

688396.SH

29.4~37.8

2020-02-20

IDM

44976.10

% 7.17

% 0

% 25.20

% 2.01

% 5.96

% 8.57

% 49.76

33694.31

87898.21

MOSFET

2019~21

58.14/71.72/88.08

3.74/5.12/8.00

50

5

IPO

EPS

0.31/0.42/0.66 /

2020

IPO

EPS

0.42 /

70~90

PE

29.40~37.80



SAC S0260514050002



021-60750532



xuxingjun@gf.com.cn



SAC S0260519060001



SFC CE No. BFS478



021-60750632



gfwangliang@gf.com.cn



SAC S0260517080012



021-60750632



wanglu@gf.com.cn

021-60750632

wangzhaoguang@gf.com.cn

	2017A	2018A	2019E	2020E	2021E
	5,876	6,271	5,814	7,172	8,808
%	33.6	6.7	-7.3	23.3	22.8
EBITDA	1379	1500	1348	1547	1860
%	56.3	8.8	-10.1	14.8	20.3
	70	429	374	512	800
%	123.2	511.0	-12.9	37.0	56.2
EPS /	0.08	0.52	0.43	0.42	0.66
	2.01	1.79	2.08	1.21	1.48
ROE %	1.8	10.4	9.0	5.8	8.4

2017~19

2020

IPO

.....	5
.....	6
IDM+	6
.....	11
.....	13
100%	14
.....	16
/	19
.....	19
.....	21
.....	24
.....	27
.....	27
.....	29
.....	32
.....	34
.....	35
.....	36

12	2018	.....	12
13		.....	13
14	2018	.....	13
15	2018	.....	14
16		.....	25
17		.....	30
18		.....	31
19		.....	32
20		.....	34
21		.....	35

IDM

2018

IDM

2020 70-90 PE

29.40~37.80

2019~21 58.14/71.72/88.08

-7.3%/23.3%/22.8% 3.74/5.12/8.00 IPO

EPS 0.31/0.42/0.66 /

2020 PE 175x

52x 59x 95x 8

8

MOSFET

2020 IPO EPS 0.42

/ 70~90 PE

29.40~37.80

1 IDM

2

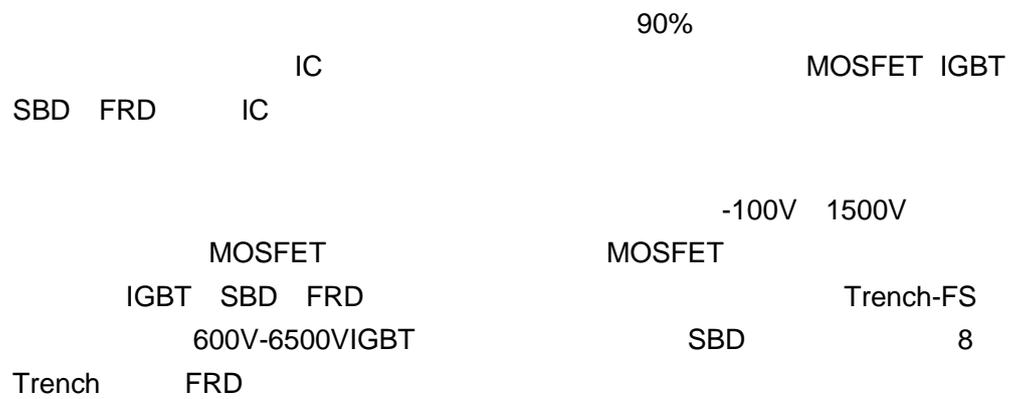
3

IDM+

2

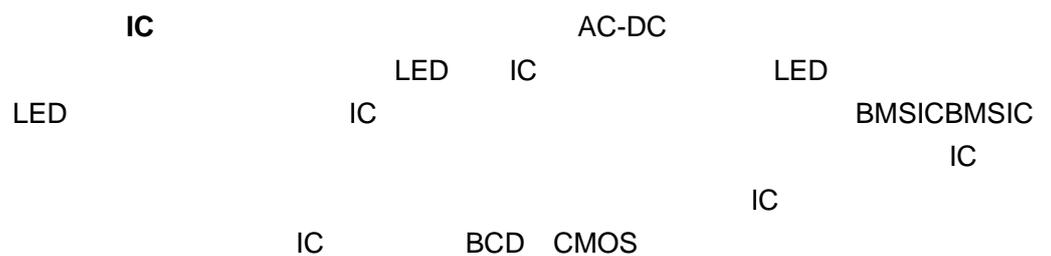
	2019	1-6	2018		2017		2016	
	102,793.73	90.16%	241,885.78	90.14%	206,857.89	88.44%	108,118.07	81.19%
	6,193.05	5.43%	13,764.40	5.13%	9,694.05	4.14%	8,535.64	6.41%
	4,190.38	3.68%	9,937.33	3.70%	12,750.40	5.45%	11,638.61	8.74%
IC	829.34	0.73%	2,761.23	1.03%	4,603.45	1.97%	4,880.93	3.67%
	114,006.51	100.00%	268,348.74	100.00%	233,905.79	100.00%	133,173.25	100.00%

