银河微电
Galaxy
Microelectronics

股票代码: 688689.SH

常州银河世纪微电子股份有限公司
Changzhou Galaxy Century Microelectronics Co., Ltd.

银河微电
Galaxy
Microelectronics

致力于成为世界知名的
半导体分立器件供应商

AEC
国际汽车电子协会成员

30+Years
丰富行业经验

1200
员工人数

40,000m²
占地面积

128,400,000
注册资金/人民币

沿革历程

银河微电 Galaxy Microelectronics

1964-2006年

1964-常州无线电元件七厂成立

1985-引进国内第一条塑封二极管生产线

1994-常州银河电器有限公司成立

2006-2018 年

2006-香港主板上市：HK0527

常州银河世纪微电子有限公司成立

2015-规模化生产车规产品

2018-正式加入国际汽车电子协会元件技术委员会

2018-2023 年

2021-上海科创板IPO

股票代码：688689

2022-发行可转债，用于车规级半导体器件产业化项目

1994 年

投资4吋晶圆生产线

2006 年

投资6吋晶圆生产线

2014 年

8吋MOS晶圆流片成功

2021 年

12吋MOS晶圆流片成功

集团工厂

常州银河世纪微电子股份有限公司

地址：江苏省常州市新北区长江北路19号

成立时间：2006年

厂房面积：28618.44平方米

主要产品：二极管、三极管、MOSFET、桥 堆、光耦、模拟IC 等

平面工艺晶圆线（6吋）

子公司：常州银河电器有限公司

地址：

常州新北区河海西路168号+巢湖路208号

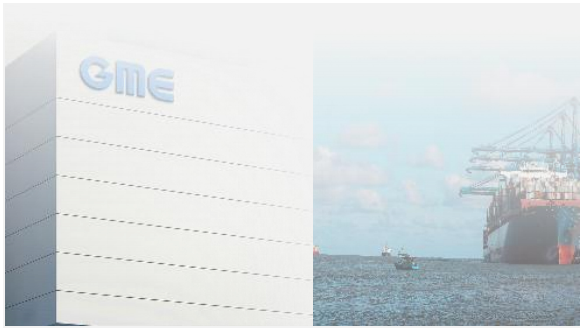
成立时间：1994年

厂房面积：15348.34平方米+8397平方米

主要产品：塑封轴向二极管、玻璃封装二极管

玻璃钝化工艺晶圆线（4吋）

新晶圆厂（筹备中）



海外基地（布局中）

企业荣誉

- 中国半导体行业功率器件十强企业
- 江苏省片式半导体分立器件工程技术研究中心
- 江苏省绿色工厂
- 浙江大学常州工业技术研究院产学研基地
- 江苏省名牌产品
- 江苏省认定企业技术中心
- 中国驰名商标
- 江苏省半导体行业协会理事单位
- 江苏省高新技术产品
- 国家“专精特新小巨人” 企业
- 常州市守合同重信用企业
- 江苏省半导体分立器件芯片及封装工程技术研究中心
- 苏南国家自主创新示范区瞪羚企业

数字银河

银河微电 Galaxy Microelectronics

- 科创板上市公司，股票代码: **688689**
- IDM经营管理模式
- 国内首家半导体分立器件AEC会员单位
- 国家专精特新“小巨人”
- 高新技术企业

- **60余年**半导体行业制造经验
- 净化车间面积**5万m²**
- 公司员工人数超千人，服务团队超百人
- 研发团队由近**200**名专业技术人员组成

- 2020年至今累计研发投入**上亿**元
- 车规级产线投资**5亿**多元，实验室投资**上亿**元

  CNAS标准实验室投资**超亿**元

- 已获得国家有效专利**350**项，其中发明专利25项
- 掌握**20**多个门类、**100**多种封装外形产品的设计与制造工艺
- 量产**9000**多个规格型号的分立器件

  细分行业内分立器件品种最为齐全的**领先**企业

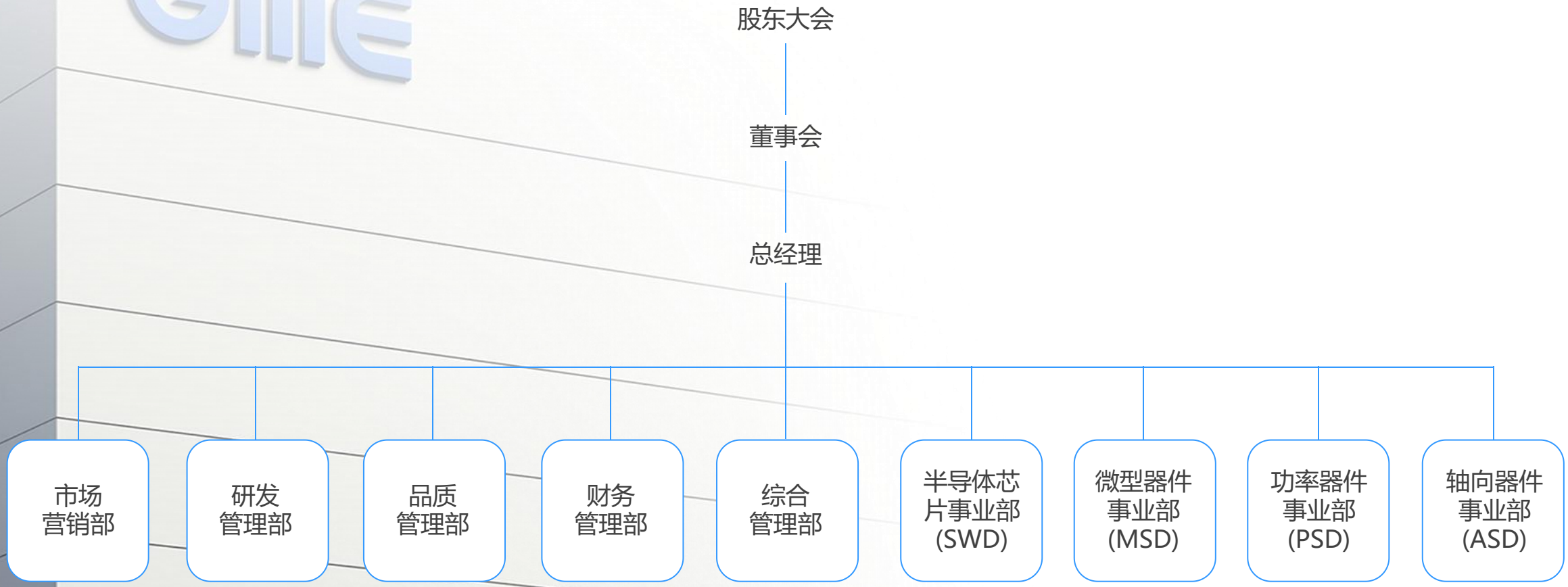
- 累计服务**1000+**用户
- 客户包含近**30**家五百强企业

- 荣获BYD等**20+**知名客户颁发的优秀供应商证书
- 荣获 **CNAS** 证书

- 产品覆盖全国**30**多个省份及海外**50+**国家
- TVS、稳压二极管全国销量遥遥领先
- 功率器件年销量**30亿**只

  车规级产品销量连续3年**200%**增长

组织架构


股东大会
董事会
总经理
市场营销部
研发管理部
品质管理部
财务管理部
综合管理部
半导体芯片事业部(SWD)
微型器件事业部(MSD)
功率器件事业部(PSD)
轴向器件事业部(ASD)

主要产品

公司专业从事半导体器件设计、芯片制造、封装测试、销售及服务。

MOSFETs AEC-Q101 Partially (<100V)

Small Signal MOSFET

L/M Voltage Power MOSFET

Trench & SGT

- MOSFET (12V-250V)
- Dual MOSFETs (20V-100V)

