

Date: April 7, 2006

Subject: Pericom SMIC Wafer Fab Facility Reliability Qualification – PI6C48535 Clock Product

The PI6C48535-01 and PI6C48535-11 products were recently qualified and found acceptable to Pericom's standard die level and process qualification requirements using SMIC's previously accepted 0.35-micron CMOS, 1P3M, 3.3-volt process. A total of 359 units from two separate wafer lots processed in different work weeks successfully completed 1000 hours of Dynamic High Temperature Operating Life (DHTOL) test at 150°C and 3.6 volts applied bias with no failures. All products using this same process technology and design rules also meet Pericom's Wafer Fab Process Qualification requirements. Included is ESD and Latch-up test data from another product in this clock family. Another product using the same process was also previously subjected to High Temp Storage Life (HTSL) testing as shown in the table below.

The equivalent long-term life test FIT rate is 35.8 for any of these Pericom clock devices using the same process and design rules, with a calculated MTBF of 27,900,825 hours. 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
QDI05006-1A	PI6C48535-01	L-20	0347, 0422	DHTOL	150°C, 3.6 v	168 hrs	240	240/0
QDI05006-1A	PI6C48535-01	L-20	0347, 0422	DHTOL	150°C, 3.6 v	500 hrs	240	* 239/0
QDI05006-1A	PI6C48535-01	L-20	0347, 0422	DHTOL	150°C, 3.6 v	1000 hrs	239	239/0
QDI05006-1B	PI6C48535-11	L-20	0347	DHTOL	150°C, 3.6 v	168 hrs	120	120/0
QDI05006-1B	PI6C48535-11	L-20	0347	DHTOL	150°C, 3.6 v	500 hrs	120	120/0
QDI05006-1B	PI6C48535-11	L-20	0347	DHTOL	150°C, 3.6 v	1000 hrs	120	120/0
N/A	PI6C48533-01	L-20	0422	ESD -HBM	6000 V	JESD22-114B	5	5/0
N/A	PI6C48533-01	L-20	0422	ESD-MM	600 V	JESD22-115A	5	5/0
N/A	PI6C48530-01	FB-48	0402	Latch-up	+/- 200 mA	EIA/JESD78	5	5/0
Q03004-1B	PI74SSTV16857V	V48	0306OY	HTSL	150°C	168 hrs	100	100/0
Q03004-1B	PI74SSTV16857V	V48	0306OY	HTSL	150°C	1000 hrs	100	100/0
Q03004-2B	PI74SSTV16857V	V48	0327OY	HTSL	150°C	168 hrs	100	100/0
Q03004-2B	PI74SSTV16857V	V48	0327OY	HTSL	150°C	1000 hrs	100	100/0

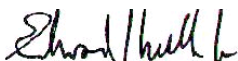
*One unit EOS - Vss bus line was damaged during 500 hour DHTOL and was eliminated from the final results (FA # 06-0202).

Other device types covered by this qualification that can be manufactured at SMIC using the same process and design rules:

**PI6C48530, PI6C48533, PI6C48543, PI6C48545,
PI74SSTV16857, 74SSTV116857D, 74SSTV116859, 74SSTV116859F, 74SSTV132852, 74SSTV132852F
PI74SSTVF16857, 74SSTVF16857A; 74SSTVF16859, 74SSTVF16859A, 74SSTVF32852, 74SSTVF32852A**

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

Regards,



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