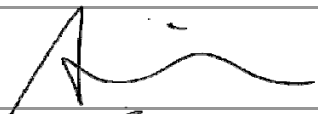




Product/Process Change Notification

PCN#	Effective Date	Issue Date
2017-05-25C-07	2017/8/25	2017/5/25
PCN Classification		Product Category
Major		Mosfet
Subject		
Production process change from lead free to halogen free.		
Affected Product(s)		
SOT-89 Package of Mosfet, Such as attachments.		
Description of Change(s)		
To meet EU environment requirement, we implement halogen free to our products.		
Content of Change(s)		
Adding "-C" to each part number.		
Impact(s)		
N/A		
Attachment(s)		
SGS report. Reliability report.		

Approval		
Issue by	Alice Lai	e-mail: alice@secosgmbh.com
Development Engineer		Alice Lai
QA Manager		Peter Yang
General Manger		Mathew Liu

For more information, please contact us directly or visit our website <http://www.secosgmbh.com>

Affected Product(s)

SGM0410S	SGM1N25E
SGM1N25E	SGM3055
SGM2310B	SGM0410
SGM9452	SGM2310A

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ETERNAL ELECTRONIC MATERIALS (KUNSHAN) CO., LTD.
267 QINGYANG ROAD, KUNSHAN JIANGSU PROVINCE, CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : EPOXY MOLDING COMPOUND

SGS Job No. : SP16-026826 - SH
 Model No. : ETERKON EK-5600G
 Client Ref. Information : EK-3600G, EK-3600GH, EK-3600GT, EK3600GTM, EK-3600GK, EK-3600GHR, EK-3600GHL, EK3600GHQ, EK-3600GTL, EK-3600GTR, EK-3600GTE, EK-5600G, EK-5600GH, EK-5600GHQ, EK-5600GHR, EK5600GHL, EK3600GTRG, EK3600GSA
 Date of Sample Received : 25 Jul 2016
 Testing Period : 25 Jul 2016 - 01 Aug 2016
 Test Requested : Selected test(s) as requested by client.
 Test Method : Please refer to next page(s).
 Test Results : Please refer to next page(s).
 Conclusion : Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Marry Ma

Marry Ma
Approved Signatory



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 中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t HL (86-21) 61402594 f HL (86-21) 61156899 e sgs.china@sgs.com

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SHA16-163584.003	Black solid block

Remarks :

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

- Test Method :
- (1) With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
 - (2) With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
 - (3) With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES.
 - (4) With reference to IEC 62321:2008, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.
 - (5) With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.
 - (6) With reference to IEC 62321-8 Ed.1.0 (111/321/CD), determination of phthalates by GC-MS.

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	2	ND
Sum of PBBs	1000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1000	mg/kg	-	ND

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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND
Di-butyl Phthalate (DBP)	1000	mg/kg	50	ND
Benzyl Butyl Phthalate (BBP)	1000	mg/kg	50	ND
Di-2-Ethyl Hexyl Phthalate (DEHP)	1000	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	1000	mg/kg	50	ND

Notes :

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) On 4 June 2015, Commission Directive (EU) 2015/863 was published in the Official Journal of the European Union (OJEU) to include the phthalates BBP, DBP, DEHP and DIBP into ANNEX II of the Rohs Recast Directive. The new law restricts each phthalate to no more than 0.1% in each homogeneous material of an electrical product.
- (3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.
- (4) The restriction of DEHP, BBP, DBP and DIBP shall not apply to cables or spare parts for the repair, the reuse, the updating of functionalities or upgrading of capacity of EEE placed on the market before 22 July 2019, and of medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, placed on the market before 22 July 2021.
- (5) The restriction of DEHP, BBP and DBP shall not apply to toys which are already subject to the restriction of DEHP, BBP and DBP through entry 51 of Annex XVII to Regulation (EC) No 1907/2006.

Halogen

Test Method : With reference to EN 14582: 2007, analysis was performed by Ion Chromatograph (IC).

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Fluorine (F)	mg/kg	50	ND
Chlorine (Cl)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND



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<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Iodine (I)	mg/kg	50	ND

Element(s)

Test Method : With reference to US EPA 3052:1996, analysis was performed by ICP-OES.

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Beryllium (Be)	mg/kg	5	ND
Antimony (Sb)	mg/kg	10	ND

Polychlorinated Naphthalenes (PCNs)

Test Method : With reference to US EPA 8081B: 2007, analysis was performed by GC-MS

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
2-Chlorinated Naphthalene	mg/kg	5	ND
1,4-Dichlorinated Naphthalene	mg/kg	5	ND
1,5-Dichlorinated Naphthalene	mg/kg	5	ND
1,2-Dichlorinated Naphthalene	mg/kg	5	ND
1,8-Dichlorinated Naphthalene	mg/kg	5	ND
1,2,3-Trichlorinated Naphthalene	mg/kg	5	ND
1,2,3,4-Tetrachlorinated Naphthalene	mg/kg	5	ND
1,2,3,4,6-Pentachlorinated Naphthalene	mg/kg	5	ND
Octa-chlorinated Naphthalene	mg/kg	5	ND
1-Chlorinated Naphthalene	mg/kg	5	ND

Organic-tin compounds

Test Method : With reference to ISO 17353: 2004 with carbamate, analysis was performed by GC-MS.

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Tributyl tin (TBT)	mg/kg	0.02	ND
Tripropyltin (TPT)	mg/kg	0.02	ND
Tributyl Tin Oxide (TBTO) ♦	mg/kg	0.02	ND
Dibutyl tin (DBT)	mg/kg	0.02	ND



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<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Diocetyl tin (DOT)	mg/kg	0.02	ND

Notes :

(1) ♦ = TBTO are back calculated based on the worst-case scenario of TBT.

Red Phosphorus

Test Method : SGS in house method(SHTC- CHEM- SOP -342-T), Analysis was performed by ICP-OES and Pyrolysis-GC/MS

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Red Phosphorus	mg/kg	500	ND

Short-chain Chlorinated Paraffin (SCCP)

Test Method : With reference to US EPA 3550C: 2007, analysis was performed by GC-ECD / GC-NCI-MS

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Short-chain Chlorinated Paraffin (SCCP) (C ₁₀ -C ₁₃)	mg/kg	50	ND

Tetrabromobisphenol A (TBBP-A)

Test Method : With reference to US EPA 3540C: 1996, analysis was performed by GC-MS.

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Tetrabromobisphenol A (TBBP-A)	mg/kg	10	ND

PVC (Polyvinyl chloride)

Test Method : In-house method (SHTC-CHEM-SOP-115-T), analysis was performed by FTIR/HATR.



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<u>Test Item(s)</u>	<u>CAS NO.</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
PVC	9002-86-2	-	-	Negative

Notes :

(1) Negative=Undetectable,Positive=Detectable

Hexabromocyclododecane (HBCDD)

Test Method : With reference to IEC 62321:2008, analysis was performed by GC-MS.

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Hexabromocyclododecane (HBCDD)	mg/kg	10	ND

Polychlorinated Terphenyls (PCTs)

Test Method : With reference to US EPA 8082A: 2007, analysis was performed by GC-MS

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Aroclor 5432	mg/kg	5	ND
Aroclor 5442	mg/kg	5	ND

Phthalates

Test Method : With reference to EN 14372:2004, analysis was performed by GC-MS.

<u>Test Item(s)</u>	<u>CAS NO.</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Diisononyl Phthalate (DINP)	28553-12-0 /68515-48-0	%	0.01	ND
Di-n-octyl Phthalate (DNOP)	117-84-0	%	0.003	ND
Diisodecyl Phthalate (DIDP)	26761-40-0 /68515-49-1	%	0.01	ND
Dimethyl Phthalate (DMP)	131-11-3	%	0.003	ND
Diethyl Phthalate (DEP)	84-66-2	%	0.003	ND
Di-n-pentyl Phthalates (DnPP)	131-18-0	%	0.003	ND
Dicyclohexyl Phthalate (DCHP)	84-61-7	%	0.003	ND
Diphenyl Phthalate (DPhP)	84-62-8	%	0.003	ND
Dibenzyl Phthalate (DBzP)	523-31-9	%	0.003	ND
Diisooctyl Phthalate (DiOP)	27554-26-3	%	0.01	ND



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Test Item(s)	CAS NO.	Unit	MDL	003
Dipropyl Phthalate (DPrP)	131-16-8	%	0.003	ND
Dinonyl Phthalate (DNP)	84-76-4	%	0.003	ND
Di-n-hexyl Phthalate (DnHP)	84-75-3	%	0.003	ND
Diisooheptyl phthalate (DIHP)	71888-89-6	%	0.01	ND
Bis(2-methoxyethyl) Phthalate (DMEP)	117-82-8	%	0.003	ND
Diisopentylphthalate (DIPP)	605-50-5	%	0.003	ND
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	%	0.01	ND

Notes :

- (1) DINP, DNOP, DIDP Reference information: Entry 52 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC).
 - i) Shall not be used as substances or in mixtures, in concentrations greater than 0.1 % by weight of the plasticised material, in toys and childcare articles which can be placed in the mouth by children.
 - ii) Such toys and childcare articles containing these phthalates in a concentration greater than 0.1 % by weight of the plasticised material shall not be placed on the market.
- Please refer to Regulation (EC) No 552/2009 to get more detail information

Polycyclic aromatic hydrocarbons (PAHs)

Test Method : With reference to AFPS GS 2014:01 PAK, analysis was performed by GC-MS.

Test Item(s)	Unit	MDL	003
Benzo(a)pyrene(BaP)	mg/kg	0.1	ND
Benzo(e)pyrene(BeP)	mg/kg	0.1	ND
Benzo(a)anthracene(BaA)	mg/kg	0.1	ND
Benzo(b)fluoranthene(BbF)	mg/kg	0.1	ND
Benzo(j)fluoranthene(BjF)	mg/kg	0.1	ND
Benzo(k)fluoranthene(BkF)	mg/kg	0.1	ND
Chrysene(CHR)	mg/kg	0.1	ND
Dibenzo(a,h)anthracene(DBA)	mg/kg	0.1	ND
Benzo(g,h,i)perylene(BPE)	mg/kg	0.1	ND
Indeno(1,2,3-c,d)pyrene(IPY)	mg/kg	0.1	ND
Acenaphthylene(ANY)	mg/kg	0.1	ND
Acenaphthene(ANA)	mg/kg	0.1	ND
Fluorene(FLU)	mg/kg	0.1	ND
Phenanthrene(PHE)	mg/kg	0.1	ND
Pyrene(PYR)	mg/kg	0.1	ND



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Test Item(s)	Unit	MDL	003
Anthracene(ANT)	mg/kg	0.1	ND
Fluoranthene(FLT)	mg/kg	0.1	ND
Sum of Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Pyrene, Anthracene, Fluoranthene	mg/kg	-	ND
Naphthalene(NAP)	mg/kg	0.1	ND
Sum of 18 PAHs	mg/kg	-	ND

AfPS (German commission for Product Safety) : GS PAHs requirements

Parameter	Category 1 Material intended to be put in the mouth or toys with intended skin contact (longer than 30 s).	Category 2		Category 3	
		Toy under 2009/48/EC	Other products under ProdSG	Toy under 2009/48/EC	Other products under ProdSG
Benzo(a)pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(e)pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(a)anthracene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(b)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(j)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(k)fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Chrysene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Dibenzo(a,h)anthracene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo(g,h,i)perylene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Indeno(1,2,3-cd)pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Acenaphthylene, Acenaphthene, fluorene, phenanthrene, pyrene, anthracene, fluoranthene, mg/kg	< 1 Sum	< 5 Sum	< 10 Sum	< 20 Sum	< 50 Sum
Naphthalene, mg/kg	< 1	< 2		< 10	
Sum of 18 PAHs	< 1	< 5	< 10	< 20	< 50

PFOS (Perfluorooctane Sulfonates) and Perfluorooctanoic Acid (PFOA)

Test Method : With reference to CEN/TS 15968:2010, analysis was performed by LC-MS.



