



DEFENSE LOGISTICS AGENCY
DEFENSE SUPPLY CENTER, COLUMBUS
POST OFFICE BOX 3990
COLUMBUS, OH 43218-3990

IN REPLY
REFER TO

DSCC-VQ (VQC-10-019085/ Mr. Tran/614-692-0606/dg)

October 26, 2009

SUBJECT: Full Q Level Certification, MIL-PRF-38535, FSC 5962

Paul Pickle
Vice President & General Manger AMMSG
Microsemi Corporation
Analog Mixed Signal Group
11861 Western Avenue:
Garden Grove, CA 92841-2119

Dear Mr. Pickle:

Microsemi Corporation Analog Mixed Signal Group has demonstrated to the Defense Supply Center, Columbus (DSCC) that it complies with MIL-PRF-38535, the performance specification used by the Department of Defense for monolithic integrated circuits.

Microsemi Corporation Analog Mixed Signal Group is granted full Q level certification for the technology flows used for the quality assurance levels listed in the enclosure. This certification listing includes subcontractors approved by Microsemi Corporation Analog Mixed Signal Group and as documented in their Quality Management Plan (QMP) SGQ 1315, Revision L.

In addition, the parts that are manufactured using the certified facilities, technology flows, and processes are being listed on the QML-38535. This will allow Microsemi Corporation Analog Mixed Signal Group to mark QML parts with "Q" or "QML" certification marking. These designators have been authorized by the Department of Defense for parts that have been produced to a MIL-PRF-38535, QML specification, (i.e., one which allows less government oversight), the use of world-wide commercial production lines, reduced finished product testing based on statistical process controls (SPC), and other cost advantages.

Testing must be performed using the facilities and methods listed in the Laboratory Suitability letter DSCC-VQC-10-019086, or at facilities approved by the Microsemi Corporation Analog Mixed Signal Group's Technical Review Board (TRB) using its MIL-PRF-38535 Quality Management Program Plan.

This certification is subject to the conditions in DOD 4120.24-M, Defense Standardization Program.



Any and all of the facilities mentioned on the enclosure are subject to an audit by the Qualifying Activity at any time. The manufacturer shall be responsible for all audit expenses incurred for the offshore facilities. Offshore facilities are subject to all of the conditions of MILPRF-38535, Appendix E.

QPL/QML manufacturers shall notify the Qualifying Activity immediately after learning of a potential issuance of a GIDEP alert, problem advisory or major quality/reliability problem on their QPL/QML products. Failure to provide prior notification may be grounds for removal from QML-38535 listing.

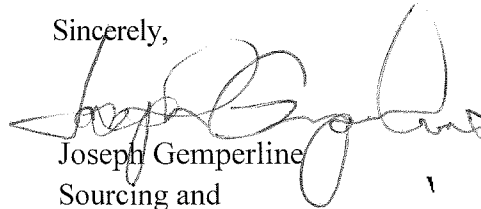
In addition, it is requested that the following activities be reported promptly to DSCC:

- Changes to certified facilities, process flows, or approved testing subcontractors
- Problem evaluation and a corrective action when:
 - a. A Technology Conformance Inspection (TCI) failure has been validated
 - b. The reliability of shipped parts is questionable.
- Test optimization, including:
 - a. Implementation - paragraph J.3.12, Appendix J, MIL-PRF-38535
 - b. Changing, suspending or canceling a prior test optimization
- Additions or deletions of certified facilities, processes, and parts in the QML-38535
- Change of company QML contact or other key QML personnel

This certification is valid until terminated by written notice from the Qualifying Activity. If warranted, it may be withdrawn by this center at any time.

If you have any questions please contact Mr. Tran at (614) 692-0606.

Sincerely,



Joseph Gemperline
Sourcing and
Qualification Division

ENCLOSURE

CC:

MSC (Mr. James Howell)

MSC (Gary Hancock)

MSC (Carole Polizzi)

VQC (Scott Thomas)

VQC (Michael Grammens)

VQ (Alberta Petruskevich)

Visit us on the web at: www.dsc.dla.mil/offices/VQ

<u>OPERATION</u>	<u>FACILITY</u>	<u>LOCATION</u>	<u>TECHNOLOGY</u>
Design	Microsemi	Garden Grove, CA	Bipolar Linear, SGE2004
Mask	Microsemi	Garden Grove, CA	Bipolar Linear
Development			
Wafer Fabrication (FAB I)	Microsemi	11652 Markon Dr., Garden Grove, CA	Bipolar Linear fab line, SGM5900, Rev AF. 4 inch Epi wafers, 4 microns minimum design rules, single layer metal only for QML products. (MRC metallization sputter system, processing maximum of 9 wafers at a time).
FAB II		11861 Western Ave. Garden Grove, CA	Implant: Eaton NV3206, Applied Matls 9200 Outside service used for Ion Implant: Innovion 2121 Zanker Road San Jose Ca. 95131 Metallization (Varian 3180 and 3190 Sputter systems processing one wafer at a time)
SEM (Metal Inspection)	Photometrics	Huntington Beach, CA	In accordance to Microsemi metal procedure SGM5065
SEM (Metal Inspection)	Microsemi	11861 Western Ave. Garden Grove CA	In accordance to Microsemi SEM procedure SGQ1018.
ASSEMBLY <i>(All QML products are assembled offshore. Garden Grove assembly facility is a back up)</i>	Microsemi (Au-Si Eutectic Die attach. Aluminum Ultrasonic and Gold Thermosonic Wire Bond, Manual and Semi-Automatic)	11861 Western Ave. Garden Grove CA	Cerdip (J,Y)/Cerflat (F), Ceramic Packages Process Flow SGM5901 LCC (L), Leadless Chip Carrier Process Flow SGM 5912 TO-257 (IG, G), Metal Package SGM5914