High Voltage Power MOSFET

Deep Trench Multi-epi

- VD MOSFET (400-1500V)
- Super Junction MOSFET

SiC MOSFETs

- SiC MOSFET 650/1200V

GaN HEMT

- GaN HEMT 650V

Protection Devices AEC-Q101

Surge Protection

- TVS

IEC 61000-4-5

SuperPlanar®

ESD Protection

- Zener
- ESD Diode/Array

IEC 61000-4-2

TPA

IPM

- SOP23H/DIP23H(IC+HV MOSFET/IGBT)
- 500V-650V 2A-5A

IGBT

Field StopTrench

- Discrete
- 5A-50A
- 600/650V 1200V - 1350V

Rectifying Devices AEC-Q101

Diode / Rectifier

SuperPlanar®

- Bridge Rectifier (low V_F)
- General Purpose
- Fast Recovery
- Ultra Fast
- Super Fast
- Fast Recovery Epitaxial Diode (FRED)

Schottky Diode / Rectifier

- Planar SKY (30 ~ 250V)
- Trench SKY (20 ~ 250V)
- Planar MOSFET-SKY (150 ~ 300V)
- SiC Schottky 650V/1200V

Small Signal Diode

- Switching Diode
- Schottky Diode

RF Diode

- PIN Diode
- Schottky Diode

Transistors AEC-Q101

- Bipolar Junction Transistor
- Digital Transistor
- RF Transistor

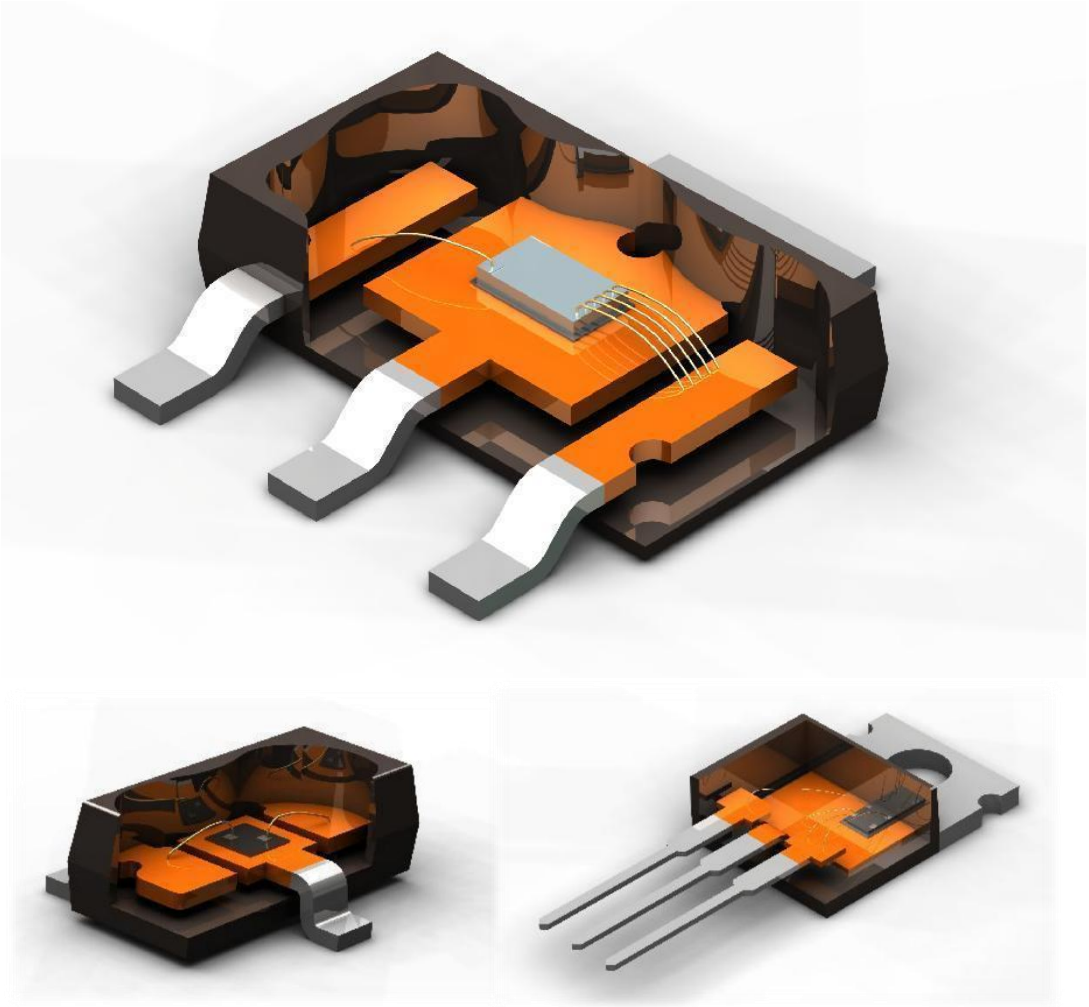
Analog ICs

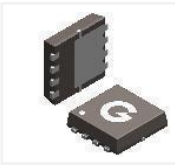
- Linear Regulator
- LDO
- Voltage Reference

Opto-electronic Devices

- Opto-coupler
  - DIP/SOP4
  - LSOP4 (Long Creepage)
- LED

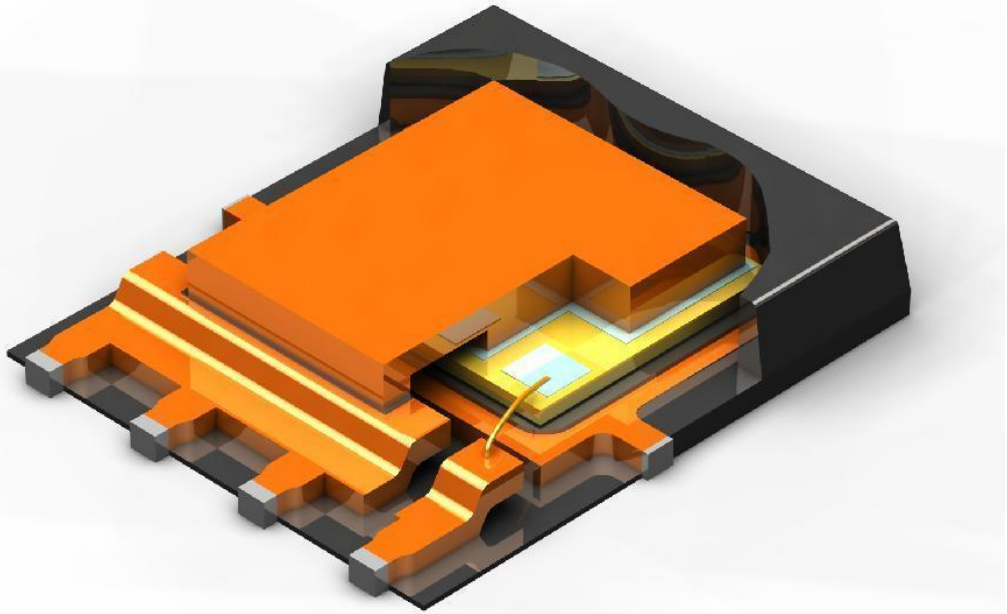
Wire Bonding Product Line

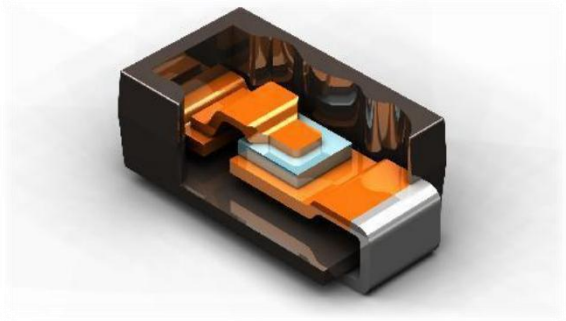


 PDFN3×3-8L	 PDFN3×3-8LC	 PDFN5×6-8L	 PDFN5×6-8LC	 TOLL	 DFN8080
 TO-252	 TO-263	 TO-220	ITO-220	 TO-247-2L/3L	 TO-247-4L
 DFN3020	 DFN2510	 DFN2020	 DFN1010	 DFN1006	 DFN0603
 SOT-143	 SOT-323	 SOT-89	 DIP-4L	 SOP-4L	 LSOP-4L
 SOP-8	 SOD-123/323/523	 SOT-563/723	 SOT-23/3L/6L	 SOT-363/523	 SOT-223