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Test Report

No. SHAEC1616358403

Date: 01 Aug 2016

Page 9 of 23

Test Item(s)	Limit	Unit	MDL	003
Perfluorooctane Sulfonates (PFOS)^	1000	mg/kg	10	ND
Perfluorooctanoic Acid (PFOA)	-	mg/kg	10	ND

Notes :

- (1) Max. limit specified by commission regulation (EU) No. 757/2010 amending regulation (EC) No 850/2004.
- (2) ^ PFOS refer to Perfluorooctanesulfonic acid and its derivatives including Perfluorooctanesulfonic acid, Perfluorooctane sulfonamide, N-Methylperfluorooctane sulfonamide, N-Ethylperfluorooctane sulfonamide, N-Methylperfluorooctane sulfonamidoethanol and N-Ethylperfluorooctane sulfonamidoethanol.

Polychlorinated Biphenyls (PCBs)

Test Method : With reference to US EPA 8082A: 2007, analysis was performed by GC-MS

Test Item(s)	CAS NO.	Unit	MDL	003
2,4,4'-Trichlorobiphenyl (PCB 28)	7012-37-5	mg/kg	0.5	ND
2,2',5,5'-Tetrachloro-biphenyl (PCB 52)	35693-99-3	mg/kg	0.5	ND
2,2',4,5,5'-Pentachloro-biphenyl (PCB 101)	37680-73-2	mg/kg	0.5	ND
2,3',4,4',5-Pentachlorobiphenyl (PCB 118)	31508-00-6	mg/kg	0.5	ND
2,2',3,4,4',5'-Hexachloro-biphenyl (PCB 138)	35065-28-2	mg/kg	0.5	ND
2,2',4,4',5,5'-Hexachloro-biphenyl (PCB 153)	35065-27-1	mg/kg	0.5	ND
2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB 180)	35065-29-3	mg/kg	0.5	ND



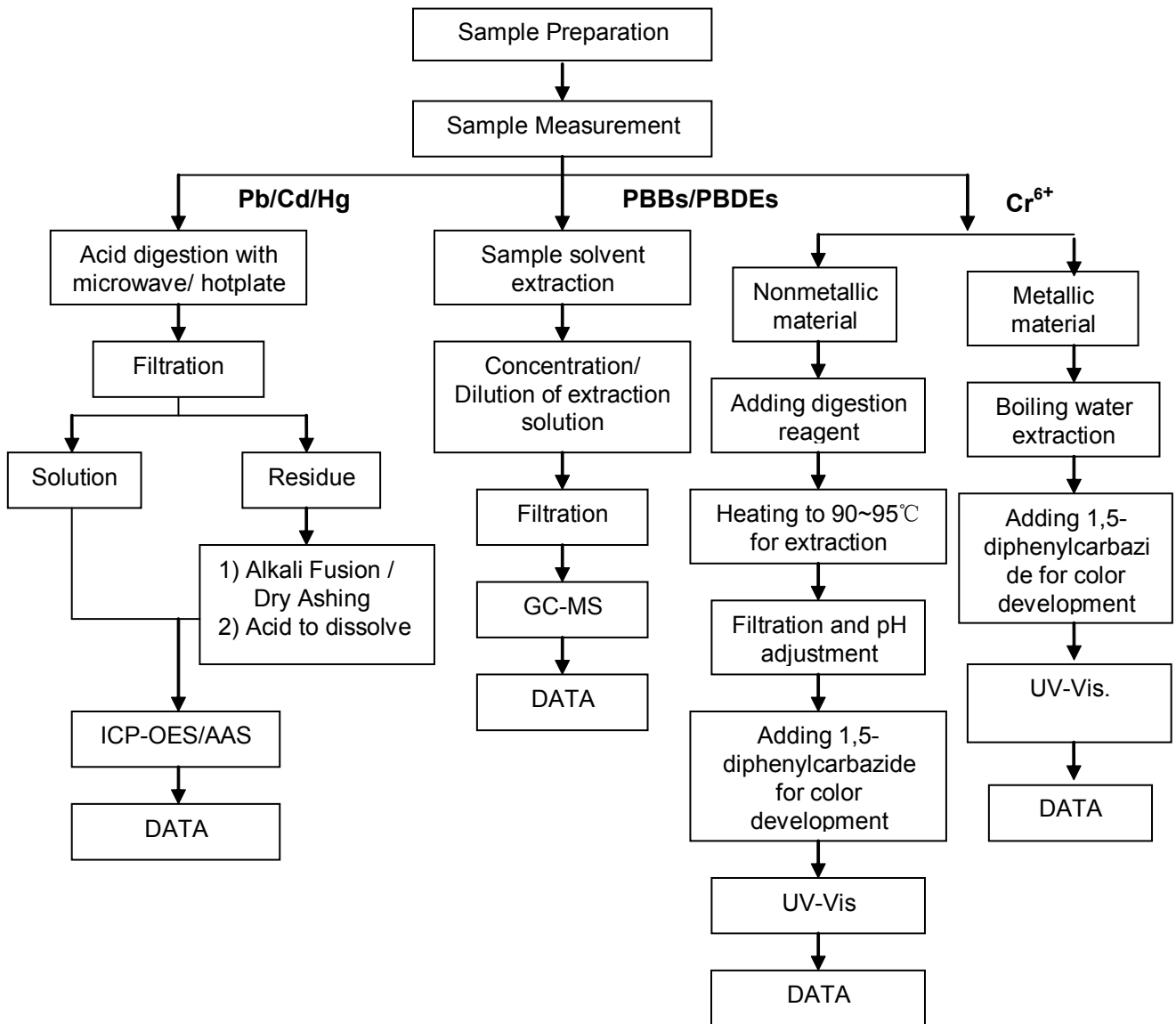
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RoHS Testing Flow Chart

- 1) Name of the person who made testing: Rony Chen/Gary Xu/Sean Li/Selina Song
- 2) Name of the person in charge of testing: Jan Shi/Luna Xu/Jessy Huang/Stone Chen
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ and PBBs/PBDEs test method excluded)



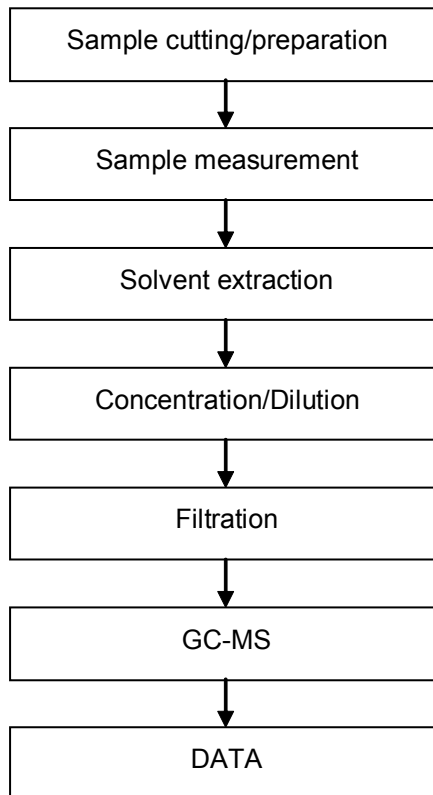
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Phthalates Testing Flow Chart

- 1) Name of the person who made testing: Sherlock Gao
- 2) Name of the person in charge of testing: Jessy Huang



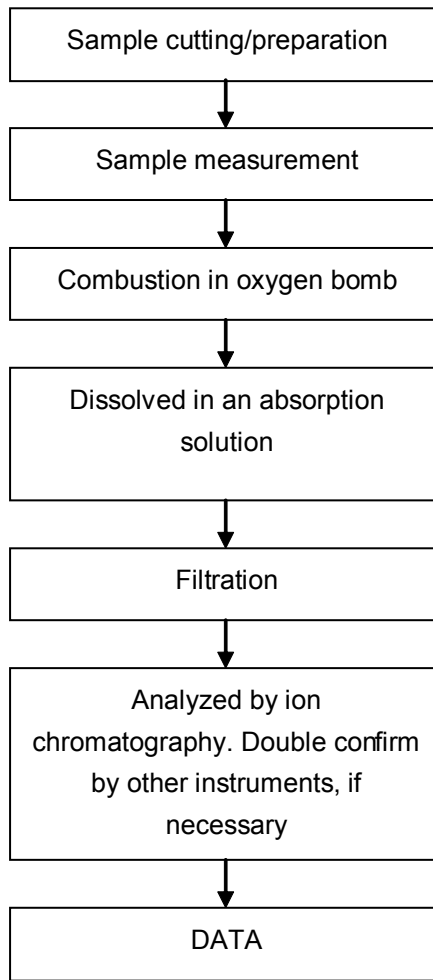
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Halogen Testing (oxygen bomb) Flow Chart

- 1) Name of the person who made testing: Kevin Xu
- 2) Name of the person in charge of testing: Sisily Yin



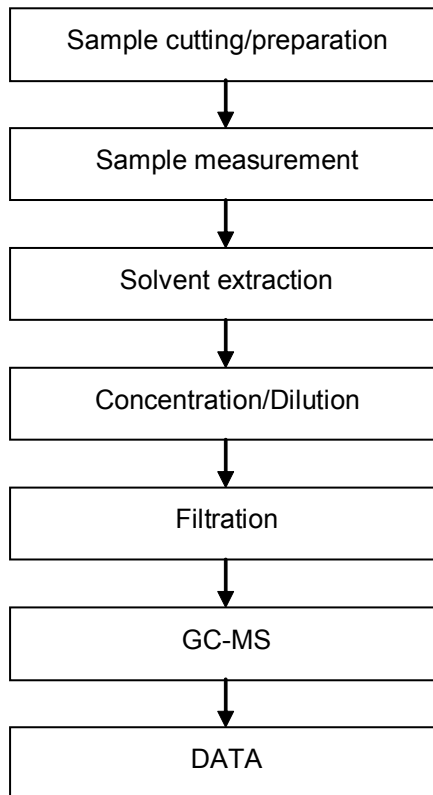
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PAHs Testing Flow Chart

- 1) Name of the person who made testing: Alex Deng
- 2) Name of the person in charge of testing: Jessy Huang



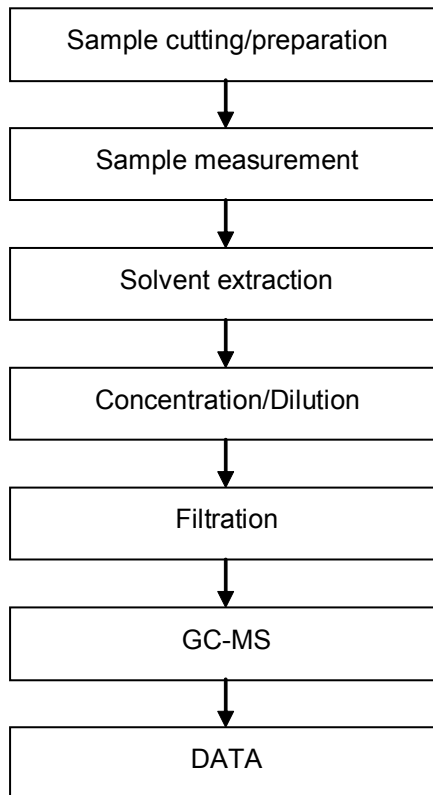
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HBCDD Testing Flow Chart

- 1) Name of the person who made testing: Gary Xu
- 2) Name of the person in charge of testing: Jessy Huang