ASSEMBLY	<p>Team Pacific Corporation (Au-Si Eutectic Die attach. Aluminum. Ultrasonic Wire Bond, Manual Systems)</p>	<p>Electronics Avenue, FTI Complex, Taguig, Metro Manila , Philippines</p>	<p>Metal Can Packages Process Flow, SGM5902, TO-3 (K); TO-66 (R); TO-39, TO-99, TO-100 (T); TO-46 (Z) TO-46 (Z) Metal Can package process flow TAFC-1193 TO-3 (K); TO-66 , Metal Can packages process flow TAFC-1195</p>
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ASSEMBLY	PSI Technologies (Au-Si Eutectic Die attach. Aluminum Ultrasonic Wire Bond, Manual and Semi-Automatic Systems)	Electronics Avenue FTI Complex, Taguig, Metro Manila , Philippines	Cerdip (J, Y)/Cerflat (F), LCC (L) Hermetic package flow MSC-IP-CD/CP-4002 Metal Can Process Flow MSC-IP-MC-4007, TO-3 (K); TO-66 (R); TO-39, TO-99, TO-100 (T); TO-46 (Z) Metal Can Process Flow MSC-LP-MC-4032, TO-257 (IG, G)
ELECTRICAL TESTS/SCREEN	Microsemi Team Pacific PSI Technologies	Garden Grove, CA Manila, Philippines Manila, Philippines	As outlined in the Laboratory Suitability letter DSCC-VQC-10-019086 and QM Plan
QCI	Microsemi PSI	Garden Grove, CA Manila, Philippine	SGQ1206 SGQ1206 (Group A and B only)
FAILURE ANALYSIS	Microsemi	Garden Grove, CA	SGQ1312

QUALIFIED LINEAR DEVICES: Voltage Regulator, Op Amp, Power Driver, Transistor Array, and Voltage Reference.

AUTHORIZED DISTRIBUTORS:

Arrow/Zeus Electronics
665 Maestro Drive
Reno, Nevada 89511
P: 914-701-4267

Falcon Electronics
47 Mall Drive, Suite 5
P: 631-351-8515

NexGen Digital Inc.
11791 Fitch Ave.
Irvine, Ca 92614
P: 949-475-8900

Avnet Logistics
60 South Mc Kerry Ave
Chandler, Arizona 85226

Future Electronics
41 Main Street
Bolton, MA 01740
P: 800-477-6668

USI Universal Semiconductor
2775 West Cypress Creek Fort
Lauderdale, FL 33309
P: 303-383-7859

GENERIC TYPE	MICROSEMI-AMSG DESIGNATION	MIL DESIGNATION	PACKAGE OUTLINE	LEAD COUNT	LEAD FINISH (see note)
CAN	T	X	TO-39	3	SOLDER
CAN	T	X	TO-39	8	SOLDER
CAN	T	I	TO-100	10	SOLDER
CAN	K	Y	TO-3	3	SOLDER
CAN	R	Z	TO-66	3	SOLDER
Power PKG, SIL	IG G	U T	TO-257 TO-257	3 3	SOLDER
DIP	J	C	CERDIP	14	SOLDER
DIP	J	E	CERDIP	16	SOLDER
DIP	J	V	CERDIP	18	SOLDER
DIP	Y	P	CERDIP	8	SOLDER
FLATPACK	F	F	FLATPACK	16	SOLDER
FLATPACK	F	H	FLATPACK	14	SOLDER
FLAT PACK	F	H	FLATPACK	10	SOLDER
LCC	L	U	LCC	20	SOLDER

Note: All Lead finishes are solder dip, SN63, Pb 37.



MIL-PRF-38535
CUSTOM MICROCIRCUIT CERTIFICATION

FOR
CLASS Q
IS HEREBY AWARDED TO

MICROSEMI CORPORATION
Integrated Products Group
11861 Western Avenue
Garden Grove, CA 92841-2119

ALL DESIGN, MANUFACTURING, ASSEMBLY AND TEST SHALL BE IN ACCORDANCE WITH MIL-PRF-38535.
THIS CERTIFICATION IS ISSUED IN CONJUNCTION WITH DSCC LETTER VQ (VQC-06-011096) AND IS
VALID UNTIL TERMINATED BY WRITTEN NOTIFICATION FROM DSCC.

C. M. LILLI
RDML, SC, USN
Commander,
DEFENSE SUPPLY CENTER, COLUMBUS