PERICOM Semiconductor Corporation

3545 North First Street • San Jose, CA 95134 • USA

PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN Number: **06-05**

Date Issued: **July 20, 2006**

Product(s) Affected: **PI74ST1G32**

Manufacturing Location Affected: **Moving this CSM-S Fab 1 product to already approved CSM-S Fab 2.**

Date Effective: **October 20, 2006**
All remaining Fab 1 inventory has been shipped.

Means of Distinguishing Changed Devices:

☐ Product Mark:

☐ Back Mark

☒ Date Code: **Added dot symbol ***

☐ Other

*** SOT/SC70 packages will have a dot symbol over the last two-digit date code characters, due to insufficient space for the usual "B" in front of the datecode to denote Fab 2**

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Attachment: ☒ Yes; ☐ No

See attached Characterization Comparison Data Report for this product. Data confirms CSM-S Fab 2 devices have no significant performance differences than those produced in Fab 1.

Samples: **Available upon request**

Description and Purpose of Change:

Products are transferring from approved wafer fab subcontractor Chartered Semiconductor Manufacturing Singapore's (CSMS) Fab 1, to the already approved Fab 2 facility. The listed devices use the same base array die, design and process, and will be manufactured in Fab 2 with essentially the same qualified CMOS 0.5-µm process type as used in Fab 1. CSM closed the older 150-mm wafer Fab 1 facility at the end of March 2004. Fab 2 will manufacture these Pericom products using 200-mm wafers. See CSM-S website for more information:

http://www.charteredsemi.com/media/corp/2003n/20030213.asp

☐ Die Technology

☒ Wafer Fabrication

☐ Assembly Process

☐ Equipment

☐ Material

☐ Testing

☐ Manufacturing Site

☐ Data Sheet

☒ Other: **CSMS Fab 1 closure, porting to Fab 2**

Reliability/Qualification Summary: **http://www.pericom.com/pdf/gen/rel_CSM2.pdf - this device uses the same process and design rules**

Customer Acknowledgement of Receipt:

Customer: _____

Name: _____

Title: _____

Date: _____

E-Mail: _____

Phone: _____

Fax: _____

☐ Approval for shipments prior to effective date

Customer Comments (Optional): _____

Subject: PI74ST1G32 Characterization Comparison Report

Introduction

The PI74ST1G32 is a SOTiny 2-Input OR Gate that transferred from CSM-S Wafer Fab 1 to Fab 2. It uses the same process and design rules.

Reference

Fab-2 Die Array: **S1G2**
Fab Process: CSM 0.5um, 1P2M, 3.3V
Lot #: EA36296.2A
Datecode: B0513
Package: SC70 (C5)

Fab-1 Die Array: **ST1G**
Fab Process: CSM 0.5um, 1P2M, 3.3V
Lot #: 237398
Datecode: 0341
Package: SC70 (C5)

Test Equipment

HP power supply & DMM
HP4145B DC Analyzer
HP8753ES Network Analyzer
HP8082A Pulse Generator
TDS7404 Oscilloscope with TEK P7240 Probes
Thermostream Temperature Tester