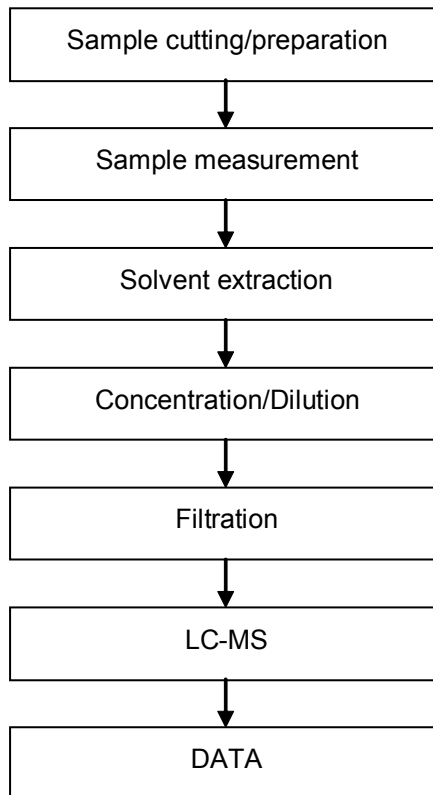
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PFOS/PFOA Testing Flow Chart

- 1) Name of the person who made testing: Jane Yang
- 2) Name of the person in charge of testing: Myra Ma



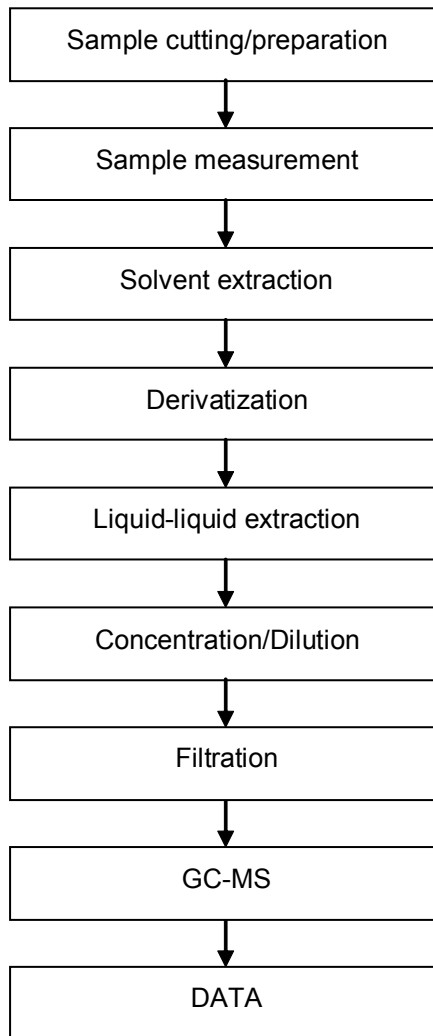
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TBBP-A Testing Flow Chart

- 1) Name of the person who made testing: Gary Xu
- 2) Name of the person in charge of testing: Jessy Huang



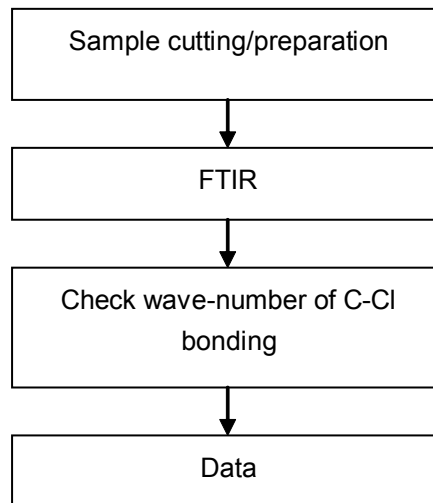
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PVC Testing Flow Chart

- 1) Name of the person who made testing: Jessica Qin
- 2) Name of the person in charge of testing: Linda Li



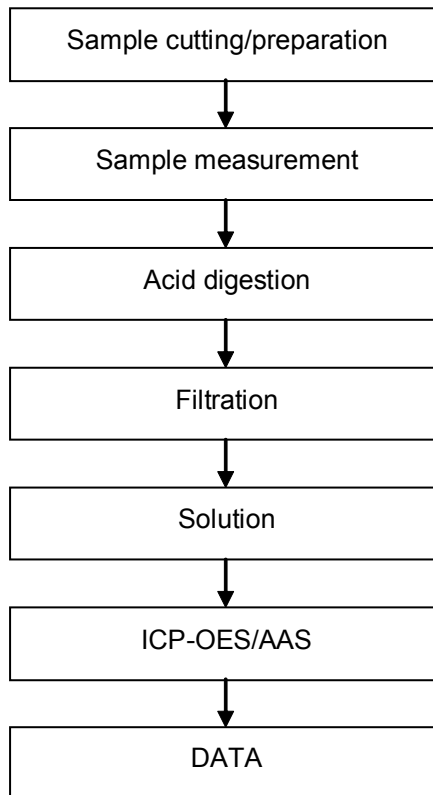
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Elements Testing Flow Chart

- 1) Name of the person who made testing: Rony Chen/Selina song
- 2) Name of the person in charge of testing: Luna Xu/Jan Shi



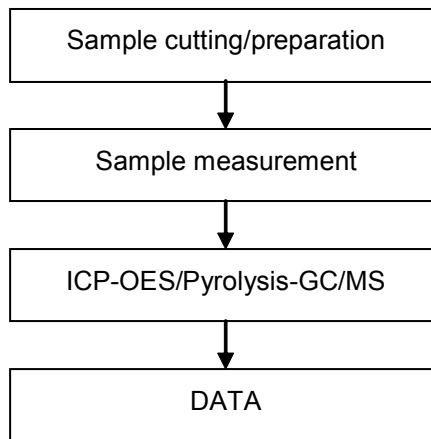
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Red Phosphorus Testing Flow Chart

- 1) Name of the person who made testing: Jessica Qin
- 2) Name of the person in charge of testing: Linda Li



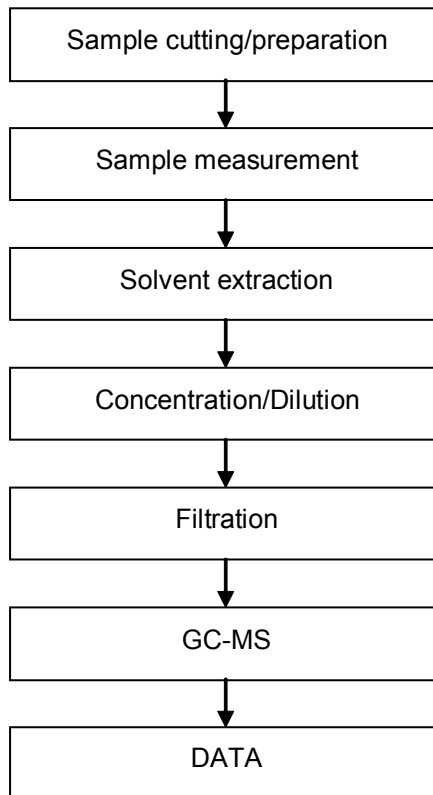
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PCB/ PCT/ PCN Testing Flow Chart

- 1) Name of the person who made testing: Jenny Zhang
- 2) Name of the person in charge of testing: Zirco Yu



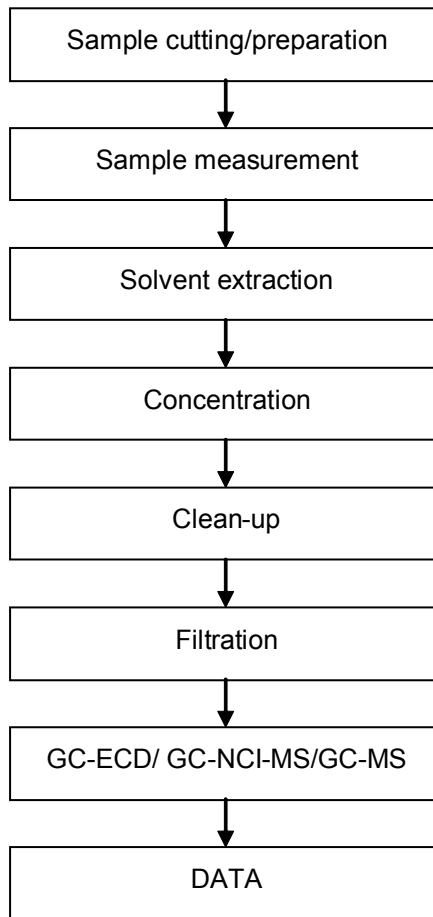
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SCCP Testing Flow Chart

- 1) Name of the person who made testing: Jenny Zhang
- 2) Name of the person in charge of testing: Zirco Yu



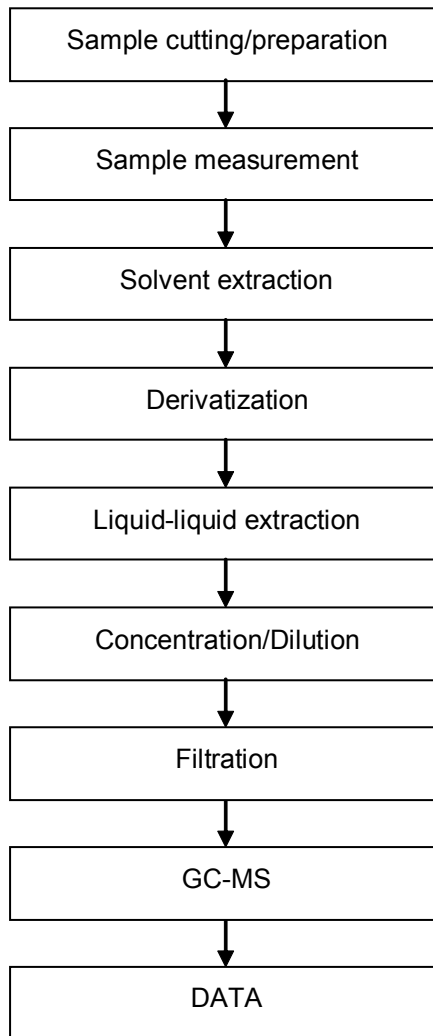
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Organotin Testing Flow Chart

- 1) Name of the person who made testing: Cara Cai
- 2) Name of the person in charge of testing: Jessy Huang



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Reliability Testing Summary Report

Date: 2017/05/12

Document No.: SK17 -05- 122

Test Item	P/N	Test Condition	(LTPD)	Sample Numbers	Allow Fail Numbers	Fall Numbers	Result
HTRB High Temp Reverse Bias	SGM2310A-C	150°C ± 5°C, 80% VR, T = 1000 hrs		77	0	0	ACC
HTSL High Temperature Storage Life	SGM2310A-C	150°C, T = 1000 hrs		77	0	0	ACC
PCT Pressure Cooker Test	SGM2310A-C	121°C, 29.7PSIG, 168 hrs		77	0	0	ACC
TCT Temperature Cycle Test	SGM2310A-C	-55°C/30min, 150°C/30min, For 1000 Cycle		77	0	0	ACC
THT High Temperature High Humidity Test	SGM2310A-C	85 ± 2°C, RH=85±5%, 1000 hrs		77	0	0	ACC
H3TRB High Temper High Humidity Reverse Bies Test	SGM2310A-C	85 ± 2°C, RH=85±5%, 80% VR, 1000 hrs		77	0	0	ACC
Resistance to Solder Heat Test	SGM2310A-C	270°C±5°C, 7Sec +2/-0Sec		77	0	0	ACC

Judgment:

qualified unqualified

Testing Start Date: 2017.03.20 Testing End Date: 2017.05.12

Tester: King Huang Approval: Peter Yang



High Temperature Reverse Bias Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V <V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V
RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 150°C ± 5°C, 80% VR, T = 1000 hrs