1



3

MOSFET	MOS	MOS	MOS -100V-1500V
IGBT			600V-1200V
SBD		SBD	SBD 45V-150V 200mA-30A
FRD			200V-6500V



4 IC

AC-DC			
LED IC			
BMSIC			
IC	78 1117		100mA-1A
IC		100W	
IC			
IC	AB D		5mW-50W

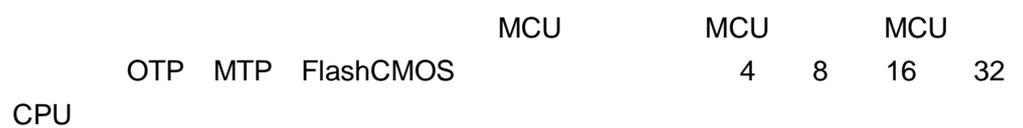
2



5

MEMS		

3



6

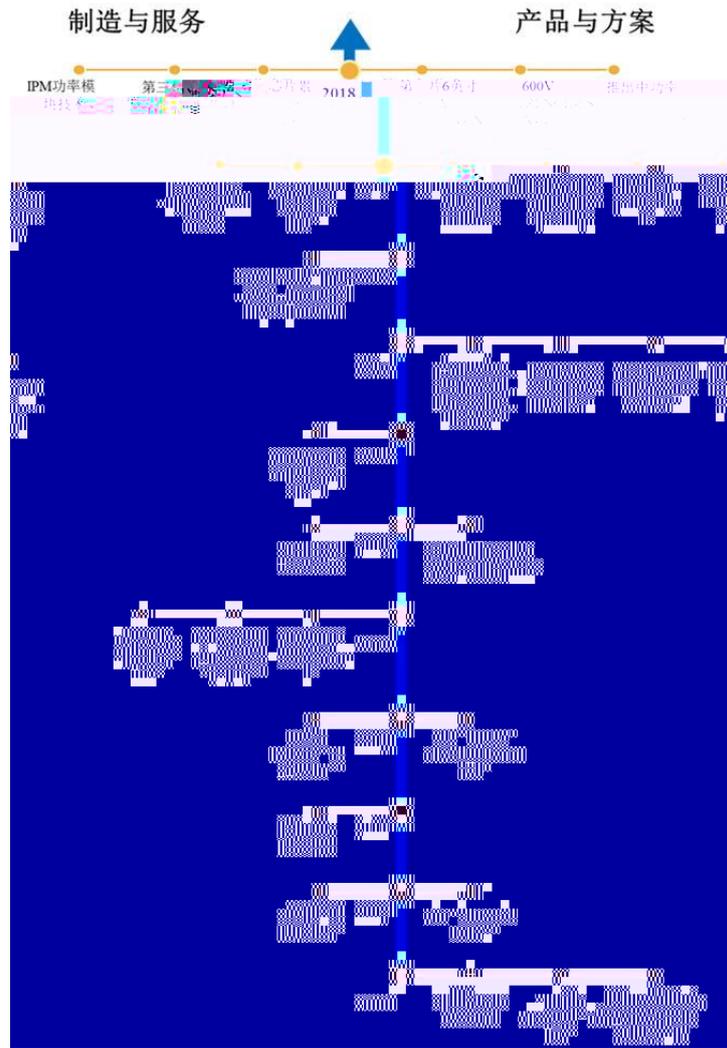
MCU		MCU	PC	MCU		
MCU		MCU		MCU		
MCU	8	16	32	CPU		

2.

