

Date: March 28, 2007 (*Update*)

Subject: *MagnaChip CMOS 0.25 μ m (1P4M) Wafer Fab Reliability Report*

A total of 135 units of the new PI2DBS40 device type successfully completed Dynamic High Temperature Operating Life (DHTOL) test with no failures. This device and others in this family of products is manufactured at our wafer fabrication subcontract supplier in Korea, MagnaChip (formally known as Hynix) (<http://www.magnachip.com/ENG/index.html>), using their 0.25- μ m CMOS, 2.5-volt, Single Poly, Quad Metal (1P4M) process. Therefore this device type and others in the product family that use this process meet Pericom's Fab Process Qualification sampling plan requirements. The devices have also passed UHAST and Temperature Cycle stress testing, as well as ESD and Latch-up characterization test evaluations. Final results are indicated in the table below.

The equivalent FIT rate is 33.4 for any devices using the same process and design rules, with an MTBF of 405,000 hours. The calculation was made using the Arrhenius equation, with an Activation energy of 0.5 eV, an assumed system operating temperature of 55 °C, and a Confidence Level factor of 60%.

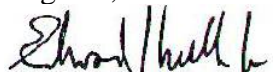
Pericom's Process Qualification Test results:

Rel Lot #	Device Type	Pkg. Type	Date Code	Stress Test	Sample Units	Test Conditions (Per JEDEC Standards)	Stress Duration	Results Pass/Fail
Q04012-1A	PI2DBS40	V-56	AK0440OG	DHTOL	135	+150 °C, 2.75 V	168 hrs	135/0
Q04012-1A	PI2DBS40	V-56	AK0440OG				500 hrs	
Q04012-1A	PI2DBS40	V-56	AK0440OG				1000 hrs	
Q04012-1A	PI2DBS40	V-56	AK0440OG				2000 hrs	
Q04012-1A	PI2DBS40	V-56	AK0440OG	↓	↓	↓	3000 hrs	↓
Q04012-1B	PI2DBS40	V-56	AK0440OG	HTSL	100	+150 °C	168 hrs	100/0
Q04012-1B	PI2DBS40	V-56	AK0440OG	↓	↓	↓	500 hrs	↓
Q04012-1B	PI2DBS40	V-56	AK0440OG	↓	↓	↓	1000 hrs	↓
Q03002-1A	PI2DBS40	V-56	AK0440OG	UHAST	76	+130 °C, 85% RH	96 hrs	76/0
Q03002-2A	PI2DBS40	V-56	AK0440OG	TMCL	76	-65 to +150 °C	500 cycles	76/0
N/A	PI2DBS40	V-56	ZBE0504OG	ESD-HBM	3	JESD22-A114-B	>2000V	3/0
N/A	PI2DBS40	V-56	ZBE0504OG	ESD-MM	3	JESD22-A115-A	>200V	3/0
N/A	PI2DBS40	A-56	AJ0434OG	Latch-up	6	JESD 78	>±200 ma	6/0

Generically equivalent Pericom products that will use the same array, design rules and process technology are:
[PI2DBS20](#), [PI2PCIE212](#), [PI2PCIE412](#), [PI2PCIE412-C](#), [PI2PCIE2412](#), [PI3HDMI412](#), [PI2LVD412](#), [PI2LVD512](#), [PI6C10806](#), [PI6C4853111](#), [PI6C485352](#).

If there are any questions about this qualification report, please contact me as indicated below.

Regards,



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(Updated to add additional products that use the same process and design rules)