Test Date: 2017.03.20 ~ 2017.05.02

Test Standard : JESD22 STANDARD Method-A108

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
1	67.33V	0.015uA	7.07mΩ	67.53V	0.013uA	7.21mΩ
2	67.63V	0.017uA	7.19mΩ	67.53V	0.013uA	7.20mΩ
3	67.29V	0.013uA	7.22mΩ	67.28V	0.017uA	7.28mΩ
4	67.30V	0.013uA	7.15mΩ	67.50V	0.012uA	7.12mΩ
5	67.45V	0.013uA	7.09mΩ	67.29V	0.013uA	7.27mΩ
6	67.53V	0.017uA	7.19mΩ	67.25V	0.013uA	7.18mΩ
7	67.48V	0.012uA	7.23mΩ	67.43V	0.013uA	7.08mΩ
8	67.42V	0.014uA	7.16mΩ	67.61V	0.013uA	7.16mΩ
9	67.66V	0.012uA	7.06mΩ	67.40V	0.013uA	7.26mΩ
10	67.31V	0.016uA	7.21mΩ	67.27V	0.016uA	7.40mΩ
11	67.71V	0.009uA	7.39mΩ	67.58V	0.011uA	7.30mΩ
12	67.57V	0.010uA	7.11mΩ	67.59V	0.016uA	7.15mΩ
13	67.50V	0.009uA	7.33mΩ	67.66V	0.010uA	7.36mΩ
14	67.70V	0.017uA	7.28mΩ	67.49V	0.012uA	7.08mΩ
15	67.31V	0.011uA	7.26mΩ	67.41V	0.014uA	7.21mΩ
16	67.24V	0.014uA	7.13mΩ	67.26V	0.011uA	7.38mΩ
17	67.33V	0.014uA	7.23mΩ	67.44V	0.015uA	7.22mΩ
18	67.32V	0.017uA	7.23mΩ	67.29V	0.010uA	7.29mΩ
19	67.66V	0.013uA	7.27mΩ	67.73V	0.014uA	7.16mΩ
20	67.46V	0.016uA	7.07mΩ	67.27V	0.015uA	7.34mΩ
21	67.67V	0.016uA	7.06mΩ	67.72V	0.009uA	7.30mΩ
22	67.53V	0.015uA	7.27mΩ	67.37V	0.016uA	7.39mΩ
23	67.65V	0.017uA	7.07mΩ	67.69V	0.013uA	7.16mΩ
24	67.69V	0.014uA	7.16mΩ	67.39V	0.011uA	7.30mΩ
25	67.57V	0.011uA	7.07mΩ	67.31V	0.012uA	7.11mΩ
26	67.72V	0.012uA	7.28mΩ	67.24V	0.010uA	7.36mΩ
27	67.54V	0.012uA	7.07mΩ	67.50V	0.017uA	7.16mΩ
28	67.66V	0.013uA	7.10mΩ	67.36V	0.011uA	7.34mΩ
29	67.62V	0.011uA	7.11mΩ	67.70V	0.010uA	7.36mΩ



High Temperature Reverse Bias Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V <V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V
RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 150°C ± 5°C, 80% VR, T = 1000 hrs

Test Date: 2017.03.20 ~ 2017.05.02

Test Standard : JESD22 STANDARD Method-A108

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
30	67.49V	0.014uA	7.14mΩ	67.66V	0.014uA	7.34mΩ
31	67.72V	0.009uA	7.34mΩ	67.63V	0.013uA	7.17mΩ
32	67.49V	0.016uA	7.35mΩ	67.46V	0.013uA	7.18mΩ
33	67.54V	0.016uA	7.22mΩ	67.45V	0.017uA	7.27mΩ
34	67.72V	0.013uA	7.29mΩ	67.35V	0.010uA	7.18mΩ
35	67.35V	0.009uA	7.26mΩ	67.45V	0.011uA	7.10mΩ
36	67.62V	0.013uA	7.27mΩ	67.64V	0.014uA	7.28mΩ
37	67.35V	0.013uA	7.38mΩ	67.39V	0.016uA	7.40mΩ
38	67.53V	0.015uA	7.41mΩ	67.71V	0.016uA	7.35mΩ
39	67.59V	0.009uA	7.15mΩ	67.57V	0.016uA	7.30mΩ
40	67.32V	0.017uA	7.23mΩ	67.41V	0.009uA	7.37mΩ
41	67.65V	0.017uA	7.34mΩ	67.66V	0.010uA	7.27mΩ
42	67.52V	0.010uA	7.28mΩ	67.33V	0.017uA	7.36mΩ
43	67.63V	0.012uA	7.35mΩ	67.55V	0.010uA	7.32mΩ
44	67.67V	0.011uA	7.14mΩ	67.27V	0.011uA	7.27mΩ
45	67.51V	0.017uA	7.24mΩ	67.35V	0.017uA	7.17mΩ
46	67.61V	0.013uA	7.31mΩ	67.30V	0.009uA	7.06mΩ
47	67.39V	0.015uA	7.08mΩ	67.52V	0.017uA	7.11mΩ
48	67.68V	0.016uA	7.38mΩ	67.49V	0.013uA	7.19mΩ
49	67.69V	0.017uA	7.33mΩ	67.55V	0.014uA	7.10mΩ
50	67.69V	0.009uA	7.19mΩ	67.61V	0.016uA	7.19mΩ
51	67.49V	0.011uA	7.37mΩ	67.40V	0.015uA	7.18mΩ
52	67.54V	0.016uA	7.21mΩ	67.45V	0.017uA	7.40mΩ
53	67.39V	0.012uA	7.24mΩ	67.49V	0.010uA	7.34mΩ
54	67.51V	0.015uA	7.35mΩ	67.69V	0.015uA	7.10mΩ
55	67.43V	0.013uA	7.09mΩ	67.59V	0.013uA	7.28mΩ
56	67.56V	0.013uA	7.34mΩ	67.64V	0.014uA	7.12mΩ
57	67.29V	0.014uA	7.16mΩ	67.60V	0.014uA	7.19mΩ
58	67.40V	0.011uA	7.24mΩ	67.62V	0.009uA	7.32mΩ



High Temperature Reverse Bias Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V <V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V
RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 150°C ± 5°C, 80% VR, T = 1000 hrs

Test Date: 2017.03.20 ~ 2017.05.02

Test Standard : JESD22 STANDARD Method-A108

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
59	67.23V	0.015uA	7.17mΩ	67.42V	0.015uA	7.09mΩ
60	67.64V	0.014uA	7.17mΩ	67.37V	0.016uA	7.20mΩ
61	67.72V	0.016uA	7.25mΩ	67.34V	0.014uA	7.34mΩ
62	67.43V	0.011uA	7.10mΩ	67.37V	0.011uA	7.40mΩ
63	67.54V	0.015uA	7.21mΩ	67.72V	0.017uA	7.40mΩ
64	67.53V	0.015uA	7.12mΩ	67.24V	0.014uA	7.10mΩ
65	67.42V	0.017uA	7.37mΩ	67.62V	0.011uA	7.42mΩ
66	67.52V	0.016uA	7.34mΩ	67.64V	0.018uA	7.25mΩ
67	67.29V	0.012uA	7.15mΩ	67.55V	0.017uA	7.21mΩ
68	67.71V	0.017uA	7.29mΩ	67.34V	0.017uA	7.32mΩ
69	67.52V	0.012uA	7.12mΩ	67.69V	0.013uA	7.38mΩ
70	67.44V	0.015uA	7.26mΩ	67.25V	0.011uA	7.26mΩ
71	67.50V	0.014uA	7.19mΩ	67.44V	0.016uA	7.24mΩ
72	67.37V	0.011uA	7.31mΩ	67.41V	0.011uA	7.27mΩ
73	67.46V	0.015uA	7.12mΩ	67.42V	0.017uA	7.09mΩ
74	67.67V	0.011uA	7.24mΩ	67.54V	0.009uA	7.26mΩ
75	67.41V	0.016uA	7.19mΩ	67.68V	0.009uA	7.08mΩ
76	67.24V	0.012uA	7.25mΩ	67.34V	0.017uA	7.13mΩ
77	67.27V	0.013uA	7.40mΩ	67.46V	0.016uA	7.32mΩ

Made By: Leo Hsia

Approval: Peter Yang



High Temperature Storage Life Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V <V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V

RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 150°C, 1000Hrs

Test Date: 2017.03.20 ~ 2017.05.02

Test Standard : JESD22 STANDARD Method-A103

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
1	67.33V	0.013uA	7.2mΩ	67.34V	0.015uA	7.4mΩ
2	67.70V	0.013uA	7.4mΩ	67.35V	0.009uA	7.4mΩ
3	67.72V	0.012uA	7.3mΩ	67.38V	0.014uA	7.3mΩ
4	67.68V	0.011uA	7.3mΩ	67.53V	0.017uA	7.1mΩ
5	67.49V	0.010uA	7.1mΩ	67.70V	0.010uA	7.2mΩ
6	67.65V	0.011uA	7.3mΩ	67.56V	0.014uA	7.2mΩ
7	67.54V	0.016uA	7.2mΩ	67.72V	0.016uA	7.4mΩ
8	67.31V	0.010uA	7.2mΩ	67.71V	0.010uA	7.1mΩ
9	67.54V	0.016uA	7.1mΩ	67.52V	0.013uA	7.4mΩ
10	67.39V	0.012uA	7.2mΩ	67.55V	0.013uA	7.2mΩ
11	67.37V	0.016uA	7.1mΩ	67.30V	0.015uA	7.2mΩ
12	67.60V	0.013uA	7.3mΩ	67.24V	0.009uA	7.2mΩ
13	67.50V	0.015uA	7.3mΩ	67.27V	0.015uA	7.3mΩ
14	67.39V	0.009uA	7.2mΩ	67.52V	0.010uA	7.4mΩ
15	67.40V	0.014uA	7.3mΩ	67.65V	0.017uA	7.2mΩ
16	67.71V	0.016uA	7.2mΩ	67.58V	0.009uA	7.3mΩ
17	67.64V	0.009uA	7.4mΩ	67.61V	0.017uA	7.2mΩ
18	67.55V	0.012uA	7.3mΩ	67.37V	0.012uA	7.1mΩ
19	67.32V	0.010uA	7.4mΩ	67.51V	0.016uA	7.4mΩ
20	67.31V	0.013uA	7.4mΩ	67.67V	0.009uA	7.3mΩ
21	67.56V	0.016uA	7.1mΩ	67.61V	0.016uA	7.4mΩ
22	67.35V	0.010uA	7.2mΩ	67.27V	0.010uA	7.2mΩ
23	67.55V	0.016uA	7.1mΩ	67.53V	0.011uA	7.4mΩ
24	67.28V	0.017uA	7.3mΩ	67.27V	0.010uA	7.3mΩ
25	67.42V	0.011uA	7.3mΩ	67.34V	0.017uA	7.1mΩ
26	67.31V	0.015uA	7.1mΩ	67.37V	0.012uA	7.4mΩ
27	67.36V	0.012uA	7.1mΩ	67.52V	0.013uA	7.4mΩ
28	67.52V	0.017uA	7.1mΩ	67.55V	0.015uA	7.4mΩ
29	67.38V	0.010uA	7.2mΩ	67.53V	0.016uA	7.1mΩ



High Temperature Storage Life Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V <V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V

RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 150°C, 1000Hrs

Test Date: 2017.03.20 ~ 2017.05.02

Test Standard : JESD22 STANDARD Method-A103

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
30	67.65V	0.012uA	7.3mΩ	67.28V	0.013uA	7.1mΩ
31	67.38V	0.017uA	7.2mΩ	67.25V	0.011uA	7.3mΩ
32	67.35V	0.015uA	7.3mΩ	67.46V	0.016uA	7.2mΩ
33	67.45V	0.014uA	7.1mΩ	67.49V	0.014uA	7.4mΩ
34	67.24V	0.011uA	7.2mΩ	67.46V	0.010uA	7.2mΩ
35	67.31V	0.014uA	7.2mΩ	67.36V	0.010uA	7.4mΩ
36	67.52V	0.015uA	7.2mΩ	67.70V	0.014uA	7.4mΩ
37	67.58V	0.017uA	7.2mΩ	67.62V	0.011uA	7.3mΩ
38	67.55V	0.015uA	7.2mΩ	67.54V	0.017uA	7.3mΩ
39	67.64V	0.015uA	7.3mΩ	67.54V	0.011uA	7.2mΩ
40	67.50V	0.013uA	7.2mΩ	67.45V	0.014uA	7.2mΩ
41	67.43V	0.012uA	7.2mΩ	67.54V	0.013uA	7.1mΩ
42	67.48V	0.015uA	7.2mΩ	67.30V	0.017uA	7.3mΩ
43	67.33V	0.017uA	7.4mΩ	67.50V	0.017uA	7.1mΩ
44	67.70V	0.009uA	7.2mΩ	67.43V	0.011uA	7.4mΩ
45	67.51V	0.016uA	7.2mΩ	67.52V	0.017uA	7.4mΩ
46	67.65V	0.010uA	7.3mΩ	67.23V	0.015uA	7.4mΩ
47	67.49V	0.012uA	7.2mΩ	67.61V	0.011uA	7.2mΩ
48	67.67V	0.011uA	7.3mΩ	67.60V	0.014uA	7.4mΩ
49	67.63V	0.011uA	7.2mΩ	67.41V	0.017uA	7.1mΩ
50	67.41V	0.011uA	7.4mΩ	67.66V	0.015uA	7.3mΩ
51	67.29V	0.012uA	7.4mΩ	67.44V	0.011uA	7.1mΩ
52	67.25V	0.015uA	7.2mΩ	67.51V	0.012uA	7.3mΩ
53	67.61V	0.016uA	7.2mΩ	67.69V	0.010uA	7.1mΩ
54	67.35V	0.010uA	7.1mΩ	67.66V	0.011uA	7.2mΩ
55	67.61V	0.013uA	7.2mΩ	67.71V	0.017uA	7.4mΩ
56	67.31V	0.014uA	7.4mΩ	67.66V	0.017uA	7.3mΩ
57	67.53V	0.012uA	7.2mΩ	67.31V	0.014uA	7.3mΩ
58	67.49V	0.012uA	7.4mΩ	67.70V	0.010uA	7.2mΩ



High Temperature Storage Life Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V < V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V
RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 150°C, 1000Hrs

Test Date: 2017.03.20 ~ 2017.05.02

Test Standard : JESD22 STANDARD Method-A103

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
59	67.27V	0.011uA	7.2mΩ	67.68V	0.013uA	7.1mΩ
60	67.53V	0.017uA	7.2mΩ	67.53V	0.017uA	7.3mΩ
61	67.66V	0.011uA	7.1mΩ	67.63V	0.013uA	7.2mΩ
62	67.58V	0.014uA	7.4mΩ	67.65V	0.011uA	7.1mΩ
63	67.62V	0.015uA	7.1mΩ	67.69V	0.009uA	7.4mΩ
64	67.72V	0.011uA	7.2mΩ	67.31V	0.013uA	7.2mΩ
65	67.73V	0.013uA	7.1mΩ	67.48V	0.014uA	7.3mΩ
66	67.68V	0.017uA	7.1mΩ	67.52V	0.017uA	7.3mΩ
67	67.36V	0.012uA	7.4mΩ	67.70V	0.015uA	7.2mΩ
68	67.26V	0.011uA	7.4mΩ	67.24V	0.011uA	7.2mΩ
69	67.32V	0.009uA	7.2mΩ	67.36V	0.010uA	7.2mΩ
70	67.40V	0.012uA	7.4mΩ	67.61V	0.013uA	7.2mΩ
71	67.48V	0.013uA	7.4mΩ	67.32V	0.015uA	7.4mΩ
72	67.32V	0.014uA	7.1mΩ	67.50V	0.017uA	7.1mΩ
73	67.61V	0.016uA	7.3mΩ	67.38V	0.012uA	7.3mΩ
74	67.42V	0.017uA	7.1mΩ	67.23V	0.010uA	7.4mΩ
75	67.41V	0.017uA	7.2mΩ	67.40V	0.015uA	7.2mΩ
76	67.53V	0.012uA	7.3mΩ	67.48V	0.014uA	7.3mΩ
77	67.56V	0.011uA	7.4mΩ	67.36V	0.010uA	7.3mΩ

Made By: Leo Hsia

Approval: Peter Yang



SeCoS Corporation

Pressure Cooker Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V <V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V
RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 121°C, 100%RH, 29.7PSIG, 168Hrs

Test Date: 2017.03.20 ~ 2017.03.28

Test Standard : JESD22 STANDARD Method-A102

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
1	67.39V	0.009uA	7.1mΩ	67.60V	0.012uA	7.4mΩ
2	67.66V	0.011uA	7.3mΩ	67.58V	0.012uA	7.2mΩ
3	67.32V	0.017uA	7.3mΩ	67.65V	0.012uA	7.1mΩ
4	67.63V	0.017uA	7.2mΩ	67.44V	0.015uA	7.3mΩ
5	67.61V	0.009uA	7.1mΩ	67.63V	0.015uA	7.2mΩ
6	67.41V	0.015uA	7.4mΩ	67.30V	0.013uA	7.1mΩ
7	67.40V	0.013uA	7.3mΩ	67.72V	0.010uA	7.2mΩ
8	67.53V	0.010uA	7.3mΩ	67.55V	0.014uA	7.2mΩ
9	67.37V	0.009uA	7.1mΩ	67.42V	0.009uA	7.3mΩ
10	67.43V	0.013uA	7.2mΩ	67.52V	0.013uA	7.1mΩ
11	67.48V	0.017uA	7.2mΩ	67.65V	0.017uA	7.1mΩ
12	67.33V	0.015uA	7.3mΩ	67.34V	0.009uA	7.2mΩ
13	67.61V	0.011uA	7.3mΩ	67.41V	0.016uA	7.3mΩ
14	67.43V	0.012uA	7.1mΩ	67.49V	0.012uA	7.4mΩ
15	67.45V	0.017uA	7.3mΩ	67.68V	0.017uA	7.3mΩ
16	67.42V	0.011uA	7.3mΩ	67.24V	0.011uA	7.1mΩ
17	67.71V	0.013uA	7.1mΩ	67.50V	0.011uA	7.4mΩ
18	67.33V	0.012uA	7.2mΩ	67.53V	0.012uA	7.3mΩ
19	67.44V	0.018uA	7.2mΩ	67.37V	0.010uA	7.1mΩ
20	67.29V	0.012uA	7.1mΩ	67.40V	0.013uA	7.1mΩ
21	67.41V	0.012uA	7.2mΩ	67.59V	0.015uA	7.1mΩ
22	67.66V	0.017uA	7.3mΩ	67.32V	0.017uA	7.1mΩ
23	67.67V	0.014uA	7.2mΩ	67.36V	0.015uA	7.1mΩ
24	67.63V	0.015uA	7.2mΩ	67.31V	0.009uA	7.1mΩ
25	67.68V	0.011uA	7.1mΩ	67.39V	0.009uA	7.3mΩ
26	67.42V	0.011uA	7.1mΩ	67.49V	0.017uA	7.4mΩ
27	67.33V	0.011uA	7.1mΩ	67.55V	0.014uA	7.2mΩ
28	67.69V	0.015uA	7.2mΩ	67.44V	0.010uA	7.1mΩ
29	67.38V	0.017uA	7.1mΩ	67.43V	0.011uA	7.1mΩ



SeCoS Corporation

Pressure Cooker Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V <V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V
RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 121°C, 100%RH, 29.7PSIG, 168Hrs

Test Date: 2017.03.20 ~ 2017.03.28

Test Standard : JESD22 STANDARD Method-A102

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
30	67.27V	0.011uA	7.4mΩ	67.70V	0.012uA	7.2mΩ
31	67.68V	0.010uA	7.4mΩ	67.41V	0.010uA	7.2mΩ
32	67.39V	0.013uA	7.4mΩ	67.29V	0.017uA	7.2mΩ
33	67.37V	0.013uA	7.3mΩ	67.69V	0.015uA	7.2mΩ
34	67.62V	0.014uA	7.1mΩ	67.52V	0.017uA	7.3mΩ
35	67.58V	0.010uA	7.1mΩ	67.42V	0.016uA	7.3mΩ
36	67.54V	0.013uA	7.3mΩ	67.61V	0.017uA	7.4mΩ
37	67.36V	0.016uA	7.1mΩ	67.33V	0.014uA	7.3mΩ
38	67.47V	0.016uA	7.2mΩ	67.63V	0.010uA	7.3mΩ
39	67.29V	0.010uA	7.3mΩ	67.48V	0.014uA	7.2mΩ
40	67.57V	0.017uA	7.3mΩ	67.62V	0.015uA	7.4mΩ
41	67.42V	0.015uA	7.2mΩ	67.47V	0.014uA	7.3mΩ
42	67.47V	0.011uA	7.4mΩ	67.28V	0.014uA	7.4mΩ
43	67.65V	0.014uA	7.2mΩ	67.32V	0.015uA	7.4mΩ
44	67.26V	0.012uA	7.1mΩ	67.42V	0.017uA	7.3mΩ
45	67.49V	0.014uA	7.2mΩ	67.33V	0.010uA	7.1mΩ
46	67.30V	0.012uA	7.4mΩ	67.70V	0.010uA	7.1mΩ
47	67.38V	0.015uA	7.2mΩ	67.36V	0.015uA	7.3mΩ
48	67.40V	0.015uA	7.4mΩ	67.35V	0.013uA	7.2mΩ
49	67.42V	0.009uA	7.4mΩ	67.53V	0.010uA	7.3mΩ
50	67.27V	0.015uA	7.1mΩ	67.44V	0.013uA	7.3mΩ
51	67.42V	0.010uA	7.4mΩ	67.47V	0.017uA	7.4mΩ
52	67.34V	0.015uA	7.1mΩ	67.30V	0.009uA	7.4mΩ
53	67.57V	0.017uA	7.3mΩ	67.33V	0.015uA	7.1mΩ
54	67.42V	0.015uA	7.3mΩ	67.37V	0.017uA	7.2mΩ
55	67.32V	0.009uA	7.2mΩ	67.63V	0.010uA	7.1mΩ
56	67.55V	0.013uA	7.4mΩ	67.28V	0.010uA	7.1mΩ
57	67.36V	0.012uA	7.1mΩ	67.25V	0.017uA	7.4mΩ
58	67.34V	0.010uA	7.4mΩ	67.33V	0.017uA	7.3mΩ



SeCoS Corporation

Pressure Cooker Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V <V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V

RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 121°C, 100%RH, 29.7PSIG, 168Hrs