Tables

Table 1. DC Characteristics

			S1G2 (FAB-2)			ST1G (FAB-1)					
Para-meter	**Test Conditions**	**Vcc**	**-10°C**	**25°C**	**90°C**	**-10°C**	**25°C**	**90°C**	**Min**	**Max**	**Units**
VIH	Input High Voltage	1.8 V	0.785	0.785	0.785	0.755	0.755	0.755	1.35		V
VIH	Input High Voltage	2.5 V	1.090	1.090	1.090	1.045	1.045	1.045	1.75		V
VIH	Input High Voltage	3.3 V	1.455	1.455	1.455	1.390	1.390	1.390	2.31		V
VIL	Input Low Voltage	1.8 V	0.780	0.780	0.780	0.750	0.750	0.750		0.45	V
VIL	Input Low Voltage	2.5 V	1.085	1.085	1.085	1.040	1.040	1.040		0.75	V
VIL	Input Low Voltage	3.3 V	1.450	1.450	1.450	1.385	1.385	1.385		0.99	V
VOH	IOH=-4mA	1.8 V	1.71	1.70	1.70	1.66	1.64	1.62	N/A		V
VOH	IOH=-8mA	2.3 V	2.17	2.15	2.13	2.10	2.06	2.04	1.9		V
VOH	IOH=-16mA	3.0 V	2.78	2.75	2.72	2.68	2.65	2.59	2.4		V
VOH	IOH=-24mA	3.0 V	2.66	2.63	2.57	2.50	2.45	2.36	2.3		V
VOL	IOL= 4mA	1.8 V	0.04	0.05	0.06	0.06	0.06	0.08		N/A	V
VOL	IOL= 8mA	2.3 V	0.08	0.08	0.10	0.09	0.11	0.12		0.30	V
VOL	IOL= 16mA	3.0 V	0.15	0.16	0.18	0.17	0.18	0.22		0.40	V
VOL	IOL= 24mA	3.0 V	0.22	0.25	0.28	0.26	0.28	0.35		0.55	V
IIL	Vin= 0V	3.6 V	-121 p	117 p	212 p	-16 p	-106 p	-87 p		0.1u	A
IIH	Vin= 3.6 V	3.6 V	-139 p	146 p	1.5 n	-195 p	217 p	650 p		0.1u	A
IIH	Vin= 5.5 V	3.6 V	-144 p	-182 p	2.1 n	96 p	86 p	959 p		0.1u	A
Ioff	Vin = 0V	0 V	-66 p	-637 p	-68 p	-283 p	71 p	624 p		1u	A
Ioff	Vin = 3.6V	0 V	218 p	855 p	3 n	73 p	-54 p	1.2 n		1u	A
Ioff	Vin = 5.5V	0 V	299 p	6.3 n	18 n	460 p	471 p	1.6 n		1u	A
Iccl	Vin=0V	3.6 V	-280 p	1.7 n	22 n	107 p	730 p	826 p		20u	A
Icch	Vin=3.6V	3.6 V	956 p	2.5 n	27 n	40 n	713 p	1.2 n		20u	A

Table 2. AC Characteristics

			S1G2 (FAB-2)			ST1G (FAB-1)					
Para-meter	**Vcc**	**Load**	**-10°C**	**25°C**	**90°C**	**-10°C**	**25°C**	**90°C**	**Max (25°C)**	**Max (-10°C/ 90°C)**	**Units**
tpLH	1.8V	Load A	2.45	2.63	2.68	3.61	3.76	3.88	4.9	5.5	ns
tpHL	1.8V	Load A	3.20	3.31	3.48	4.68	4.81	5.02	4.9	5.5	ns
tpLH	2.3V	Load A	1.74	1.92	2.00	2.30	2.51	2.61	3.5	3.7	ns
tpHL	2.3V	Load A	2.58	2.71	2.88	3.38	3.52	3.79	3.5	3.7	ns
tpLH	3.0V	Load A	1.48	1.64	1.66	1.77	1.91	2.00	2.8	3.0	ns
tpHL	3.0V	Load A	2.21	2.29	2.36	2.76	2.91	3.00	2.8	3.0	ns
tpLH	3.0V	Load B	2.05	2.20	2.22	2.53	2.63	2.81	3.8	4.1	ns
tpHL	3.0V	Load B	2.95	3.09	3.21	3.73	3.87	4.06	3.8	4.1	ns

Load A: 15pF// 20kΩ to Gnd
Load B: 50pF// 500Ω to Gnd

Table 3. Capacitance at 25C

	Test Conditions	Vcc	S1G2 (FAB-2)	ST1G (FAB-1)	Typ.	Units
Cin	A Input Capacitance	3.3 V	2.1	2.1	4	pF
Cin	B Input Capacitance	3.3 V	3.0	3.0	4	pF
Cout	Output Capacitance	0 V	4.3	4.3	N/A	pF
Cpd	Power Dissipation	1.8 V	12.8	12.2	N/A	pF
Cpd	Power Dissipation	2.5 V	16.4	15.6	N/A	pF
Cpd	Power Dissipation	3.3 V	20.6	18.8	20	pF

Table 4: Dynamic ICC at 25C

Frequency	S1G2 (FAB-2)			ST1G (FAB-1)			Units
	Vcc=1.8V	Vcc=2.5V	Vcc=3.3V	Vcc=1.8V	Vcc=2.5V	Vcc=3.3V	
1MHz	0.023	0.041	0.068	0.022	0.039	0.062	mA
5MHz	0.118	0.207	0.341	0.112	0.193	0.310	mA
10MHz	0.235	0.414	0.681	0.223	0.384	0.621	mA
20MHz	0.470	0.830	1.366	0.444	0.770	1.242	mA