

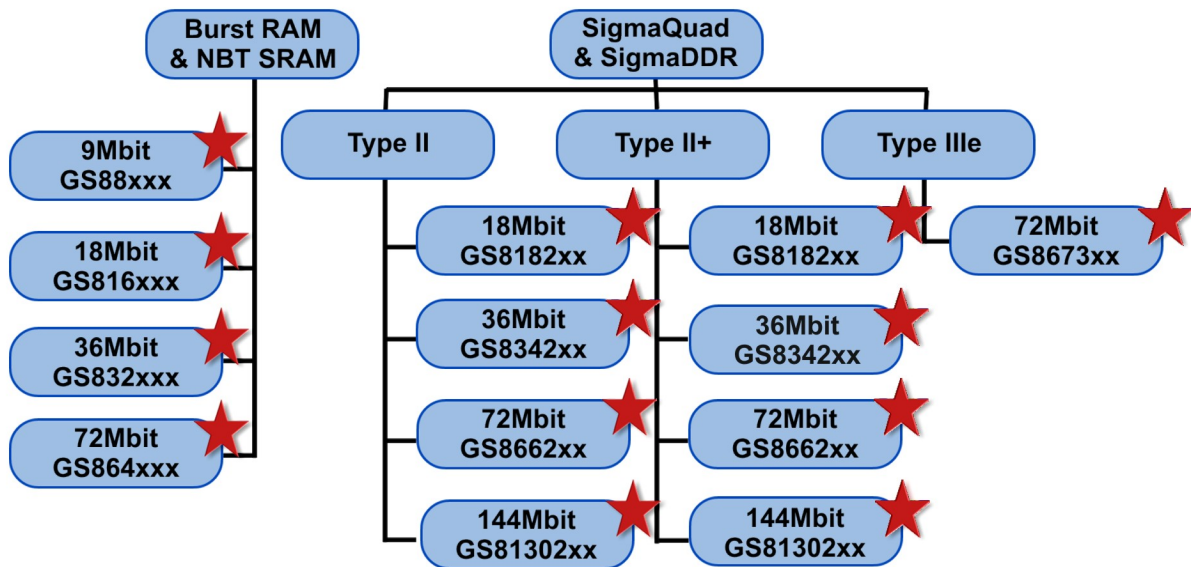


**GSI**  
GS8673ED36BK-675M

# Military Temperature Memory

2014 Product Listing

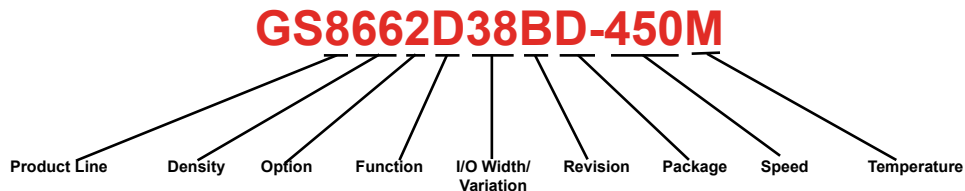
GSI Technology invites you to consider its expanded line of Military Temperature SRAMs:



Permutations:  
Voltage selections for both supply and I/O (3.3 V, 2.5 V, and 1.8 V devices);  
Feature selection by part number and user configuration

GSI Military Temperature products are 100% tested to  $-55^{\circ}\text{C}$  to  $125^{\circ}\text{C}$ . They are supported by a global team of design, applications and customer service experts.

GSI Military Temperature SRAMs can be identified by the “M” in the part number:



Visit us online at:

<http://www.gsitechnology.com>

## SigmaQuad-IIIe™ SRAMs

72Mb SigmaQuad-IIIe						
GSI P/N	Config	Speed (MHz)	Voltage	Package	Features	Avail.
GS8673ED36BK-625M GS8673ED18BK-625M	2M x 36 4M x 18	625	V <sub>DD</sub> —1.35 V V <sub>DDQ</sub> —1.2 V/1.5 V	260 BGA	<b>SigmaQuad-IIIe Burst of 4</b> Read Latency = 3 <b>On-Die Termination Option</b> KD Clocks, <b>ECCRAM™</b>	Contact Sales
GS8673EQ36BK-625M GS8673EQ18BK-625M	2M x 36 4M x 18	625	V <sub>DD</sub> —1.35 V V <sub>DDQ</sub> —1.2 V/1.5 V	260 BGA	<b>SigmaQuad-IIIe Burst of 2</b> Read Latency = 3 <b>On-Die Termination Option</b> KD Clocks, <b>ECCRAM™</b>	Contact Sales

SigmaQuad-IIIe is a trademark of GSI Technology.