Test Date: 2017.03.20 ~ 2017.03.28

Test Standard : JESD22 STANDARD Method-A102

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
59	67.57V	0.015uA	7.1mΩ	67.47V	0.010uA	7.2mΩ
60	67.29V	0.017uA	7.3mΩ	67.32V	0.010uA	7.1mΩ
61	67.52V	0.016uA	7.4mΩ	67.45V	0.014uA	7.4mΩ
62	67.56V	0.014uA	7.2mΩ	67.28V	0.014uA	7.1mΩ
63	67.35V	0.013uA	7.3mΩ	67.29V	0.011uA	7.3mΩ
64	67.67V	0.009uA	7.1mΩ	67.24V	0.012uA	7.4mΩ
65	67.41V	0.017uA	7.4mΩ	67.30V	0.017uA	7.3mΩ
66	67.33V	0.016uA	7.4mΩ	67.37V	0.015uA	7.4mΩ
67	67.34V	0.017uA	7.2mΩ	67.37V	0.016uA	7.3mΩ
68	67.52V	0.011uA	7.2mΩ	67.49V	0.009uA	7.3mΩ
69	67.28V	0.011uA	7.2mΩ	67.46V	0.013uA	7.2mΩ
70	67.62V	0.012uA	7.3mΩ	67.36V	0.015uA	7.4mΩ
71	67.49V	0.014uA	7.4mΩ	67.53V	0.012uA	7.1mΩ
72	67.49V	0.011uA	7.3mΩ	67.35V	0.012uA	7.2mΩ
73	67.26V	0.016uA	7.3mΩ	67.65V	0.015uA	7.3mΩ
74	67.44V	0.016uA	7.3mΩ	67.55V	0.015uA	7.1mΩ
75	67.49V	0.015uA	7.1mΩ	67.63V	0.012uA	7.3mΩ
76	67.68V	0.015uA	7.4mΩ	67.67V	0.010uA	7.3mΩ
77	67.27V	0.011uA	7.2mΩ	67.51V	0.010uA	7.2mΩ

Made By: Leo Hsia

Approval: Peter Yang



SeCoS Corporation

Temperature Cycle Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V <V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V

RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: -55°C/30min, 150°C/30min, for1000 Cycle

Test Date: 2017.03.21 ~ 2017.05.12

Test Standard : JESD22 STANDARD Method-A104

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
1	67.47V	0.010uA	7.4mΩ	67.41V	0.016uA	7.4mΩ
2	67.54V	0.017uA	7.4mΩ	67.44V	0.010uA	7.1mΩ
3	67.33V	0.014uA	7.2mΩ	67.53V	0.014uA	7.2mΩ
4	67.57V	0.013uA	7.1mΩ	67.69V	0.009uA	7.3mΩ
5	67.49V	0.013uA	7.2mΩ	67.32V	0.017uA	7.3mΩ
6	67.52V	0.010uA	7.1mΩ	67.39V	0.014uA	7.2mΩ
7	67.41V	0.016uA	7.4mΩ	67.51V	0.016uA	7.1mΩ
8	67.49V	0.016uA	7.1mΩ	67.29V	0.015uA	7.3mΩ
9	67.46V	0.014uA	7.3mΩ	67.49V	0.016uA	7.3mΩ
10	67.48V	0.013uA	7.1mΩ	67.31V	0.013uA	7.3mΩ
11	67.36V	0.016uA	7.3mΩ	67.57V	0.017uA	7.4mΩ
12	67.50V	0.017uA	7.3mΩ	67.68V	0.017uA	7.3mΩ
13	67.58V	0.016uA	7.3mΩ	67.36V	0.013uA	7.1mΩ
14	67.34V	0.013uA	7.1mΩ	67.29V	0.010uA	7.1mΩ
15	67.33V	0.014uA	7.4mΩ	67.65V	0.015uA	7.4mΩ
16	67.42V	0.017uA	7.4mΩ	67.32V	0.011uA	7.4mΩ
17	67.44V	0.012uA	7.3mΩ	67.23V	0.014uA	7.2mΩ
18	67.40V	0.013uA	7.3mΩ	67.51V	0.013uA	7.1mΩ
19	67.49V	0.012uA	7.2mΩ	67.36V	0.014uA	7.4mΩ
20	67.31V	0.014uA	7.2mΩ	67.52V	0.012uA	7.2mΩ
21	67.50V	0.014uA	7.1mΩ	67.67V	0.011uA	7.4mΩ
22	67.32V	0.012uA	7.2mΩ	67.59V	0.010uA	7.1mΩ
23	67.24V	0.009uA	7.1mΩ	67.33V	0.012uA	7.2mΩ
24	67.70V	0.015uA	7.2mΩ	67.31V	0.014uA	7.2mΩ
25	67.27V	0.009uA	7.3mΩ	67.62V	0.010uA	7.3mΩ
26	67.27V	0.015uA	7.2mΩ	67.46V	0.009uA	7.2mΩ
27	67.65V	0.010uA	7.2mΩ	67.26V	0.017uA	7.3mΩ
28	67.64V	0.014uA	7.2mΩ	67.59V	0.010uA	7.3mΩ
29	67.51V	0.016uA	7.1mΩ	67.42V	0.010uA	7.3mΩ



SeCoS Corporation

Temperature Cycle Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V <V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V
RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: -55°C/30min, 150°C/30min, for1000 Cycle

Test Date: 2017.03.21 ~ 2017.05.12

Test Standard : JESD22 STANDARD Method-A104

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
30	67.65V	0.011uA	7.1mΩ	67.56V	0.009uA	7.4mΩ
31	67.58V	0.012uA	7.4mΩ	67.26V	0.013uA	7.4mΩ
32	67.32V	0.012uA	7.2mΩ	67.68V	0.016uA	7.1mΩ
33	67.37V	0.009uA	7.1mΩ	67.34V	0.011uA	7.4mΩ
34	67.68V	0.010uA	7.2mΩ	67.37V	0.017uA	7.4mΩ
35	67.24V	0.011uA	7.1mΩ	67.58V	0.012uA	7.4mΩ
36	67.27V	0.009uA	7.3mΩ	67.71V	0.016uA	7.1mΩ
37	67.25V	0.013uA	7.3mΩ	67.63V	0.009uA	7.4mΩ
38	67.25V	0.013uA	7.2mΩ	67.64V	0.016uA	7.4mΩ
39	67.34V	0.016uA	7.3mΩ	67.53V	0.016uA	7.4mΩ
40	67.73V	0.015uA	7.1mΩ	67.25V	0.014uA	7.2mΩ
41	67.41V	0.015uA	7.1mΩ	67.65V	0.011uA	7.4mΩ
42	67.59V	0.015uA	7.3mΩ	67.54V	0.015uA	7.2mΩ
43	67.59V	0.011uA	7.3mΩ	67.35V	0.016uA	7.2mΩ
44	67.33V	0.011uA	7.2mΩ	67.41V	0.010uA	7.4mΩ
45	67.24V	0.012uA	7.2mΩ	67.71V	0.012uA	7.3mΩ
46	67.37V	0.014uA	7.3mΩ	67.27V	0.013uA	7.2mΩ
47	67.54V	0.013uA	7.1mΩ	67.38V	0.016uA	7.4mΩ
48	67.32V	0.011uA	7.4mΩ	67.71V	0.010uA	7.2mΩ
49	67.50V	0.017uA	7.4mΩ	67.39V	0.011uA	7.1mΩ
50	67.33V	0.015uA	7.1mΩ	67.58V	0.015uA	7.2mΩ
51	67.37V	0.013uA	7.3mΩ	67.54V	0.016uA	7.1mΩ
52	67.28V	0.015uA	7.3mΩ	67.30V	0.015uA	7.1mΩ
53	67.37V	0.015uA	7.4mΩ	67.49V	0.013uA	7.3mΩ
54	67.41V	0.012uA	7.4mΩ	67.58V	0.017uA	7.1mΩ
55	67.57V	0.010uA	7.3mΩ	67.56V	0.014uA	7.3mΩ
56	67.45V	0.011uA	7.2mΩ	67.28V	0.016uA	7.2mΩ
57	67.24V	0.009uA	7.1mΩ	67.50V	0.009uA	7.3mΩ
58	67.32V	0.015uA	7.4mΩ	67.55V	0.017uA	7.3mΩ



SeCoS Corporation

Temperature Cycle Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V <V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V
RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: -55°C/30min, 150°C/30min, for1000 Cycle

Test Date: 2017.03.21 ~ 2017.05.12

Test Standard : JESD22 STANDARD Method-A104

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
59	67.54V	0.011uA	7.1mΩ	67.30V	0.016uA	7.3mΩ
60	67.69V	0.013uA	7.1mΩ	67.41V	0.011uA	7.1mΩ
61	67.47V	0.012uA	7.4mΩ	67.24V	0.018uA	7.2mΩ
62	67.70V	0.015uA	7.2mΩ	67.43V	0.010uA	7.3mΩ
63	67.72V	0.010uA	7.1mΩ	67.69V	0.012uA	7.2mΩ
64	67.41V	0.009uA	7.4mΩ	67.28V	0.016uA	7.2mΩ
65	67.61V	0.012uA	7.2mΩ	67.71V	0.013uA	7.3mΩ
66	67.44V	0.012uA	7.1mΩ	67.59V	0.009uA	7.4mΩ
67	67.66V	0.014uA	7.4mΩ	67.66V	0.012uA	7.2mΩ
68	67.67V	0.017uA	7.3mΩ	67.42V	0.011uA	7.4mΩ
69	67.30V	0.013uA	7.1mΩ	67.50V	0.016uA	7.2mΩ
70	67.58V	0.014uA	7.2mΩ	67.72V	0.017uA	7.2mΩ
71	67.46V	0.015uA	7.3mΩ	67.38V	0.016uA	7.1mΩ
72	67.70V	0.016uA	7.3mΩ	67.58V	0.011uA	7.1mΩ
73	67.29V	0.014uA	7.3mΩ	67.25V	0.009uA	7.3mΩ
74	67.72V	0.010uA	7.1mΩ	67.58V	0.011uA	7.1mΩ
75	67.55V	0.010uA	7.2mΩ	67.51V	0.016uA	7.3mΩ
76	67.56V	0.010uA	7.3mΩ	67.37V	0.014uA	7.3mΩ
77	67.44V	0.011uA	7.2mΩ	67.27V	0.017uA	7.4mΩ

Made By: Leo Hsia

Approval: Peter Yang



High Temperature High Humidity Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V < V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V

RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 85±2°C, 85±5%RH, 1000Hrs

Test Date: 2017.03.28 ~ 2017.05.10

Test Standard : JESD22 STANDARD Method-A101

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
1	67.49V	0.011uA	7.4mΩ	67.31V	0.010uA	7.3mΩ
2	67.53V	0.009uA	7.1mΩ	67.27V	0.010uA	7.2mΩ
3	67.69V	0.012uA	7.4mΩ	67.68V	0.009uA	7.3mΩ
4	67.47V	0.017uA	7.3mΩ	67.56V	0.017uA	7.1mΩ
5	67.37V	0.016uA	7.4mΩ	67.46V	0.009uA	7.1mΩ
6	67.33V	0.013uA	7.3mΩ	67.35V	0.015uA	7.4mΩ
7	67.69V	0.015uA	7.4mΩ	67.31V	0.010uA	7.1mΩ
8	67.27V	0.017uA	7.1mΩ	67.38V	0.013uA	7.4mΩ
9	67.40V	0.015uA	7.3mΩ	67.37V	0.016uA	7.2mΩ
10	67.72V	0.015uA	7.3mΩ	67.35V	0.011uA	7.4mΩ
11	67.68V	0.016uA	7.1mΩ	67.25V	0.016uA	7.3mΩ
12	67.33V	0.011uA	7.4mΩ	67.57V	0.014uA	7.3mΩ
13	67.42V	0.009uA	7.1mΩ	67.40V	0.017uA	7.2mΩ
14	67.53V	0.017uA	7.1mΩ	67.46V	0.017uA	7.4mΩ
15	67.39V	0.015uA	7.4mΩ	67.71V	0.015uA	7.4mΩ
16	67.50V	0.014uA	7.3mΩ	67.66V	0.016uA	7.3mΩ
17	67.69V	0.015uA	7.1mΩ	67.26V	0.015uA	7.1mΩ
18	67.37V	0.017uA	7.3mΩ	67.71V	0.010uA	7.4mΩ
19	67.55V	0.011uA	7.3mΩ	67.69V	0.014uA	7.2mΩ
20	67.71V	0.016uA	7.4mΩ	67.57V	0.016uA	7.4mΩ
21	67.45V	0.013uA	7.2mΩ	67.51V	0.014uA	7.2mΩ
22	67.66V	0.012uA	7.3mΩ	67.36V	0.010uA	7.2mΩ
23	67.65V	0.009uA	7.2mΩ	67.66V	0.010uA	7.3mΩ
24	67.59V	0.011uA	7.3mΩ	67.37V	0.010uA	7.4mΩ
25	67.69V	0.017uA	7.2mΩ	67.60V	0.017uA	7.3mΩ
26	67.70V	0.012uA	7.2mΩ	67.49V	0.016uA	7.2mΩ
27	67.49V	0.011uA	7.2mΩ	67.67V	0.010uA	7.3mΩ
28	67.29V	0.015uA	7.2mΩ	67.24V	0.016uA	7.4mΩ
29	67.36V	0.009uA	7.2mΩ	67.62V	0.017uA	7.2mΩ