7

	2019	1-6	2018		2017		2016	
	105,984.39	71.29%	267,427.00	74.87%	256,329.27	72.83%	218,777.02	72.17%
	36,930.19	24.84%	78,568.04	22.00%	82,011.16	23.30%	72,936.51	24.06%
	5,757.47	3.87%	11,195.78	3.13%	13,635.27	3.87%		

			2018
--	--	--	------



MPSInternational,Ltd

DiodesIncorporated

10 2018

1	DiodesIncorporated	15,941.15	2.54%
2	MPSInternational,Ltd	14,621.37	2.33%
3		13,907.58	2.22%
4			

13

	TCL
	TTi

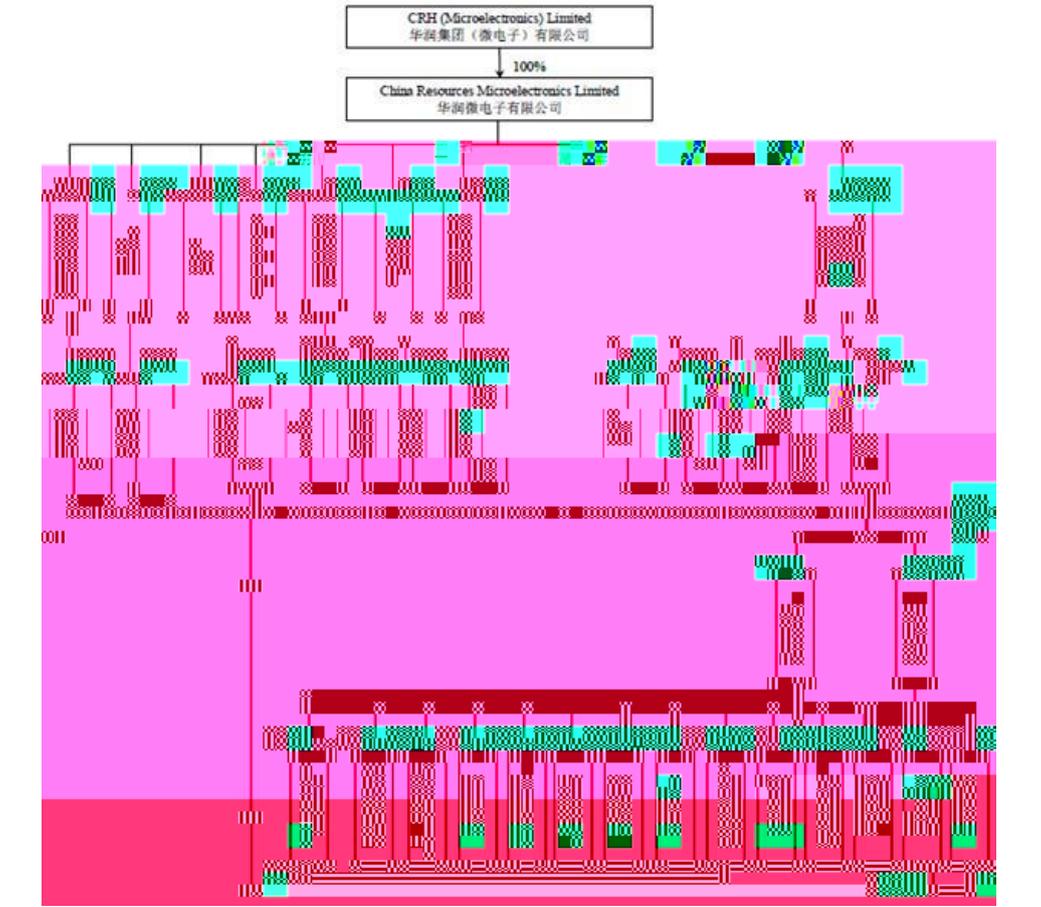
2004
2018
IDM

14 2018

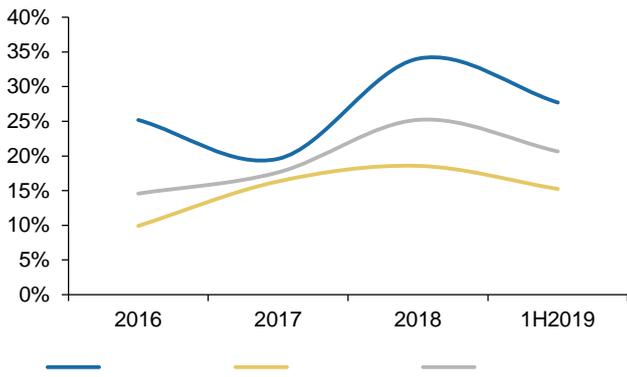
		2018	
1		509	
2		248	
3		239	
4		225	
5		111	
6	()	107	
7		92	
8		66	
9		65	
10		63	IDM