## SigmaQuad-II™ and SigmaQuad-II+™ SRAMs

144Mb SigmaQuad-II+						
GSI P/N	Config	Speed (MHz)	Voltage	Package	Features	Avail.
GS81302D38E-450M GS81302D20E-450M GS81302D11E-450M GS81302D06E-450M	4M x 36 8M x 18 16M x 9 16M x 8	450	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (15 x 17 mm)	<b>SigmaQuad-II+ Burst of 4</b> Read Latency = 2.5 <b>On-Die Termination Option</b>	Contact Sales
GS81302Q37E-300M GS81302Q19E-300M GS81302Q10E-300M GS81302Q07E-300M	4M x 36 8M x 18 16M x 9 16M x 8	300	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (15 x 17 mm)	<b>SigmaQuad-II+ Burst of 2</b> Read Latency = 2.0 <b>On-Die Termination Option</b>	Contact Sales
144Mb SigmaQuad-II						
GSI P/N	Config	Speed (MHz)	Voltage	Package	Features	Avail.
GS81302D36E-350M GS81302D18E-350M GS81302D09E-350M GS81302D08E-350M	4M x 36 8M x 18 16M x 9 16M x 8	350	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (15 x 17 mm)	<b>SigmaQuad-II Burst of 4</b>	Contact Sales
GS81302Q36E-250M GS81302Q18E-250M GS81302Q09E-250M GS81302Q08E-250M	4M x 36 8M x 18 16M x 9 16M x 8	250	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (15 x 17 mm)	<b>SigmaQuad-II Burst of 2</b>	Contact Sales
72Mb SigmaQuad-II+						
GSI P/N	Config	Speed (MHz)	Voltage	Package	Features	Avail.
GS8662D38BD-450M GS8662D20BD-450M GS8662D11BD-450M GS8662D06BD-450M	2M x 36 4M x 18 8M x 9 8M x 8	450	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	<b>SigmaQuad-II+ Burst of 4</b> Read Latency = 2.5 <b>On-Die Termination Option</b>	Contact Sales
GS8662Q37BD-300M GS8662Q19BD-300M GS8662Q10BD-300M GS8662Q07BD-300M	2M x 36 4M x 18 8M x 9 8M x 8	300	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	<b>SigmaQuad-II+ Burst of 2</b> Read Latency = 2.0 <b>On-Die Termination Option</b>	Contact Sales
72Mb SigmaQuad-II						
GSI P/N	Config	Speed (MHz)	Voltage	Package	Features	Avail.
GS8662D36BD-350M GS8662D18BD-350M GS8662D09BD-350M GS8662D08BD-350M	2M x 36 4M x 18 8M x 9 8M x 8	350	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	<b>SigmaQuad-II Burst of 4</b>	Contact Sales
GS8662Q36BD-300M GS8662Q18BD-300M GS8662Q09BD-300M GS8662Q08BD-300M	2M x 36 4M x 18 8M x 9 8M x 8	300	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	<b>SigmaQuad-II Burst of 2</b>	Contact Sales

SigmaQuad™-II and SigmaDDR™-II products are pin and function compatible with QDR-II™ and QDR-II+™ products, respectively.  
SigmaQuad, SigmaQuad-II, and SigmaQuad-II+ are trademarks of GSI Technology.  
All other trademarks belong to their respective holders.

