



## GSI Technology Military Temperature SRAM FAQs

### Q: What types of memories are supported?

A. Nearly every member of GSI's synchronous SRAM family is represented:

Density	Top Speed	Interface(s)	Package	V <sub>DD</sub>	V <sub>DDQ</sub>	GSI Part#
<b>144Mbit</b>	450 MHz	Quad & Double Data Rate	165 BGA	1.8 V	1.5 V, 1.8 V	GS81302
<b>72Mbit</b>	675 MHz	Quad & Double Data Rate	260 BGA	1.3-1.35 V	1.2-1.5 V	GS8673*
	500 MHz	Quad & Double Data Rate	165 BGA	1.8 V	1.5 V	GS8672*
	450 MHz	Quad Data Rate	165 BGA	1.8 V	1.5 V, 1.8 V	GS8662
	250 MHz	Sync Burst & NBT	119 BGA, 209 BGA	2.5 V, 3.3 V	2.5 V, 3.3 V	GS8642
<b>36Mbit</b>	450 MHz	Quad & Double Data Rate	165 BGA	1.8 V	1.5 V, 1.8 V	GS8342
	225 MHz	Sync Burst & NBT	119 BGA, 165 BGA, 209 BGA	2.5 V, 3.3 V	2.5 V, 3.3 V	GS832
<b>18Mbit</b>	435 MHz	Quad & Double Data Rate	165 BGA	1.8 V	1.5 V, 1.8 V	GS8182
	300 MHz	Sync Burst & NBT	119 BGA, 165 BGA, 209 BGA	2.5 V, 3.3 V	2.5 V, 3.3 V	GS816
<b>9Mbit</b>	300 MHz	Sync Burst & NBT	119 BGA, 165 BGA, 209 BGA	2.5 V, 3.3 V	2.5 V, 3.3 V	GS88

\* Denotes on-die Error Correction Control capability.

### Q: When will military temperature memories be available?

A. GSI has produced military temp devices on request for many years, but did not widely advertise the capability until now. Most standard products will be available in production quantities starting in Q1'2011.



**Q: What does GSI mean by “military temperature?”**

A: All GSI “M” temperature grade products are tested and verified to operate within specification at junction temperatures that range from -55°C to +125°C. In addition, the product has been subjected to an HTOL (High Temperature Operating Life) qualification testing and demonstrated projected 10-year reliability performance of 50 FITs at continuous +125°C operation.

**Q: Military and aerospace applications usually have longer lives than consumer applications. How long will GSI support my device?**

A. GSI has a policy of extending a product’s lifespan well beyond the industry average, including long overlaps between mature and recommended replacement products. GSI product support policy provides for a minimum 7-year life, via continuous production of the original die or via shrinks or other cost reducing redesigns, for any product family we introduce.

**Q: Does GSI offer 100% military temperature testing?**

A. Yes. GSI’s program includes 100% hot and cold temperature testing.

**Q: Soft error rate (SER) is a serious concern in my design. What does GSI suggest?**

A. In addition to our efforts to minimize soft errors and strike-induced latch-up with a multi-pronged approach covering circuit, architectural and process issues on all our standard products, GSI offers several devices with on-die Error Correction Capability (ECC). Please refer to the GS8673xxx and GS8672xxx families for more information.

**Q: Does GSI offer both leaded and lead-free package options?**

A. Yes. Both options are available as standard offerings almost all GSI commercial products; however, our military temperature catalog lists only the 5/6 RoHS versions of those parts. 6/6 RoHs (Pb-free) versions can be considered on request.

**Q: Does GSI offer Mil. Std. 883 certification?**

A. Not at this time.