15 2018

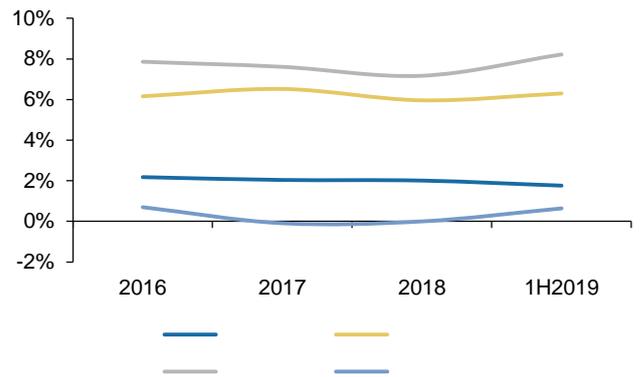
		2018
1		21.7
2		18.5
3		17.1
4		8.1
5		7.7
6		7.2
7		6.9
8		



4



5

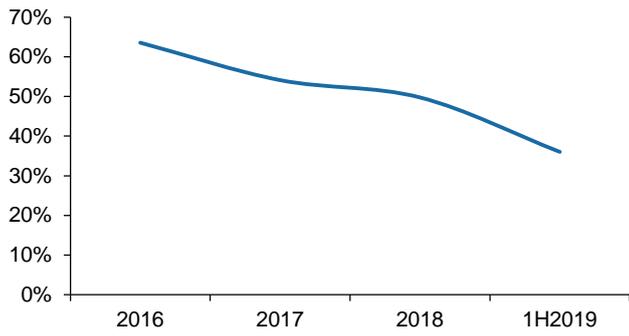


- 2016~18 2019 6~8%
- 2016 2018 2018 2019 2% 2018 42944
- 2016 2018 2018 2019 -30270 511% 16435