## SigmaQuad-II™ and SigmaQuad-II+™ SRAMs

36Mb SigmaQuad-II+						
GSI P/N	Config	Speed (MHz)	Voltage	Package	Features	Avail.
GS8342DT38BD-450M	1M x 36	450	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	SigmaQuad-II+ Burst of 4 Read Latency = 2.5 On-Die Termination Option	Contact Sales
GS8342DT20BD-450M	2M x 18					
GS8342DT11BD-450M	4M x 9					
GS8342DT06BD-450M	4M x 8					
GS8342QT37BD-300M	1M x 36	300	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	SigmaQuad-II+ Burst of 2 Read Latency = 2.0 On-Die Termination Option	Contact Sales
GS8342QT19BD-300M	2M x 18					
GS8342QT10BD-300M	4M x 9					
GS8342QT07BD-300M	4M x 8					
36Mb SigmaQuad-II						
GSI P/N	Config	Speed (MHz)	Voltage	Package	Features	Avail.
GS8342D36BD-375M	1M x 36	375	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	SigmaQuad-II Burst of 4	NOW
GS8342D18BD-375M	2M x 18					
GS8342D09BD-375M	4M x 9					
GS8342D08BD-375M	4M x 8					
GS8342Q36BD-300M	1M x 36	300	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	SigmaQuad-II Burst of 2	NOW
GS8342Q18BD-300M	2M x 18					
GS8342Q09BD-300M	4M x 9					
GS8342Q08BD-300M	4M x 8					
18Mb SigmaQuad-II+						
GSI P/N	Config	Speed (MHz)	Voltage	Package	Features	Avail.
GS8182D37BD-435M	512K x 36	435	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	SigmaQuad-II+ Burst of 4 Read Latency = 2.0	NOW
GS8182D19BD-435M	1M x 18					
18Mb SigmaQuad-II						
GSI P/N	Config	Speed (MHz)	Voltage	Package	Features	Avail.
GS8182D36BD-375M	512K x 36	375	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	SigmaQuad-II Burst of 4	NOW
GS8182D18BD-375M	1M x 18					
GS8182D09BD-375M	2M x 9					
GS8182D08BD-375M	2M x 8					
GS8182Q36BD-300M	512K x 36	300	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	SigmaQuad-II Burst of 2	NOW
GS8182Q18BD-300M	1M x 18					
GS8182Q09BD-300M	2M x 9					
GS8182Q08BD-300M	2M x 8					

SigmaQuad™-II and SigmaDDR™-II products are pin and function compatible with QDR-II™ and QDR-II+™ products, respectively.  
SigmaQuad, SigmaQuad-II, and SigmaQuad-II+ are trademarks of GSI Technology.  
All other trademarks belong to their respective holders.



## SigmaDDR-IIIe™ SRAMs

72Mb SigmaDDR-IIIe						
GSI P/N	Config	Speed (MHz)	Voltage	260 BGA	Features	Avail.
GS8673ET36BK-625M GS8673ET18BK-625M	2M x 36 4M x 18	625	V <sub>DD</sub> —1.35 V V <sub>DDQ</sub> —1.2 V/1.5 V	260 BGA	<b>DDR-IIIe Burst of 2</b> Read Latency = 3 <b>On-Die Termination Option</b> KD Clocks, <b>ECCRAM™</b>	Contact Sales

SigmaDDR-IIIe is a trademark of GSI Technology.

## SigmaDDR-II™ and SigmaDDR-II+™ SRAMs

144Mb SigmaDDR-II+						
GSI P/N	Config	Speed (MHz)	Voltage	Package	Features	Avail.
GS81302T38E-450M GS81302T20E-450M GS81302T11E-450M GS81302T06E-450M	4M x 36 8M x 18 16M x 9 16M x 8	450	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (15 x 17 mm)	<b>DDR-II+ Burst of 2</b> Read Latency = 2.5 <b>On-Die Termination Option</b>	Contact Sales
144Mb SigmaDDR-II						
GSI P/N	Config	Speed (MHz)	Voltage	Package	Features	Avail.
GS81302T36E-350M GS81302T18E-350M GS81302T09E-350M GS81302T08E-350M	4M x 36 8M x 18 16M x 9 16M x 8	350	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (15 x 17 mm)	<b>DDR-II Burst of 2</b>	Contact Sales
72Mb SigmaDDR-II+						
GSI P/N	Config	Speed (MHz)	Voltage	Package	Features	Avail.
GS8662T38BD-450M GS8662T20BD-450M GS8662T11BD-450M GS8662T06BD-450M	2M x 36 4M x 18 8M x 9 8M x 8	450	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	<b>DDR-II+ Burst of 2</b> Read Latency = 2.5	Contact Sales
GS8662TT38BD-450M GS8662TT20BD-450M GS8662TT11BD-450M GS8662TT06BD-450M	2M x 36 4M x 18 8M x 9 8M x 8	450	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	<b>DDR-II+ Burst of 2</b> Read Latency = 2.5 <b>On-Die Termination Option</b>	Contact Sales
72Mb SigmaDDR-II						
GSI P/N	Config	Speed (MHz)	Voltage	Package	Features	Avail.
GS8662T36BD-350M GS8662T18BD-350M GS8662T09BD-350M GS8662T08BD-350M	2M x 36 4M x 18 8M x 9 8M x 8	350	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	<b>DDR-II Burst of 2</b>	Contact Sales
36Mb SigmaDDR-II+						
GSI P/N	Config	Speed (MHz)	Voltage	Package	Features	Avail.
GS8342T38BD-450M GS8342T20BD-450M GS8342T11BD-450M GS8342T06BD-450M	1M x 36 2M x 18 4M x 9 4M x 8	450	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	<b>DDR-II+ Burst of 2</b> Read Latency = 2.5 <b>On-Die Termination Option</b>	Contact Sales