Clip Bonding Product Line

银河微电 Galaxy Microelectronics





PDFN5×6-8L

PDFN5×6-8L
双面散热

SOD-323HE

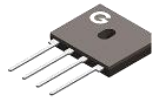
SOD-323T

DO-218

TO-277B

GBS

GBL



GBU

KBJ

GBJ

TDF

SOD-123FL / T

3SPB

5SPB

LB

MBF

TBF

SMA

SMB

SMC

SMAF

SMBF

SMCF

Axial Welding Product Line

银河微电
Galaxy
Microelectronics


A-405


A-405F


DO-41


DO-15


DO-15B


DO-15L


DO-27


DO-27S


R-1


R-3


R-6

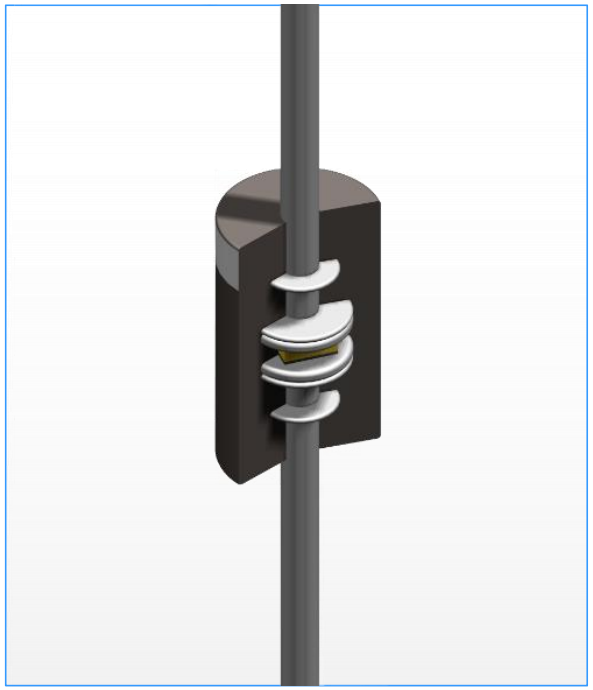

DO-34


DO-35


DO-41G


MELF


MINI-MELF



Road Map

银河微电 Galaxy Microelectronics

微型化


DFN0603 (H=0.3mm)

CSP 0603
(H≤0.2mm)

FlipCSP 0603
(H≤0.2mm)

WLCSP ESD, SKY, MOSFET,LDO
Bump Technology

more DFN Packages
(1.6x1.0; 1.6x1.6; 2.0x2.0; 8x6; 3.8x1.0)

功率化


SOD-323T
Diodes

Power MOSFET
DFN5x6
TO-220 / 252
150~200V; 8~60A
15~300mΩ

Three Phase Bridge
20A -35A
1200-1600V

SiC JBS
TO-220 / 247 / 252
0.65~1.2 kV; 2~40A

IGBT
5-200A
650-1200-1500V

IGBT ➔ Automotive

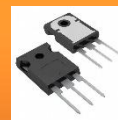
High Voltage MOSFET ➔ Automotive

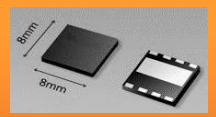

DFN3X3 / DFN5X6
(Cu wire & Ribbon)


DFN3x3 / 5x6
Clip Bonding

SiC MOSFET
650V/1200V/1700V

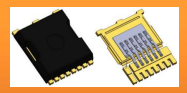
Planar TVS
P_{PP_MAX}= 8kW


TO-247
FRED/ Schottky/ HV MOSFET



DFN8x8
SiC Schottky / HV MOSFET

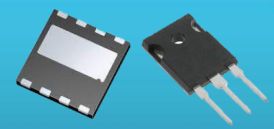

Automotive DFN5X6
Trench MOS Schottky


MOSFET in TOLL with lower Rdson


IPM 500V-650V
2A-5A SOP23H

SJ MOSFET
TO-220 / 247
TO-251 / 252 / 263
DFN8x8
600~900V; 2.5~53A
0.07~3.5Ω


DFN5x6
Dual-Cooling


Gallium Nitride (GaN)
HEMT / MOSFET

SiC JBS
1700V 40A

量产
试产
规划

Before 2024 2024 2024 Henceforth

MOSFETs Roadmap

银河微电 Galaxy Microelectronics

	Before 2024	2024Henceforth
500V - 1700V HV Platform	1. Self-built 6/8 inch wafer production line to complete a full series of products ranging from 500V to 800V; 2. Complete 1000V~1700V special process series products;	
80V - 100V Platform	Rdson 240mΩ~4.2mΩ Trench & SGT products	1. Further optimize FOM=Rdon*Qg and upgrade to Galaxy's 2rd Gen SGT products; 2. 1.4mΩ~3.9mΩ, TOLL, TO263-7 package products (including automotive grade certification);
60V Platform	Rdson 115mΩ~3.1mΩ Trench&SGT products	Rdson 1mΩ~3mΩ 12 inch wafer products (including automotive grade certification);
40V Platform	1. Rdson 40mΩ~1.4mΩ Trench&SGT products 2. Dual channels MOSFET products 3. Automotive grade certification	1. Complete 12inch SGT MOSFET series (including more standard level Vth products) 2. Complete Rdson=0.5mΩ/0.7mΩ/0.8mΩ/1mΩ... Such as PDFN5X6,TO series package product development and automotive grade certification. 3. Increase the PDFN5X6 dual-cooling packaging series 
20V - 30V Platform	1. 8 inch fab, Small signal SOT series package products； 2. 8 inch fab, Trench, Rdson can reach a minimum of 2.5mΩ； 3. Full range of automotive products	1. 12 inch wafers fully replace the original 8inch product series; 2. Complete all series products 3. Increase ESD protection series products;

2024

AEC-Q101 MOSFET Competitive Advantage

银河微电 Galaxy Microelectronics

Power MOSFET

▶Wide Range of Wafer Process Technology
- Trench MOSFET
- SGT MOSFET
- Planar VD-MOSFET
- Super-Junction MOSFET
- GaN E-HEMT

▶Wide Range of Package Process Technology
- Conductive adhesive process
- Tin process
- Solder process
- Ball bonding process
- Welding process of aluminum wire
- Aluminum strip process
- Clip process

High Efficiency Design

A

▶Capacity and Supply Security

Galaxy's MOSFET products are R&D independently, with strong production capacity from wafer to package, and has realized mass production of 12-inch MOSFET wafers, which can ensure the maximum security of supply.