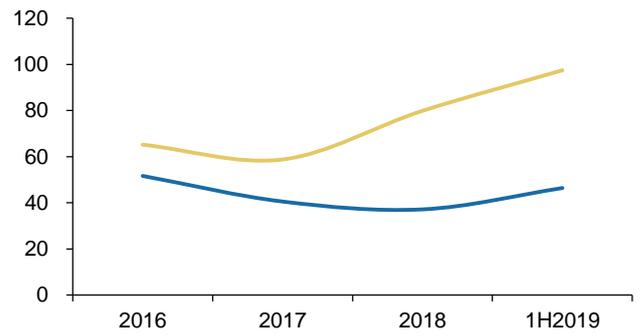
7

- 2019 6 30 36.03%
- 2016 2018

8

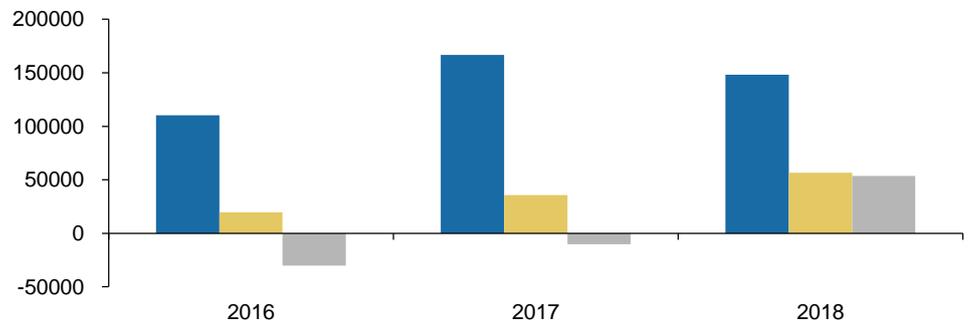


9



2016~2018	110342	166746
148244		
19695	35860	56712

10



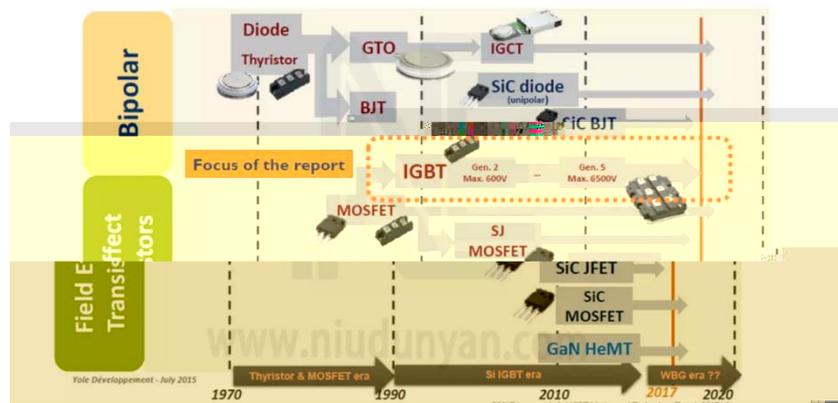
/

PN 1940 1958 1960 1970 1980

GE 20 60

MOS

11



Yole

IC
MOSFET IGBT

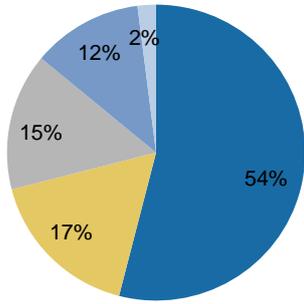
IC

IC

IHSMarkit
2018

IC MOSFET IGBT
60.98% 20.21% 13.92%

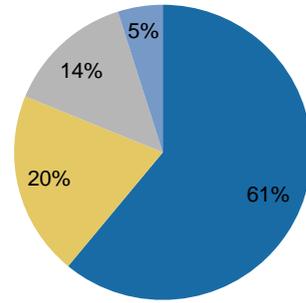
12 2017



■ IC ■ MOSFET ■ / ■ IGBT ■

Yole IHS Gartner

13 2018



■ ■ ■ ■

IHS Markit

1 IC

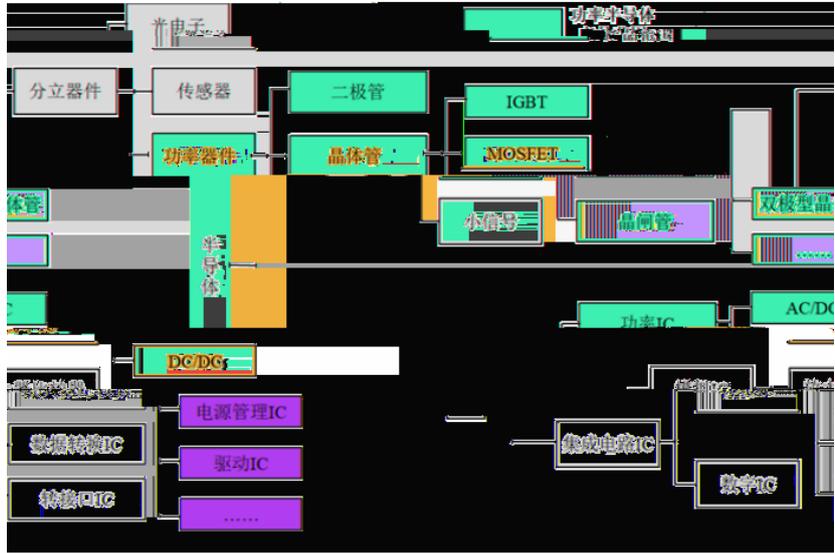
IC
IC
IC
IC
IHSMarkit 2018 2.88%
IC 84.3 2016-2018
GaN SiC