SigmaQuad™-II and SigmaDDR™-II products are pin and function compatible with QDR-II™ and QDR-II+™ products, respectively.  
SigmaDDR-II and SigmaDDR-II+ are trademarks of GSI Technology.  
All other trademarks belong to their respective holders.

## SigmaDDR-II™ and SigmaDDR-II+™ SRAMs

36Mb SigmaDDR-II						
GSI P/N	Config	Speed (MHz)	Voltage	Package	Features	Avail.
GS8342T36BD-375M GS8342T18BD-375M GS8342T09BD-375M GS8342T08BD-375M	1M x 36 2M x 18 4M x 9 4M x 8	375	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	DDR-II Burst of 2	NOW
18Mb SigmaDDR-II+						
GSI P/N	Config	Speed (MHz)	Voltage	Package	Features	Avail.
GS8182T37BD-435M GS8182T19BD-435M	512K x 36 1M x 18	435	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	DDR-II+ Burst of 2 Read Latency = 2.0	NOW
18Mb SigmaDDR-II						
GSI P/N	Config	Speed (MHz)	Voltage	Package	Features	Avail.
GS8182T36BD-375M GS8182T18BD-375M GS8182T09BD-375M GS8182T08BD-375M	512K x 36 1M x 18 2M x 9 2M x 8	375	V <sub>DD</sub> —1.8 V V <sub>DDQ</sub> —1.5 V/1.8 V	165 BGA (13 x 15 mm)	DDR-II Burst of 2	NOW

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SigmaDDR-II and SigmaDDR-II+ are trademarks of GSI Technology.  
All other trademarks belong to their respective holders.

## No Bus Turnaround (NBT™) SRAMs

72Mb								
GSI P/N	Config	Speed (MHz)	Pipeline tKQ (ns)	Voltage Options		Package	Features	Avail.
				V <sub>DD</sub>	V <sub>DDQ</sub>			
GS8642Z36B-250M GS8642Z18B-250M	2M x 36 4M x 18	250	2.3–3.5	2.5/3.3	2.5/3.3	119 BGA	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW
GS8642Z72C-250M	1M x 72	250	2.3–3.5	2.5/3.3	2.5/3.3	209 BGA	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW
36Mb								
GSI P/N	Config	Speed (MHz)	Pipeline tKQ (ns)	Voltage Options		Package	Features	Avail.
				V <sub>DD</sub>	V <sub>DDQ</sub>			
GS8322Z36AB-375M GS8322Z18AB-375M	1M x 36 2M x 18	375	2.5–4.0	2.5/3.3	2.5/3.3	119 BGA	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW
GS8322Z36AD-375M GS8322Z18AD-375M	1M x 36 2M x 18	375	2.5–4.0	2.5/3.3	2.5/3.3	165 BGA (13 x 15 mm)	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW
GS8322Z72C-225M	512K x 72	225	2.5–4.0	2.5/3.3	2.5/3.3	209 BGA	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW
18Mb								
GSI P/N	Config	Speed (MHz)	Pipeline tKQ (ns)	Voltage Options		Package	Features	Avail.
				V <sub>DD</sub>	V <sub>DDQ</sub>			
GS8162Z72CC-300M	256K x 72	300	2.8–3.8	2.5/3.3	2.5/3.3	209 BGA	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW
GS8162Z36DB-200M GS8162Z18DB-200M	512K x 36 1M x 18	200	2.5–3.8	2.5/3.3	2.5/3.3	119 BGA	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW
GS8162Z36DD-200M GS8162Z18DD-200M	512K x 36 1M x 18	200	2.5–3.8	2.5/3.3	2.5/3.3	165 BGA (13 x 15 mm)	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW

NBT is a trademark of GSI Technology.