High Temperature High Humidity Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V < V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V
RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 85±2°C, 85±5%RH, 1000Hrs

Test Date: 2017.03.28 ~ 2017.05.10

Test Standard : JESD22 STANDARD Method-A101

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
30	67.28V	0.014uA	7.2mΩ	67.71V	0.011uA	7.3mΩ
31	67.47V	0.010uA	7.1mΩ	67.64V	0.015uA	7.4mΩ
32	67.39V	0.015uA	7.1mΩ	67.57V	0.009uA	7.4mΩ
33	67.25V	0.009uA	7.2mΩ	67.64V	0.009uA	7.2mΩ
34	67.23V	0.015uA	7.4mΩ	67.36V	0.009uA	7.1mΩ
35	67.62V	0.010uA	7.3mΩ	67.55V	0.011uA	7.4mΩ
36	67.72V	0.017uA	7.3mΩ	67.67V	0.017uA	7.3mΩ
37	67.36V	0.017uA	7.2mΩ	67.62V	0.013uA	7.2mΩ
38	67.55V	0.014uA	7.1mΩ	67.52V	0.017uA	7.4mΩ
39	67.67V	0.018uA	7.1mΩ	67.27V	0.017uA	7.2mΩ
40	67.73V	0.015uA	7.1mΩ	67.56V	0.017uA	7.4mΩ
41	67.39V	0.015uA	7.2mΩ	67.71V	0.012uA	7.2mΩ
42	67.45V	0.016uA	7.3mΩ	67.71V	0.016uA	7.1mΩ
43	67.53V	0.013uA	7.3mΩ	67.68V	0.016uA	7.2mΩ
44	67.69V	0.009uA	7.4mΩ	67.53V	0.017uA	7.2mΩ
45	67.28V	0.011uA	7.3mΩ	67.31V	0.015uA	7.2mΩ
46	67.27V	0.015uA	7.3mΩ	67.31V	0.014uA	7.2mΩ
47	67.33V	0.012uA	7.3mΩ	67.38V	0.011uA	7.3mΩ
48	67.27V	0.015uA	7.1mΩ	67.60V	0.009uA	7.2mΩ
49	67.53V	0.016uA	7.3mΩ	67.28V	0.015uA	7.1mΩ
50	67.41V	0.009uA	7.1mΩ	67.72V	0.017uA	7.2mΩ
51	67.55V	0.011uA	7.2mΩ	67.31V	0.011uA	7.2mΩ
52	67.56V	0.010uA	7.3mΩ	67.71V	0.015uA	7.4mΩ
53	67.58V	0.015uA	7.4mΩ	67.37V	0.011uA	7.3mΩ
54	67.63V	0.009uA	7.3mΩ	67.46V	0.016uA	7.4mΩ
55	67.45V	0.011uA	7.3mΩ	67.54V	0.012uA	7.3mΩ
56	67.42V	0.009uA	7.2mΩ	67.55V	0.015uA	7.4mΩ
57	67.49V	0.012uA	7.1mΩ	67.57V	0.011uA	7.2mΩ
58	67.59V	0.015uA	7.2mΩ	67.68V	0.015uA	7.3mΩ



High Temperature High Humidity Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V < V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V
RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 85±2°C, 85±5%RH, 1000Hrs

Test Date: 2017.03.28 ~ 2017.05.10

Test Standard : JESD22 STANDARD Method-A101

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
59	67.67V	0.013uA	7.2mΩ	67.69V	0.017uA	7.3mΩ
60	67.64V	0.017uA	7.3mΩ	67.58V	0.014uA	7.4mΩ
61	67.47V	0.017uA	7.3mΩ	67.72V	0.011uA	7.3mΩ
62	67.65V	0.014uA	7.2mΩ	67.30V	0.015uA	7.3mΩ
63	67.37V	0.014uA	7.3mΩ	67.55V	0.010uA	7.1mΩ
64	67.59V	0.010uA	7.3mΩ	67.50V	0.014uA	7.1mΩ
65	67.50V	0.011uA	7.2mΩ	67.58V	0.014uA	7.2mΩ
66	67.71V	0.011uA	7.4mΩ	67.65V	0.015uA	7.4mΩ
67	67.51V	0.009uA	7.2mΩ	67.35V	0.009uA	7.1mΩ
68	67.54V	0.016uA	7.4mΩ	67.30V	0.014uA	7.4mΩ
69	67.28V	0.016uA	7.2mΩ	67.72V	0.013uA	7.2mΩ
70	67.56V	0.014uA	7.2mΩ	67.45V	0.010uA	7.1mΩ
71	67.38V	0.017uA	7.3mΩ	67.59V	0.009uA	7.3mΩ
72	67.30V	0.013uA	7.2mΩ	67.29V	0.010uA	7.3mΩ
73	67.73V	0.011uA	7.1mΩ	67.37V	0.016uA	7.2mΩ
74	67.54V	0.014uA	7.4mΩ	67.30V	0.013uA	7.3mΩ
75	67.59V	0.010uA	7.3mΩ	67.73V	0.016uA	7.1mΩ
76	67.61V	0.013uA	7.1mΩ	67.44V	0.011uA	7.1mΩ
77	67.65V	0.015uA	7.4mΩ	67.46V	0.012uA	7.1mΩ

Made By: Leo Hsia

Approval: Peter Yang



High Temper High Humidity Reverse Bies Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V <V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V

RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 85±2°C , 85±5%RH, 80% VR, 1000Hrs

Test Date: 2017.03.28 ~ 2017.05.10

Test Standard : JESD22 STANDARD Method-A101

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
1	67.37V	0.009uA	7.2mΩ	67.25V	0.015uA	7.2mΩ
2	67.31V	0.016uA	7.2mΩ	67.31V	0.017uA	7.3mΩ
3	67.47V	0.010uA	7.1mΩ	67.42V	0.013uA	7.1mΩ
4	67.56V	0.013uA	7.4mΩ	67.38V	0.013uA	7.2mΩ
5	67.28V	0.010uA	7.3mΩ	67.44V	0.010uA	7.3mΩ
6	67.26V	0.012uA	7.2mΩ	67.65V	0.011uA	7.4mΩ
7	67.51V	0.011uA	7.3mΩ	67.52V	0.010uA	7.3mΩ
8	67.41V	0.016uA	7.1mΩ	67.67V	0.014uA	7.2mΩ
9	67.60V	0.016uA	7.2mΩ	67.32V	0.011uA	7.2mΩ
10	67.38V	0.011uA	7.2mΩ	67.48V	0.013uA	7.3mΩ
11	67.37V	0.009uA	7.2mΩ	67.56V	0.012uA	7.4mΩ
12	67.37V	0.011uA	7.2mΩ	67.46V	0.010uA	7.4mΩ
13	67.36V	0.013uA	7.2mΩ	67.64V	0.009uA	7.1mΩ
14	67.33V	0.009uA	7.3mΩ	67.43V	0.012uA	7.1mΩ
15	67.48V	0.012uA	7.2mΩ	67.38V	0.016uA	7.4mΩ
16	67.57V	0.017uA	7.1mΩ	67.63V	0.013uA	7.2mΩ
17	67.41V	0.012uA	7.2mΩ	67.54V	0.013uA	7.3mΩ
18	67.58V	0.012uA	7.4mΩ	67.59V	0.009uA	7.1mΩ
19	67.43V	0.013uA	7.1mΩ	67.26V	0.016uA	7.4mΩ
20	67.38V	0.013uA	7.3mΩ	67.52V	0.013uA	7.3mΩ
21	67.51V	0.011uA	7.3mΩ	67.47V	0.015uA	7.3mΩ
22	67.50V	0.011uA	7.2mΩ	67.55V	0.009uA	7.3mΩ
23	67.42V	0.013uA	7.3mΩ	67.27V	0.014uA	7.1mΩ
24	67.50V	0.015uA	7.3mΩ	67.35V	0.015uA	7.4mΩ
25	67.47V	0.016uA	7.3mΩ	67.34V	0.011uA	7.2mΩ
26	67.24V	0.014uA	7.2mΩ	67.71V	0.015uA	7.1mΩ
27	67.37V	0.011uA	7.3mΩ	67.52V	0.015uA	7.3mΩ
28	67.42V	0.015uA	7.2mΩ	67.52V	0.010uA	7.3mΩ
29	67.28V	0.015uA	7.3mΩ	67.39V	0.011uA	7.2mΩ



High Temper High Humidity Reverse Bies Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V <V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V

RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 85±2°C , 85±5%RH, 80% VR, 1000Hrs

Test Date: 2017.03.28 ~ 2017.05.10

Test Standard : JESD22 STANDARD Method-A101

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
30	67.64V	0.009uA	7.1mΩ	67.68V	0.010uA	7.3mΩ
31	67.38V	0.011uA	7.3mΩ	67.35V	0.017uA	7.4mΩ
32	67.51V	0.017uA	7.2mΩ	67.35V	0.009uA	7.2mΩ
33	67.44V	0.013uA	7.1mΩ	67.41V	0.016uA	7.1mΩ
34	67.44V	0.014uA	7.3mΩ	67.69V	0.015uA	7.2mΩ
35	67.29V	0.017uA	7.3mΩ	67.43V	0.012uA	7.3mΩ
36	67.36V	0.017uA	7.3mΩ	67.56V	0.009uA	7.2mΩ
37	67.49V	0.011uA	7.2mΩ	67.33V	0.010uA	7.1mΩ
38	67.23V	0.010uA	7.1mΩ	67.37V	0.016uA	7.2mΩ
39	67.68V	0.017uA	7.1mΩ	67.44V	0.013uA	7.3mΩ
40	67.26V	0.010uA	7.1mΩ	67.42V	0.012uA	7.3mΩ
41	67.24V	0.012uA	7.1mΩ	67.38V	0.011uA	7.3mΩ
42	67.23V	0.012uA	7.4mΩ	67.31V	0.010uA	7.1mΩ
43	67.50V	0.011uA	7.1mΩ	67.70V	0.009uA	7.2mΩ
44	67.45V	0.010uA	7.2mΩ	67.32V	0.014uA	7.2mΩ
45	67.50V	0.013uA	7.2mΩ	67.70V	0.009uA	7.1mΩ
46	67.40V	0.011uA	7.3mΩ	67.25V	0.009uA	7.3mΩ
47	67.56V	0.014uA	7.1mΩ	67.34V	0.010uA	7.2mΩ
48	67.60V	0.017uA	7.2mΩ	67.33V	0.010uA	7.3mΩ
49	67.60V	0.011uA	7.2mΩ	67.26V	0.012uA	7.1mΩ
50	67.68V	0.011uA	7.2mΩ	67.26V	0.011uA	7.4mΩ
51	67.68V	0.012uA	7.4mΩ	67.25V	0.010uA	7.3mΩ
52	67.66V	0.010uA	7.2mΩ	67.55V	0.017uA	7.2mΩ
53	67.40V	0.015uA	7.4mΩ	67.33V	0.015uA	7.2mΩ
54	67.35V	0.015uA	7.4mΩ	67.28V	0.015uA	7.3mΩ
55	67.57V	0.015uA	7.2mΩ	67.31V	0.012uA	7.4mΩ
56	67.26V	0.013uA	7.3mΩ	67.32V	0.017uA	7.2mΩ
57	67.45V	0.013uA	7.2mΩ	67.41V	0.013uA	7.4mΩ
58	67.54V	0.011uA	7.2mΩ	67.72V	0.009uA	7.2mΩ