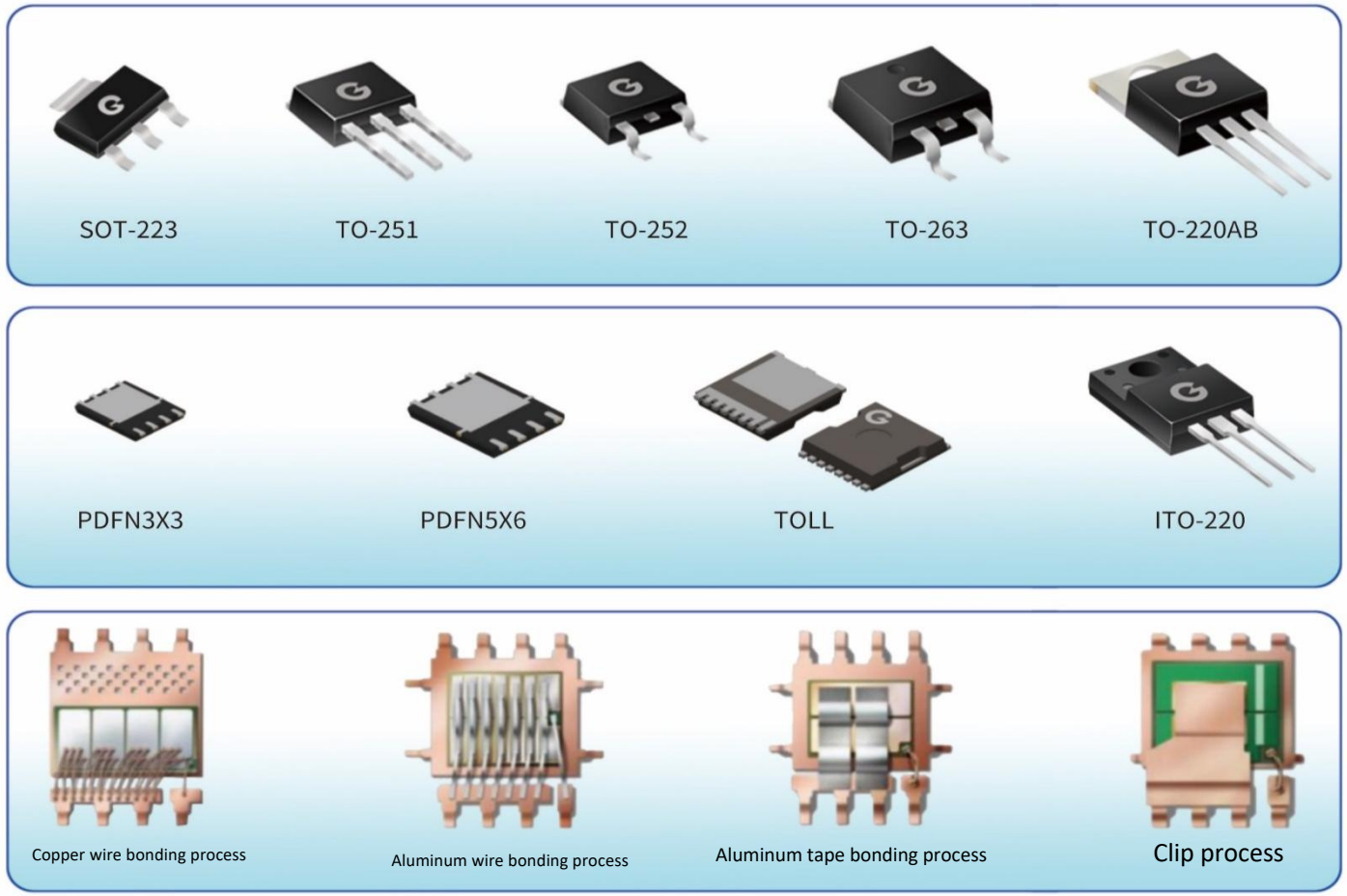
▶Flexibility

Galaxy has flexible supply chain planning, stocking and order adjustment to cope with demand fluctuations. We provide external storage resource allocation in case of emergency.

Secure Supply Chain

B

Package technology of Power MOSFET



研发布局

银河微电 Galaxy Microelectronics

晶圆技术

常州

- GPP 生产工艺
- Planar 生产工艺
- Trench 生产工艺 (新晶圆厂规划中)
- SGT 生产工艺 (新晶圆厂规划中)
- Multi-epi 生产工艺 (新晶圆厂规划中)
- SiC 晶圆 生产工艺 (新晶圆厂规划中)

杭州

- 浙江创芯集成电路 ICSprout12吋 (55nm制程)战略合作

封装技术

常州

- 微型贴片器件
- 功率器件/模块
- 光电器件
- 射频器件
- 宽禁带SiC/GaN器件

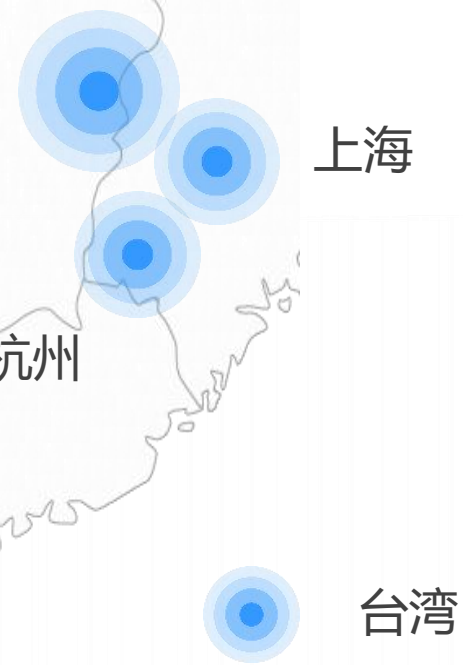
芯片研发

上海

- 中高压MOSFET芯片
- IGBT芯片

台湾

- Trench肖特基芯片
- 低压MOSFET芯片
- IC芯片



在常州、杭州、上海、台湾设有研发中心

拥有多支经验丰富的研发团队，致力于MOSFET芯片，IGBT芯片，IC芯片，第三代宽禁带半导体碳化硅(SiC)、氮化镓(GaN)等产品的芯片设计开发工作，并利用当地的半导体制程完成芯片的流片。

产业链布局及应用

银河微电 Galaxy Microelectronics

Wafer FAB

MOSFET Wafer	世界先进 8 Inch 上海华虹 8 Inch 浙江创芯 12 Inch 银河微电 自建 6/8Inch
Diode Wafer	银河微电 4 Inch/5 Inch/6 Inch
BJT Wafer	银河微电 6 Inch

Assembly

100%
银河微电
自产

Product R&D

- Chip R&D
- Package R&D

Manufacturing & Sales

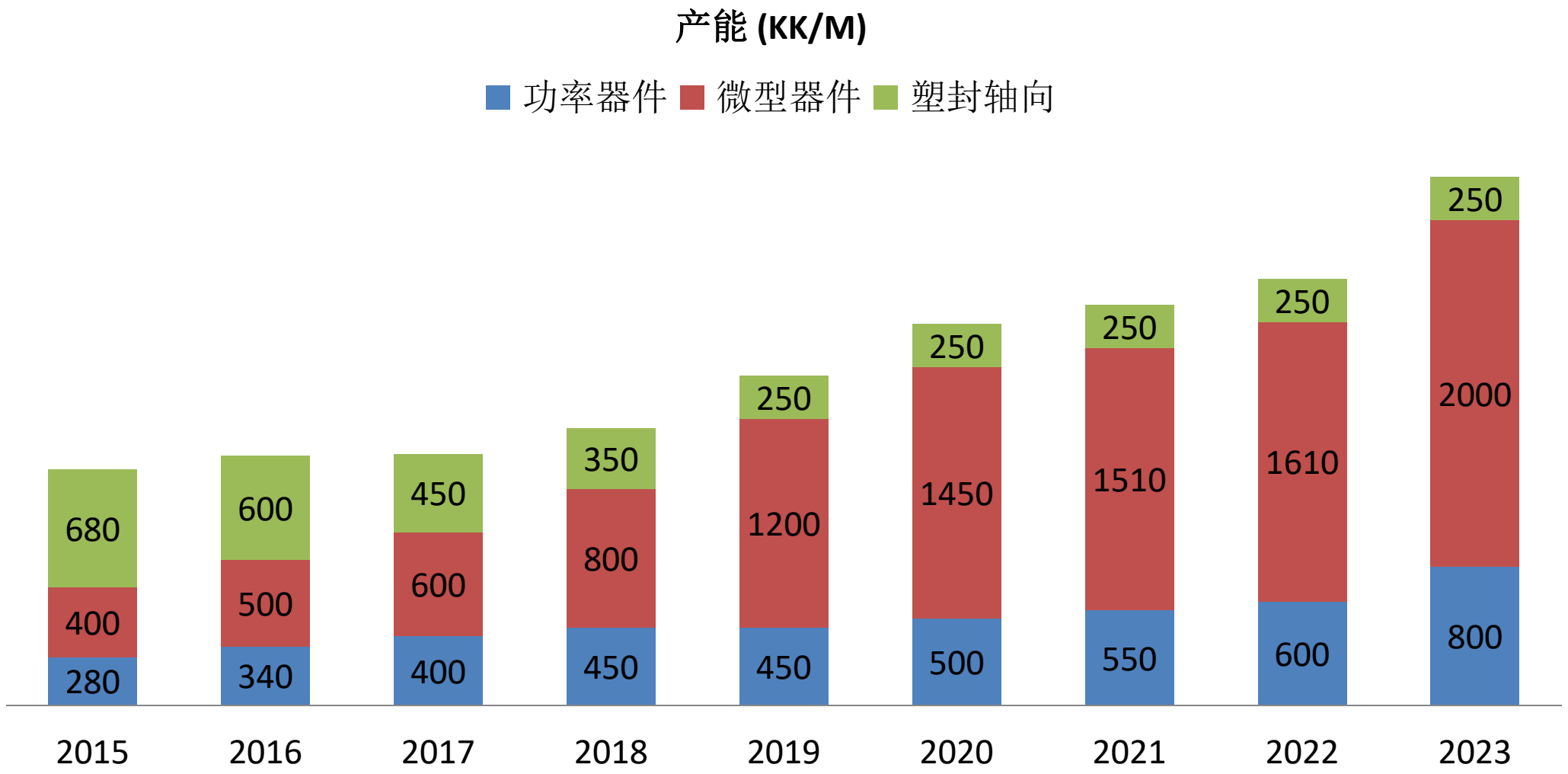
- Sales
- Service
- Application Test
- Reliability Test
- Failure Analysis