# GSI Technology 2014 Military Product Listing

## No Bus Turnaround (NBT™) SRAMs (Continued)

9Mb								
GSI P/N	Config	Speed (MHz)	Pipeline tKQ (ns)	Voltage Options		Package	Features	Avail.
				V <sub>DD</sub>	V <sub>DDQ</sub>			
GS882Z36CB-300M GS882Z18CB-300M	256K x 36 512K x 18	300	2.5–3.8	2.5/3.3	2.5/3.3	119 BGA	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW
GS882Z36CD-300M GS882Z18CD-300M	256K x 36 512K x 18	300	2.5–3.8	2.5/3.3	2.5/3.3	165 BGA (13 x 15 mm)	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW

NBT is a trademark of GSI Technology.

## Synchronous Burst SRAMs

72Mb								
GSI P/N	Config	Speed (MHz)	Pipeline tKQ (ns)	Voltage Options		Package	Features	Avail.
				V <sub>DD</sub>	V <sub>DDQ</sub>			
GS864236B-250M GS864218B-250M	2M x 36 4M x 18	250	2.3–3.5	2.5/3.3	2.5/3.3	119 BGA	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW
GS864272C-250M	1M x 72	250	2.3–3.5	2.5/3.3	2.5/3.3	209 BGA	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW
36Mb								
GSI P/N	Config	Speed (MHz)	Pipeline tKQ (ns)	Voltage Options		Packages	Features	Avail.
				V <sub>DD</sub>	V <sub>DDQ</sub>			
GS832236AB-375M GS832218AB-375M	1M x 36 2M x 18	375	2.5–4.0	2.5/3.3	2.5/3.3	119 BGA	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW
GS832236AD-375M GS832218AD-375M	1M x 36 2M x 18	375	2.5–4.0	2.5/3.3	2.5/3.3	165 BGA (13 x 15 mm)	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW
GS832272C-225M	512K x 72	225	2.5–4.0	2.5/3.3	2.5/3.3	209 BGA	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW
18Mb								
GSI P/N	Config	Speed (MHz)	Pipeline tKQ (ns)	Voltage Options		Packages	Features	Avail.
				V <sub>DD</sub>	V <sub>DDQ</sub>			
GS816272CC-200M	256K x 72	200	2.8–3.8	2.5/3.3	2.5/3.3	209 BGA	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW
GS816236DB-200M GS816218DB-200M	512K x 36 1M x 18	200	2.5–3.8	2.5/3.3	2.5/3.3	119 BGA	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW
GS816236DD-200M GS816218DD-200M	512K x 36 1M x 18	200	2.5–3.8	2.5/3.3	2.5/3.3	165 BGA (13 x 15 mm)	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW
GS816036DGT-200M GS816032DGT-200M GS816018DGT-200M	512K x 36 512K x 32 1M x 18	200	2.5–3.8	2.5/3.3	2.5/3.3	100 TQFP	Pipeline and Flow Through modes	NOW
9Mb								
GSI P/N	Config	Speed (MHz)	Pipeline tKQ (ns)	Voltage Options		Packages	Features	Avail.
				V <sub>DD</sub>	V <sub>DDQ</sub>			
GS88236CB-300M GS88218CB-300M	256K x 36 512K x 18	300	2.5–3.8	2.5/3.3	2.5/3.3	119 BGA	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW
GS88236CD-300M GS88218CD-300M	256K x 36 512K x 18	300	2.5–3.8	2.5/3.3	2.5/3.3	165 BGA (13 x 15 mm)	JTAG; FLXDrive™; Pipeline and Flow Through modes	NOW



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**For the most up-to-date information, please visit us at [www.gsitechnology.com](http://www.gsitechnology.com).**