2 MOSFET

MOSFET
MOSFET
IHS MOSFET
40%

3 IGBT

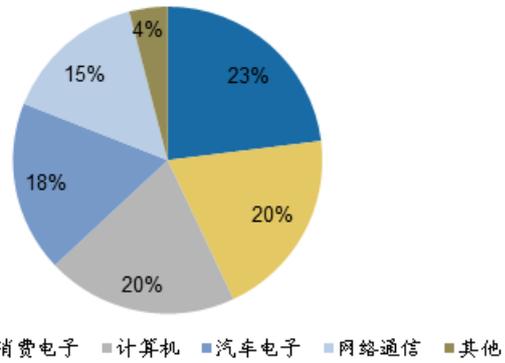
IGBT
IGBT
IGBT
BJT MOSFET



IHS

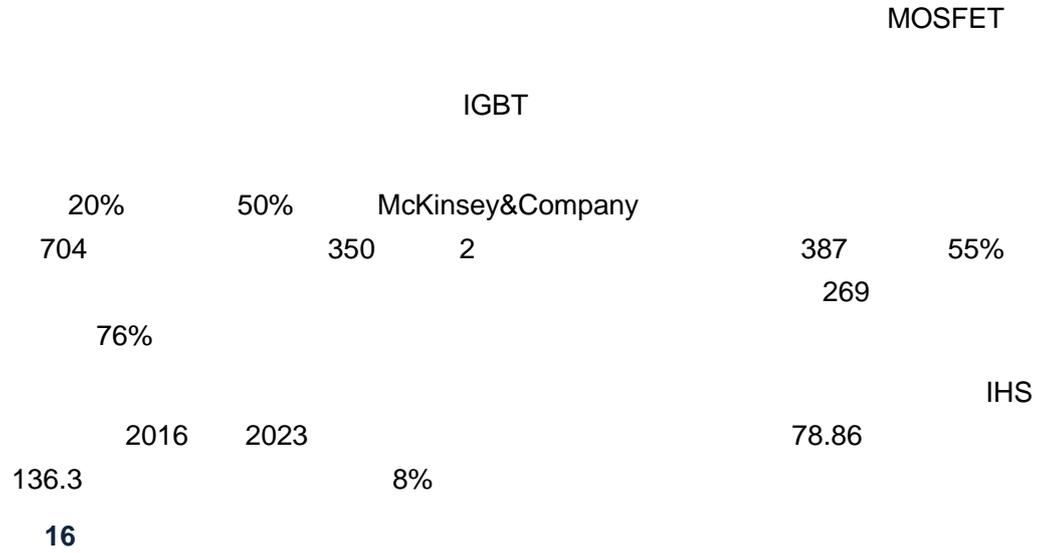


15 2017

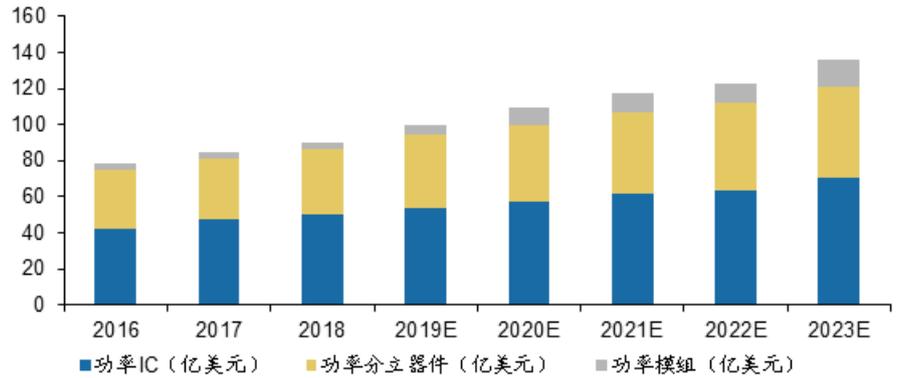


IHS Markit

1

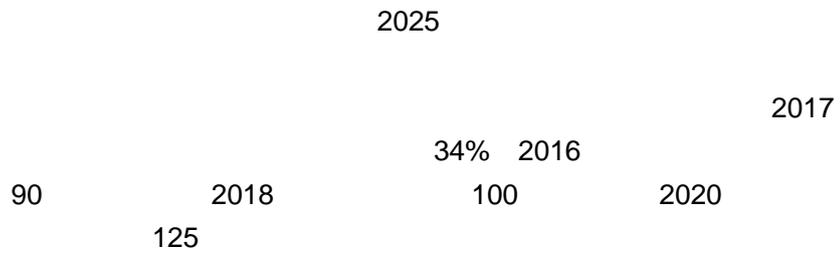


16



IHS

2



3

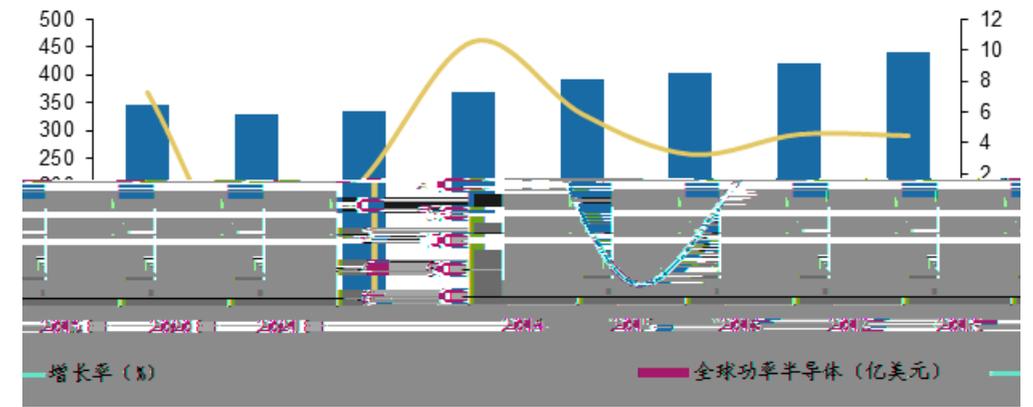
IHS 2017 7.11
 2.44 34% 2022 5.85
 65% Infineon 0.7 9.5
 9.5
 2022 2017 26.45 57.79
 2017 2022 16.9%