Application

- Automotive Lighting
- Intelligent Cockpit
- ADAS
- BMS
- Body Electronics
- Thermal Management
- Powertrain & Safety
- Electrification

公司产能

银河微电 Galaxy Microelectronics



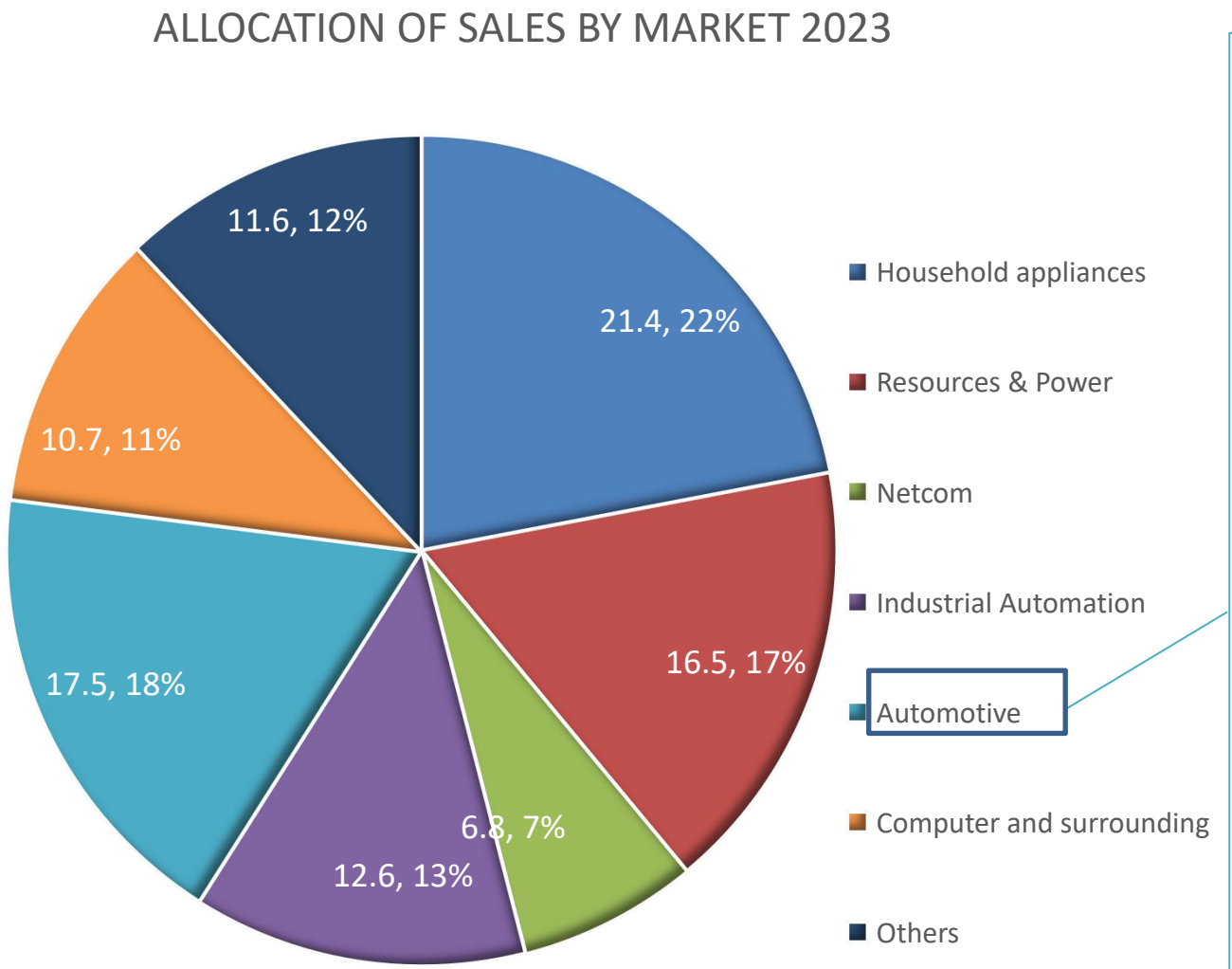
客户群

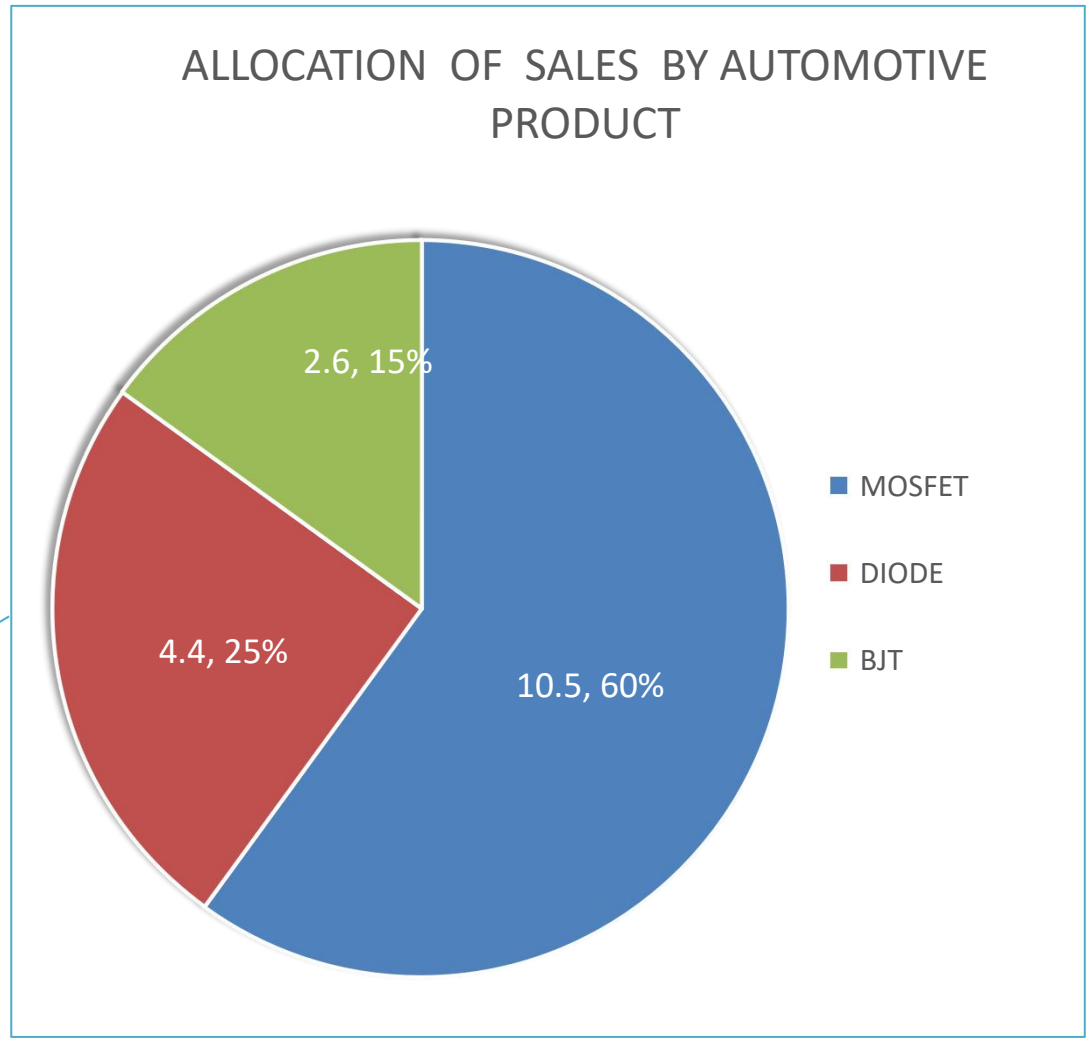
银河微电 Galaxy Microelectronics

家电	SAMSUNG, LG, Midea, GREE, TCL, Haier, Skyworth, CHANGHONG 长虹, GE APPLIANCES
能源动力	Schneider Electric, solaredge, MW MEAN WELL, DELTA, muRata Power Solutions, ARTESYN EMBEDDED TECHNOLOGIES, PYLONTECH, 天邦达 TIAN POWER, 爱士惟 AISWEI
网络通信	ZTE 中兴, HIKVISION, TP-LINK, Tenda 腾达, Sagemcom, Hytera 海能达, CIG, AzureWave
工业自动化	Nidec All for dreams, MinebeaMitsumi Passion to Create Value through Difference, OMRON, MITSUBISHI ELECTRIC Changes for the Better, KEYENCE, COGNEX, BANNER
汽车电子	Varroc EXCELLENCE, MAGNETI MARELLI, LEAR, HASCO VISION, BYD, MIND 曼德, Yanfeng, Panasonic, 经纬恒润 JINGWEI HIRAIN
电脑及周边	DELL, hp, ASUS, WD Western Digital, Quanta Computer, wistron, NVIDIA, Google, VIVE

营收状况

银河微电 Galaxy Microelectronics





品质管控:国际认证证书

银河微电
Galaxy
Microelectronics

Automotive Electronics Council
Component Technical Committee

March 13, 2018

David Chien
Changzhou Galaxy Century Microelectronics Co., Ltd.
Changzhou ,Jiangsu , China

Dear David,

On behalf of the AEC Component Technical Committee, it is my pleasure to inform you that Galaxy application for technical membership has been APPROVED. In order to update the AEC website, please forward your company logo (JPEG format or equivalent, <100kB in size) and contact information (for both the primary & alternate representative, if applicable). This information will be posted on the AEC website at www.aecouncil.com.

As a technical member of the AEC, you are invited to become a part of all on-going AEC activities. A listing of these activities and subteams are attached along with the member listing. We look forward to your ideas and participation. Committee conference calls to discuss new and ongoing AEC business are usually held every two to four weeks at 10:30AM U.S. Eastern Time and last 90 minutes. Formal meeting announcements (with the latest meeting minutes) will be forwarded to you via email as they are scheduled.

The cost of membership is an equal share of the funding of the Reliability Workshop we jointly hold each year in April. This will fluctuate depending on next year's workshop costs and the number of active members, but this year's cost will likely be around $400.

Membership requirements are that you participate in technical committee and subteam calls as best you can and vote on balloted specs. If a company is inactive for a year (no call participation, no ballot voting), they may be considered for removal from the Technical Committee. Further details can be found in the attached AEC Charter. An organization chart on council support functions is also attached for your consideration in participation.

