PERICOM Semiconductor Corporation
www.pericom.com

Date: May 10, 2004 - *Update*

Subject: *CSMC-Tech CMOS 0.8 μm Wafer Fab Reliability Report*

CSMC-Tech's (http://www.csmc-hj.com.cn/csmc/english/index.asp) CMOS, 5-volt, 0.8-micron process was recently verified for acceptability to Pericom's standard die level process qualification requirements. There were a total of 130 units that successfully completed 3000 hours of Dynamic High Temperature Operating Life (DHTOL) test at 150°C and 5.5 volts applied bias with no failures. The PI5C3401 product was used as the qualification vehicle, and therefore all products using this same process technology and design rules will meet Pericom's Wafer Fab Process Qualification requirements. The device also passed High Temp Storage Life (HTSL), Unbiased HAST (UHAST), and Temperature Cycle (TMCL) testing as shown in the table below.

Based on the 3000 hours of accelerated life test temperature and voltage operating conditions, the equivalent long-term life test FIT rate is 23.2, with a calculated MTBF of 390,000 hours. This data is applicable to any Pericom device using the same process and design rules at this facility. The FIT 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 factor of 60%.

Pericom's Qualification Test results:

Rel Lot #	Device Type	Pkg. Type	Date Code	Stress Test	Stress Condition	Stress Duration	Sample Units	Results Pass/Fail
Q03010-1A	PI5C3401	S24	BZ0334OW	DHTOL	150°C, 5.5 v	168 hrs	130	130/0
Q03010-1A	PI5C3401	S24	BZ0334OW	DHTOL	150°C, 5.5 v	500 hrs	130	130/0
Q03010-1A	PI5C3401	S24	BZ0334OW	DHTOL	150°C, 5.5 v	1000 hrs	130	130/0
Q03010-1A	PI5C3401	S24	BZ0334OW	DHTOL	150°C, 5.5 v	2000 hrs	130	130/0
Q03010-1A	PI5C3401	S24	BZ0334OW	DHTOL	150°C, 5.5 v	3000 hrs	130	130/0
Q03010-1B	PI5C3401	S24	BZ0338OW	HTSL	150°C	168 hrs	100	100/0
Q03010-1B	PI5C3401	S24	BZ0338OW	HTSL	150°C	500 hrs	100	100/0
Q03010-1B	PI5C3401	S24	BZ0338OW	HTSL	150°C	1000 hrs	100	100/0
Q03010-2A	PI5C3401	S24	BZ0338OW	UHAST	130°C	96 hrs	100	100/0
Q03010-3A	PI5C3401	S24	BZ0338OW	TMCL	-65, +150 °C	500 cycles	76	76/0

If there are any questions about this device qualification, please let me know.

Regards,

Edward J. Mello, Jr.
Director, Quality Systems
Phone: (408) 435-0800, Ext. 207
FAX: (408) 321-0324
E-Mail: emello@pericom.com