4 5G

5G
 5G 5G 4G 3
 5G PA 5G
 MOSFET IC 5G MassiveMIMO
 2017 57.45 2021 70.81
 3.38% 7.35%

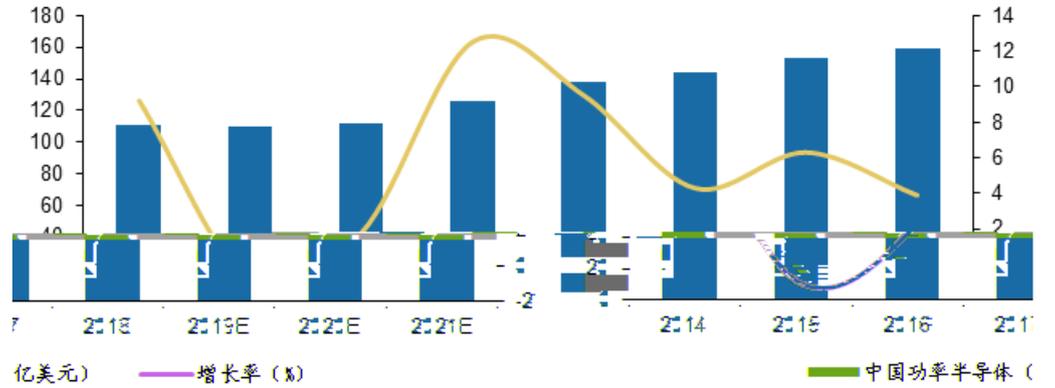
IHSMarket 2018 391
 2021 441 4.1%
 2018 138 9.5%
 35% 159 4.8% 2021