On behalf of the AEC Sustaining Members and the entire AEC Technical Committee, we welcome you to the AEC Component Technical Committee. If you have any questions or would like further information, please feel free to contact me or any AEC Committee Member.

Regards,

Robert W Knoell

Bob Knoell
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Automotive Electronics Council
Component Technical Committee

APTIV · BOSE · Continental · Cummins · Delphi Technologies · DENSO · GENTEX CORPORATION · HARMAN · HELLA · JOHN DEERE · KOSTAL · CYPRESS PERFORM · DfR Solutions · DIODES INCORPORATED · DOMINANT Opto Technologies Innovating Illumination · elmos · 银河微电子 Galaxy Microelectronics · GLOBALFOUNDRIES · INDIUM CORPORATION · infineon

- AEC History
- Updated: AEC Members
- Updated: AEC Documents
- Selected Technical Papers
- Links to Related Web Sites
- Updated: 2020 Annual AEC Reliability Workshop
- Contact the Technical Committee

The Automotive Electronics Council (AEC) was originally established by Chrysler, Ford, and GM for the purpose of establishing common part-qualification and quality-system standards. From its inception, the AEC has consisted of two Committees: the Quality Systems Committee and Component Technical Committee. Today, the committees are composed of representatives from the Sustaining Members (currently Aptiv, Bose Corporation, Continental Corporation, Cummins, Delphi Technologies, Denso International America, Gentex Corporation, Harman, Hella, John Deere Electronics Solutions (Phoenix International), Kostal Automotive, Lear Corporation, Magna Electronics, Sirius XM, Valeo, Veoneer, Visteon Corporation and ZF) and other Technical, Associate, and Guest Members.

The AEC Component Technical Committee is the standardization body for establishing standards for reliable, high quality electronic components. Components meeting these specifications are suitable for use in the harsh automotive environment without additional component-level qualification testing. This web site makes available the technical documents developed by the AEC Component Technical Committee. These documents can be downloaded directly.

品质管控:国际认证体系

以“客户需求为关注焦点”，全面贯彻国际标注化管控体系，充分运用APQP、FMEA、PPAP、MSA、SPC、DOE、PAT、SBL、SYL等工具，全方位管控产品实现的各个过程环节，确保提供客户满意的产品和服务。

银河微电 Galaxy Microelectronics

GB/T29490
GB/T29490-201
(2016 ~ 2025)

IATF16949
IATF16949: 2016
(2018 ~ 2024)

QC080000
QC080000:2017
(2021-2024)

2013年　2016年　2021年

1994年　2002年　2009年　2015年　2018年　2024年

ISO9002
ISO9002:
1994
(1997 ~ 2003)

TS16949
TS16949: 2002 (2007 ~ 2010)
TS16949: 2009 (2010 ~ 2018)

ISO9001
ISO9001: 2015
(2018 ~ 2024)

ISO14001
ISO14001: 2015
(2017 ~ 2026)

ISO50001
ISO50001: 2018
(2020 ~ 2026)