High Temper High Humidity Reverse Bies Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V <V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V
RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 85±2°C , 85±5%RH, 80% VR, 1000Hrs

Test Date: 2017.03.28 ~ 2017.05.10

Test Standard : JESD22 STANDARD Method-A101

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
59	67.39V	0.011uA	7.4mΩ	67.41V	0.015uA	7.4mΩ
60	67.29V	0.017uA	7.4mΩ	67.48V	0.013uA	7.3mΩ
61	67.51V	0.012uA	7.1mΩ	67.30V	0.015uA	7.1mΩ
62	67.52V	0.013uA	7.2mΩ	67.63V	0.010uA	7.1mΩ
63	67.56V	0.013uA	7.4mΩ	67.39V	0.016uA	7.1mΩ
64	67.32V	0.015uA	7.2mΩ	67.51V	0.017uA	7.2mΩ
65	67.69V	0.011uA	7.1mΩ	67.48V	0.010uA	7.1mΩ
66	67.39V	0.010uA	7.2mΩ	67.49V	0.012uA	7.2mΩ
67	67.24V	0.017uA	7.1mΩ	67.68V	0.015uA	7.4mΩ
68	67.27V	0.010uA	7.2mΩ	67.64V	0.014uA	7.3mΩ
69	67.27V	0.011uA	7.3mΩ	67.50V	0.017uA	7.2mΩ
70	67.64V	0.016uA	7.4mΩ	67.56V	0.016uA	7.1mΩ
71	67.42V	0.014uA	7.4mΩ	67.45V	0.017uA	7.3mΩ
72	67.68V	0.011uA	7.3mΩ	67.45V	0.009uA	7.3mΩ
73	67.73V	0.011uA	7.3mΩ	67.40V	0.011uA	7.3mΩ
74	67.25V	0.011uA	7.1mΩ	67.63V	0.014uA	7.2mΩ
75	67.24V	0.017uA	7.4mΩ	67.47V	0.016uA	7.2mΩ
76	67.41V	0.010uA	7.2mΩ	67.70V	0.013uA	7.4mΩ
77	67.53V	0.009uA	7.4mΩ	67.43V	0.009uA	7.2mΩ

Made By: Leo Hsia

Approval: Peter Yang



Resistance to Solder Heat Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V < V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V
RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 270°C ± 5°C, 7Sec + 2Sec/-0Sec

Test Date: 2017.05.12

Test Standard : JESD22 STANDARD Method-B106

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
1	67.44V	0.015uA	7.2mΩ	67.42V	0.016uA	7.3mΩ
2	67.60V	0.015uA	7.1mΩ	67.70V	0.015uA	7.3mΩ
3	67.62V	0.010uA	7.2mΩ	67.41V	0.010uA	7.3mΩ
4	67.46V	0.013uA	7.2mΩ	67.42V	0.014uA	7.2mΩ
5	67.26V	0.016uA	7.2mΩ	67.28V	0.010uA	7.2mΩ
6	67.66V	0.017uA	7.2mΩ	67.72V	0.017uA	7.4mΩ
7	67.31V	0.013uA	7.1mΩ	67.58V	0.010uA	7.2mΩ
8	67.73V	0.011uA	7.3mΩ	67.62V	0.015uA	7.3mΩ
9	67.50V	0.016uA	7.4mΩ	67.26V	0.010uA	7.3mΩ
10	67.53V	0.012uA	7.2mΩ	67.69V	0.015uA	7.3mΩ
11	67.64V	0.014uA	7.1mΩ	67.71V	0.014uA	7.3mΩ
12	67.39V	0.016uA	7.4mΩ	67.30V	0.012uA	7.1mΩ
13	67.29V	0.017uA	7.2mΩ	67.53V	0.010uA	7.4mΩ
14	67.63V	0.015uA	7.2mΩ	67.28V	0.012uA	7.3mΩ
15	67.73V	0.011uA	7.2mΩ	67.46V	0.016uA	7.2mΩ
16	67.71V	0.017uA	7.2mΩ	67.48V	0.009uA	7.3mΩ
17	67.61V	0.015uA	7.4mΩ	67.39V	0.010uA	7.3mΩ
18	67.40V	0.015uA	7.2mΩ	67.64V	0.015uA	7.1mΩ
19	67.47V	0.011uA	7.4mΩ	67.50V	0.012uA	7.2mΩ
20	67.68V	0.011uA	7.1mΩ	67.47V	0.010uA	7.2mΩ
21	67.44V	0.009uA	7.1mΩ	67.34V	0.017uA	7.1mΩ
22	67.38V	0.014uA	7.3mΩ	67.65V	0.011uA	7.2mΩ
23	67.27V	0.012uA	7.2mΩ	67.54V	0.015uA	7.3mΩ
24	67.68V	0.010uA	7.4mΩ	67.36V	0.013uA	7.1mΩ
25	67.35V	0.017uA	7.4mΩ	67.66V	0.017uA	7.1mΩ
26	67.50V	0.011uA	7.2mΩ	67.46V	0.017uA	7.3mΩ
27	67.57V	0.011uA	7.3mΩ	67.26V	0.013uA	7.1mΩ
28	67.68V	0.009uA	7.2mΩ	67.28V	0.016uA	7.2mΩ
29	67.27V	0.011uA	7.3mΩ	67.63V	0.010uA	7.3mΩ



Resistance to Solder Heat Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V < V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V
RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 270°C ± 5°C, 7Sec + 2Sec/-0Sec

Test Date: 2017.05.12

Test Standard : JESD22 STANDARD Method-B106

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
30	67.69V	0.017uA	7.2mΩ	67.26V	0.012uA	7.4mΩ
31	67.36V	0.017uA	7.3mΩ	67.56V	0.013uA	7.1mΩ
32	67.55V	0.015uA	7.2mΩ	67.68V	0.011uA	7.3mΩ
33	67.34V	0.015uA	7.4mΩ	67.70V	0.011uA	7.3mΩ
34	67.35V	0.015uA	7.3mΩ	67.63V	0.014uA	7.4mΩ
35	67.35V	0.014uA	7.2mΩ	67.52V	0.009uA	7.2mΩ
36	67.64V	0.012uA	7.3mΩ	67.26V	0.010uA	7.3mΩ
37	67.54V	0.015uA	7.1mΩ	67.61V	0.017uA	7.2mΩ
38	67.66V	0.014uA	7.4mΩ	67.54V	0.010uA	7.2mΩ
39	67.62V	0.011uA	7.4mΩ	67.63V	0.016uA	7.2mΩ
40	67.57V	0.012uA	7.4mΩ	67.26V	0.010uA	7.4mΩ
41	67.51V	0.016uA	7.1mΩ	67.31V	0.011uA	7.1mΩ
42	67.58V	0.012uA	7.3mΩ	67.29V	0.013uA	7.2mΩ
43	67.61V	0.016uA	7.2mΩ	67.27V	0.015uA	7.3mΩ
44	67.42V	0.011uA	7.4mΩ	67.32V	0.010uA	7.2mΩ
45	67.65V	0.014uA	7.2mΩ	67.33V	0.010uA	7.1mΩ
46	67.67V	0.017uA	7.2mΩ	67.26V	0.016uA	7.4mΩ
47	67.31V	0.015uA	7.4mΩ	67.62V	0.016uA	7.4mΩ
48	67.24V	0.012uA	7.3mΩ	67.28V	0.014uA	7.2mΩ
49	67.55V	0.017uA	7.1mΩ	67.35V	0.017uA	7.2mΩ
50	67.36V	0.014uA	7.2mΩ	67.28V	0.014uA	7.1mΩ
51	67.55V	0.010uA	7.4mΩ	67.59V	0.017uA	7.3mΩ
52	67.60V	0.012uA	7.4mΩ	67.55V	0.010uA	7.2mΩ
53	67.31V	0.011uA	7.2mΩ	67.42V	0.013uA	7.2mΩ
54	67.69V	0.010uA	7.1mΩ	67.43V	0.017uA	7.1mΩ
55	67.64V	0.011uA	7.2mΩ	67.71V	0.012uA	7.4mΩ
56	67.29V	0.011uA	7.2mΩ	67.27V	0.014uA	7.3mΩ
57	67.73V	0.014uA	7.4mΩ	67.58V	0.016uA	7.3mΩ
58	67.49V	0.012uA	7.4mΩ	67.65V	0.017uA	7.3mΩ



Resistance to Solder Heat Test Data

Report No : T170512-122

Part No : SGM2310A-C

Test Equipment: JUNO Test System DTS-1000

Test Condition : 60V < V(BR)DSS @ID=250uA ; IDSS < 1uA@VDS=60V
RDS(ON) < 115mΩ@VGS=10V, ID=5A

Test Condition: 270°C ± 5°C, 7Sec + 2Sec/-0Sec

Test Date: 2017.05.12

Test Standard : JESD22 STANDARD Method-B106

Operator: Leo Hsia

Test Result: PASS

No	Before			After		
	V(BR)DSS	IDSS	RDS(ON)	V(BR)DSS	IDSS	RDS(ON)
59	67.42V	0.011uA	7.4mΩ	67.63V	0.017uA	7.4mΩ
60	67.40V	0.017uA	7.1mΩ	67.35V	0.015uA	7.2mΩ
61	67.37V	0.017uA	7.3mΩ	67.47V	0.016uA	7.3mΩ
62	67.69V	0.017uA	7.4mΩ	67.36V	0.016uA	7.4mΩ
63	67.46V	0.011uA	7.4mΩ	67.24V	0.011uA	7.1mΩ
64	67.23V	0.010uA	7.3mΩ	67.43V	0.017uA	7.4mΩ
65	67.43V	0.015uA	7.3mΩ	67.53V	0.013uA	7.2mΩ
66	67.47V	0.010uA	7.4mΩ	67.60V	0.011uA	7.2mΩ
67	67.27V	0.015uA	7.4mΩ	67.31V	0.015uA	7.1mΩ
68	67.26V	0.012uA	7.2mΩ	67.38V	0.012uA	7.2mΩ
69	67.53V	0.014uA	7.2mΩ	67.35V	0.017uA	7.2mΩ
70	67.32V	0.009uA	7.2mΩ	67.55V	0.012uA	7.4mΩ
71	67.40V	0.013uA	7.4mΩ	67.48V	0.014uA	7.3mΩ
72	67.62V	0.011uA	7.3mΩ	67.55V	0.013uA	7.2mΩ
73	67.47V	0.010uA	7.3mΩ	67.51V	0.011uA	7.1mΩ
74	67.25V	0.017uA	7.3mΩ	67.38V	0.012uA	7.2mΩ
75	67.72V	0.016uA	7.3mΩ	67.58V	0.017uA	7.2mΩ
76	67.41V	0.015uA	7.2mΩ	67.51V	0.009uA	7.2mΩ
77	67.45V	0.010uA	7.2mΩ	67.37V	0.009uA	7.4mΩ

Made By: Leo Hsia

Approval: Peter Yang