jun-10</p>	<p><a href="#">8059454</a>  15-Nov-11</p>
<p><a href="#">»</a>  ANALOG ACCESS CIRCUIT FOR VALIDATING CHALCOGENIDE MEMORY CELLS; Inventors: Bin Li, Adam Matthew Bumgarner</p>	<p><a href="#">12525510</a>  31-Jul-09</p>	<p><a href="#">20100074000</a>  25-Mar-10</p>	<p><a href="#">7986550</a>  26-Jul-11</p>
<p><a href="#">»</a>  METHOD FOR MAKING PROGRAMMABLE RESISTANCE MEMORY ELEMENT USING SILYLATED PHOTORESIST; Inventors: Jon Maimon, Andrew Pomerene</p>	<p><a href="#">9891551</a>  26-Jun-01</p>	<p><a href="#">20030039924</a>  27-Feb-03</p>	<p><a href="#">6589714</a>  8-Jul-03</p>
<p><a href="#">»</a>  METHOD FOR MAKING PROGRAMMABLE RESISTANCE MEMORY ELEMENT; Inventors: Jon Maimon, Andrew Pomerene</p>	<p><a href="#">10072324</a></p>	<p><a href="#">20020197566</a></p>	<p><a href="#">6733956</a></p>

» PROGRAMMABLE CHALCOGENIDE FUSE WITHIN A SEMICONDUCTOR DEVICE; Inventors: John D. Davis, Thomas J. McIntyre, John C. Rodgers, Keith K. Sturcken, Peter W. Spreen, Tushar K. Shah	8-Feb-02	26-Dec-02	11-May-04
» METHOD FOR MANUFACTURING A PROGRAMMABLE CHALCOGENIDE FUSE WITHIN A SEMICONDUCTOR DEVICE; Inventors: John D. Davis, Thomas J. McIntyre, John C. Rodgers, Keith K. Sturcken, Peter W. Spreen, Tushar K. Shah	30-Aug-01		10-Sep-02
» PROGRAMMABLE RESISTANCE MEMORY ELEMENT WITH INDIRECT HEATING; Inventors: Steve Hudgens, John D. Davis, Thomas J. McIntyre, John C. Rodgers, Keith K. Sturcken	26-Jun-02	6-Mar-03	17-Feb-04
» METHOD FOR MANUFACTURING SIDEWALL CONTACTS FOR A CHALCOGENIDE MEMORY DEVICE; Inventors: John C. Rodgers, Jon D. Maimon	5-Sep-03	22-Jul-04	29-Nov-05
» METHOD FOR MANUFACTURING SIDEWALL CONTACTS FOR A CHALCOGENIDE MEMORY DEVICE; Inventors: John C. Rodgers, Jon D. Maimon	30-Dec-02	1-Jul-04	9-Nov-04
» READ/WRITE CIRCUIT FOR ACCESSING CHALCOGENIDE NON-VOLATILE MEMORY CELLS; Inventors: Bin Li, Kenneth R. Knowles, David C. Lawson	26-Apr-04	7-Oct-04	21-Jun-05
» READ/WRITE CIRCUIT FOR ACCESSING CHALCOGENIDE NON-VOLATILE MEMORY CELLS; Inventors: Bin Li, Kenneth R. Knowles, David C. Lawson	31-Jul-03	3-Feb-05	15-Nov-05
»	14-Sep-05	19-Jan-06	29-Aug-06

CIRCUIT FOR ACCESSING A CHALCOGENIDE MEMORY ARRAY; Inventors: Bin Li, Kenneth R. Knowles, David C. Lawson	<a href="#">10811454</a>	<a href="#">20050213367</a>	<a href="#">6944041</a>
	26-Mar-04	29-Sep-05	13-Sep-05
<a href="#">»</a>			
NON-VOLATILE SINGLE-EVENT UPSET TOLERANT LATCH CIRCUIT; Inventors: Bin Li, John C. Rodgers, Nadim F. Haddad	<a href="#">12525458</a>	<a href="#">20100027321</a>	<a href="#">7965541</a>
	31-Jul-09	4-Feb-10	21-Jun-11
<a href="#">»</a>			
SECTOR ARRAY ADDRESSING FOR ECC MANAGEMENT; Inventors: Ward Parkinson, Thomas Trent	<a href="#">12884413</a>	<a href="#">20120069622</a>	<a href="#">8441836</a>
	17-Sep-10	22-Mar-12	14-May-13
<a href="#">»</a>			
SECTOR ARRAY ADDRESSING FOR ECC MANAGEMENT; Inventors: Ward Parkinson, Thomas Trent	<a href="#">13892499</a>	<a href="#">20130250648</a>	<a href="#">8767440</a>
	13-May-13	26-Sep-13	1-Jul-14
<a href="#">»</a>			
NON-VOLATILE MEMORY DEVICE INCLUDING PHASE-CHANGE MATERIAL; Inventors: Dong-ho Ahn, Hideki Horii, Soon-oh Park, Jonathan D. Maimon, Young-hyun Kim, Hee-ju Shin, Jin-ho Oh, Carl H. Schell, Stephen J. Hudgens	<a href="#">12657715</a>	<a href="#">20110049458</a>	<a href="#">8222625</a>
	26-Jan-10	3-Mar-11	17-Jul-12
<a href="#">»</a>			