VDA6.3:2023版

计划于2024年取得VDA6.3证书

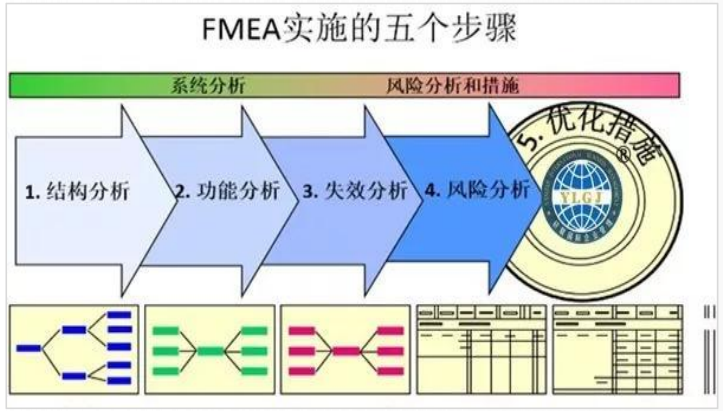
2023年8月已进行VDA6.3培训，
30人拿到VDA6.3内审员证书

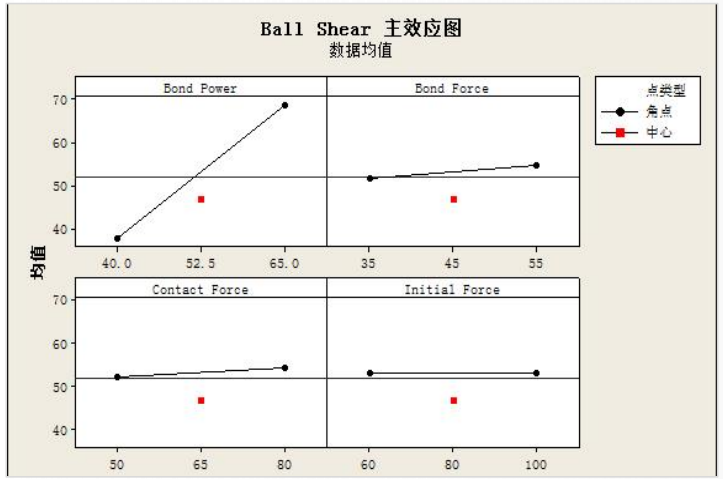
AEC-Q101

品质管控

设计预防

品质源于设计：产品研发严格遵守APQP管理流程，充分运用FMEA、DOE、防呆等管理技术，从源头确保品质。

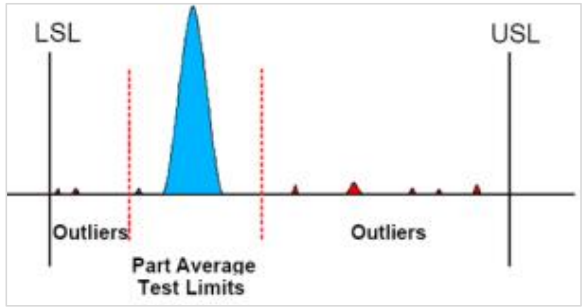




PAT管理

在TMTT导入PAT管理工具，剔除临界风险产品，
大幅度降低产品早期失效。

PAT定义



二极管:

V_F、I_R、V_R

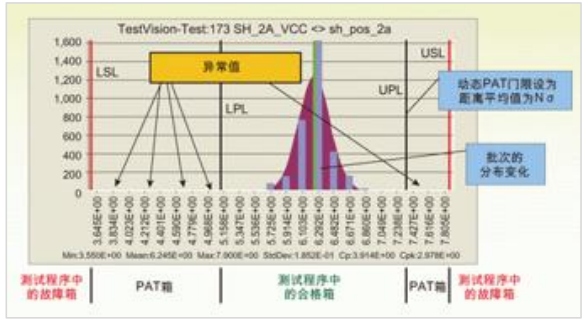
三极管：

I_{CBO}、I_{CEO}、V_{CES}、V_{BES}、h_{FE}

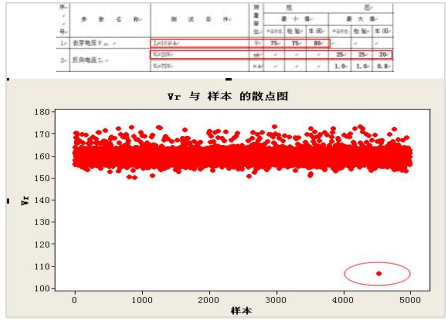
MOSFET：

I_{DSS}、I_{GSS}、$R_{DS(ON)}$、V_{SD}、$V_{(TH)}$

测试分选机中的Bin箱

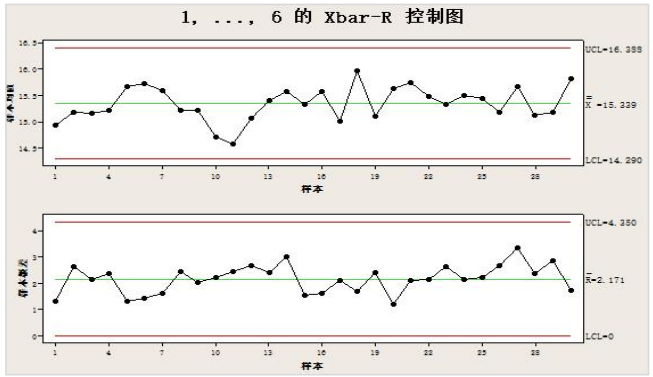


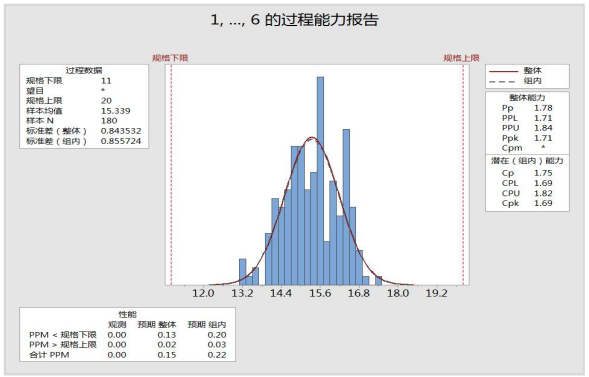
实例



品质管控 制程监控

关键质量控制点推行MSA、SPC统计技术，
设置限度样品、标准样品管理，制程品质实时监控。





文件名称	分立器件装片质量标准	过程名称	装片	过程编号	M03	版本/修订	E/0
文件编号	GME/JS-SIP-MP-002-01	适用范围	适用于装片的质量检验				

图1：歪管（转角≥5°）

图2：色管、墨点片

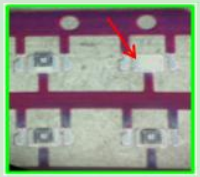


图3：空管

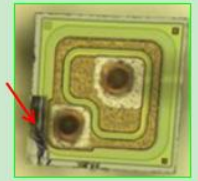


图4：碎管

图5：装片叠料

管控项目	管控方法	检验设备
芯片厚度	Xbar-R控制图	厚度测试计
氧化层膜厚	Xbar-R控制图	膜厚仪
光刻胶膜厚	Xbar-R控制图	膜厚仪
划片刀痕宽度	Xbar-R控制图	测量显微镜
点胶直径	Xbar-R控制图	测量显微镜
焊线拉力	Xbar-R控制图	DAGE4000测试仪
焊球厚度	Xbar-R控制图	测量显微镜
线弧高度	Xbar-R控制图	测量显微镜
镀层厚度	Xbar-R控制图	镀层测厚仪
站立高度	Xbar-R控制图	投影仪
编带拉力	Xbar-R控制图	剥离强度测试仪

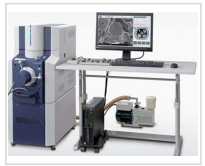
品质管控　试验与分析

银河微电 Galaxy Microelectronics

我们拥有经验丰富的专业人员，齐全的检测、试验与分析设备。

产品及过程监控设备

◎ 在制产品结构分析 ◎ 封测产品结构分析 ◎ 产品电性能测试


SEM扫描仪


SAM扫描仪


X-RAY检测仪


功率器件测试仪


焊线拉力测试仪


光学显微镜


研磨仪


激光开封机


易焊性分析仪

可靠性试验设备

◎ 环境及机械耐受能力 ◎ 寿命加速试验


寿命试验箱


恒流老化箱


高温反偏试验箱


冷热冲击试验箱


高压蒸煮试验台


高加速应力测试仪


间歇寿命测试仪


回流焊


波峰焊

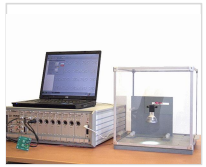
应用模拟试验设备

◎ 产品电性能 ◎ 应用模拟分析 ◎ 失效分析


雷击试验仪


振铃试验仪


ESD测试仪


T3STER瞬态电阻测试器


可编程交流/直流电源


直流可编程电子负载


示波器


红外热成像仪


电路在线测试

品质管控　试验与分析

银河微电 Galaxy Microelectronics

实验室通过ISO17025认证：

可靠性试验参考标准：AEC-Q101-E版

分组	序号	项目缩写	项目全称	试验条件	时间	批数	样本量(pcs)	失效数(pcs)	参考文献
A组加速环境应力测试	1	PC	预处理	1、TCT 5 cycles,-55~150℃,15min; 2、Baking 125℃ 24 hrs; 3、Soaking：85℃/85% RH 168hrs (MSL 1) or 30℃/60% RH 192hrs (MSL 3); 4、IR reflow 260℃ 3 cycles	-	3	338	0	JESD22-A113
	2	*HAST	高加速寿命试验	T_a=130℃,85%RH, V = 80%V_R or 1200V(Max)	96h	3	77	0	JESD22-A110
	2 alt	*H3TRB	高温高湿反偏	T_a=85℃,85%RH, V = 80%V_R or 800V(Max)	1000h	3	77	0	JESD22-A101
	3	*IOL	间歇寿命	△T≥100℃，on 2mins,off 2mins	15000 cycles	3	77	0	MIL-STD-750 Method 1037
	4	*AC	高压蒸煮	T_a=121℃,100%RH,0.20 Mpa	96h	3	77	0	JESD22-A102
	4 alt	*UHAST	无偏置高加速寿命	Ta=130℃,85%RH, no bias	96h	3	77	0	JESD22-A118
	5	*TC	温度循环	T_{stg}(Min)~T_{stg}(Max), t_{dwell} >15 min	1000 cycles	3	77	0	JESD22-A104
	5 a	TCHT	温度循环后热测试	125℃ TEST after TC , followed by decape and wire pull		3	77	0	JESD22-A104 Appendix 6
	5 b	TCDT	温度循环后DPA分析	100% AM inspection after TC, followed by decape or wire pull		3	77	0	JESD22-A104 Appendix 6
B组加速寿命测试	6	HTRB	高温反偏	T_j=T_j(Max), V = 100%V_R(Max)	1000h	3	77	0	MIL-STD-750 M1038 condition A
	7	HTGB	高温栅偏	T_a= T_j(Max), V = 100%V_{GS}(Max)	1000h	3	77	0	JESD22-A108
	8	SSOP	稳态寿命	I=Izmax,TA=rated Tj	1000h	3	77	0	MIL-STD-750 M1038 condition B

品质管控 试验与分析

银河微电 Galaxy Microelectronics

可靠性试验参考标准：AEC-Q101-E版

实验室目前可独立可完成
AEC-Q101
AEC-Q006

A23083006
CHM84ESGI

A23063007
THELBL027N

合作的第三方实验室：

分组	序号	项目缩写	项目全称	试验条件	时间	批数	样本量 (pcs)	失效数 (pcs)	参考文献
C组 封装组件完整性测试	9	DPA	破坏性物理分析	Post H3TRB or HAST and TC		1	2	0	AEC Q101-004 Section 4
	10	PD	尺寸测量	Verify physical dimensions to specifications		1	30	0	JESD22-B100
	11	WBP	焊线强度			1	10	0	MIL-STD-750-2 Method 2037 for Au and Al wire AEC Q006 for Cu wire
	12	WBS	推球强度			1	10	0	JESD22-B116
	13	DS	推晶强度			1	5	0	MIL-STD-750 Method 2017
	14	TS	热疲劳			1	30	0	MIL-STD-750-2 Method 2036
	15	RTS	印字牢度	Verify marking permanency. Not required for lasermarking		1	30	0	JESD22-B107
	16	RSH	耐焊接热	260（+5/-0)℃	10±1s	1	30	0	JESD22-A111 (SMD) or B-106 (PTH)
	17	TR	热阻	per device specification,		1	10	0	JESD24-3, 24-4, 24-6 as appropriate
	18	SD	可焊性	Wet balance / 245±5℃	5sec	1	25	0	J-STD-002
	19	WG	锡须			1	9	0	AEC-Q005
E组 电气验证测试	20	EV	外观检查	Device construction, marking, and workmanship		3	all	0	JESD22-B101
	21	TEST	电性测试			3	all	0	User specification or supplier's standard specification
	22	PV	三温测试	TEST @-55℃,25℃,125℃		3	25	0	Individual AEC user specification
	23	ESDH	静电HBM			1	30	0	AEC Q101-001
	24	ESDC	静电CDM			1	30	0	AEC Q101-005
	25	UIS	非钳位电感开关			1	5	0	AEC Q101-004 Section 2

品质管控 试验与分析

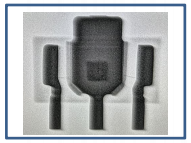
银河微电 Galaxy Microelectronics

FA分析流程


外观检查

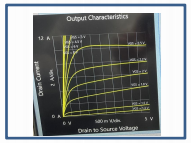
- 印字、外观检查


无损分析

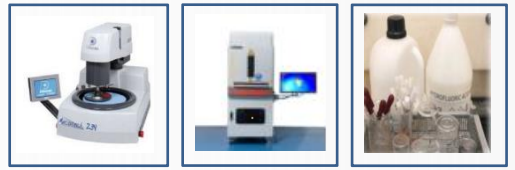


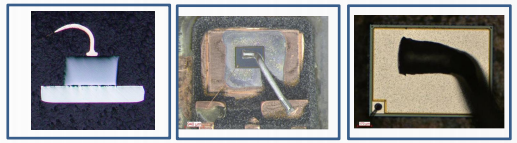
- X-RAY：观察内部焊接及打线情况
- C-SAM：观察元器件内部分层情况


电性检查



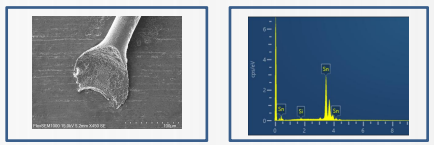
- 元器件参数测试
- IV曲线测试


有损分析



- Cross-Section
- 激光开盖
- 化学开盖

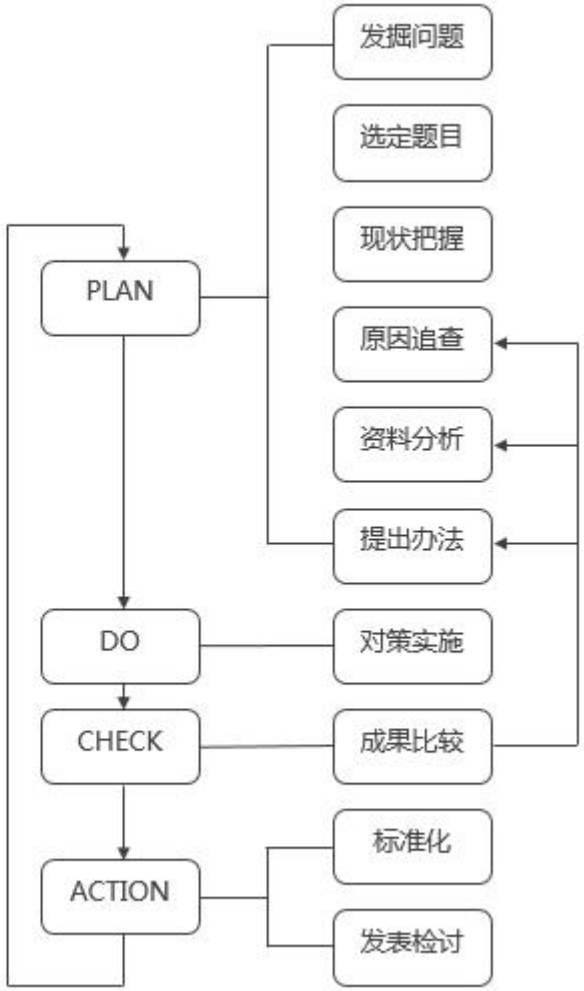

内部分析



- SEM：芯片结构分析
- 元素成分分析

持续提升

围绕品质、效率（交期）提升，组织现场作业人员成立专项小组，从实际出发，遵循现场现物、实事求是、灵活多样之原则，持续改善现行管理系统。



地理位置

常州奔牛机场
无锡硕放机场
南京禄口机场
上海虹桥/浦东机场

常州北站(高铁)
常州火车站

G42沪蓉高速
常州/薛家出口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