17 2014-2021



IHS

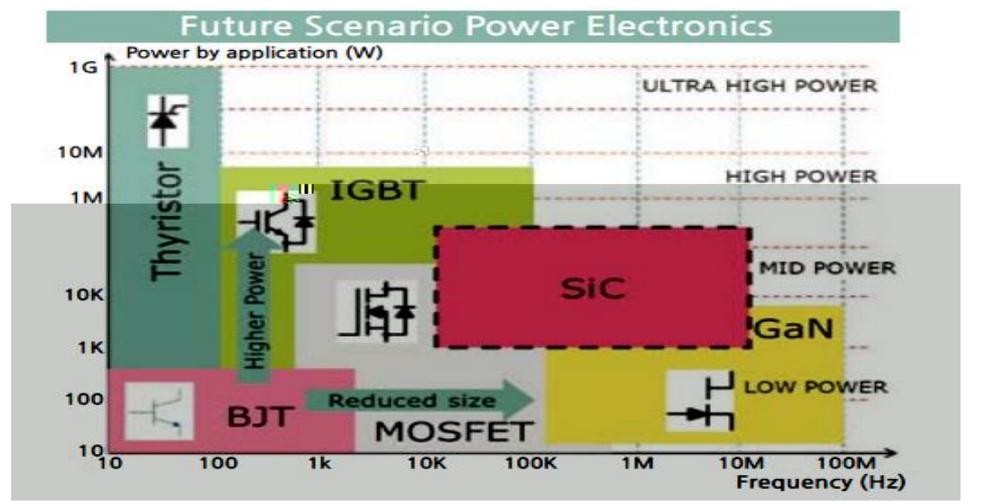
18 2014-2021



IHS

IGBT
MOSFET
SiC GaN

19



- 1.1eV
- 1.4
-

SiC GaN
5G

16

eV	K
1.1	1221
0.7	1678
1.4	1511
3.05	2826
3.4	1973
6.2	2470
5.5	3800
3.37	2248

SiC

SiC

SiC

SiC

16.4

ROHM

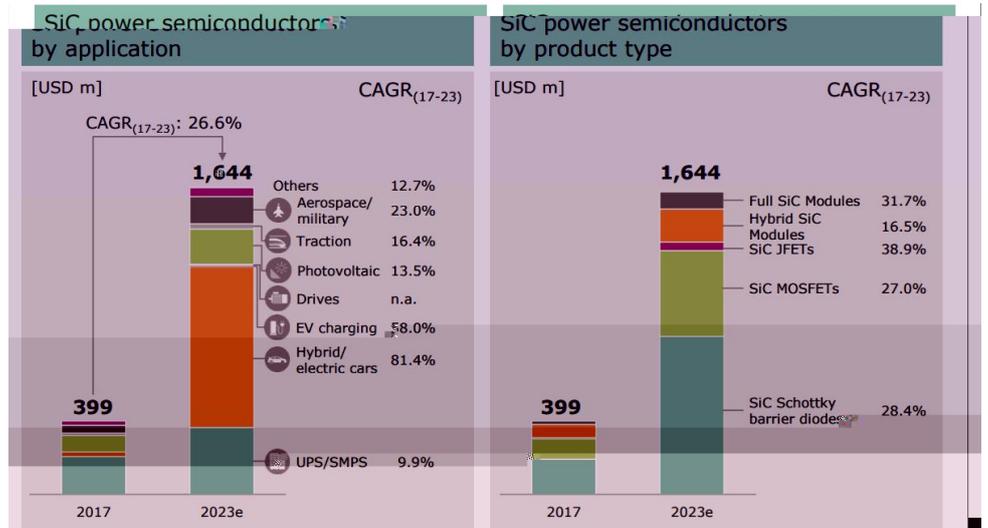
PFC /
Cree SDK
IHS

PV

UPS

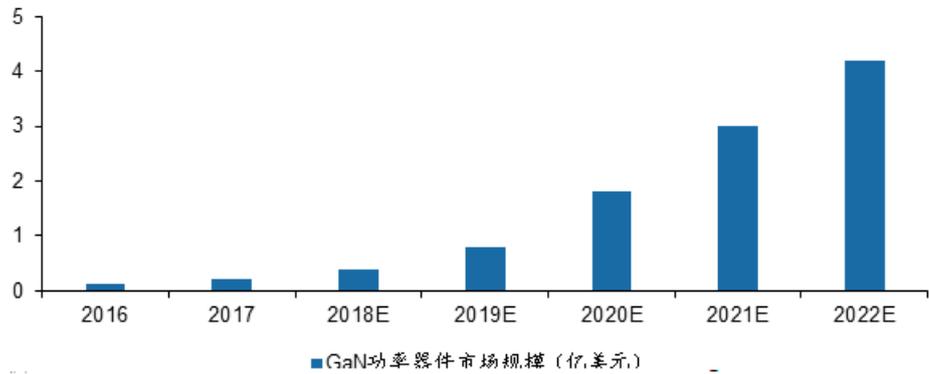
Infineon
2023

20 SiC

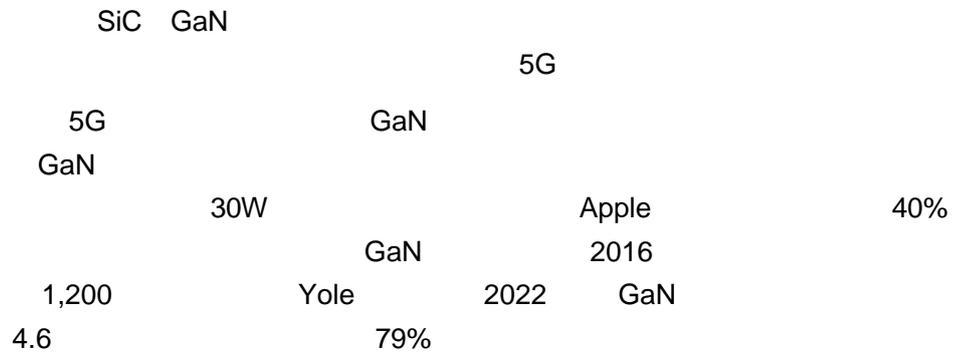


IHS

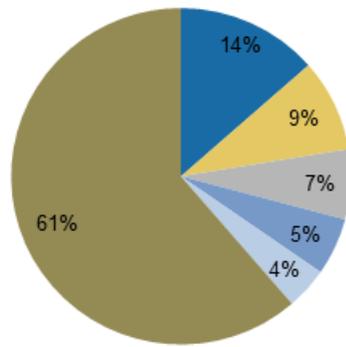
21 GaN



Yole



IHS 2018 39%
14%
22 2018

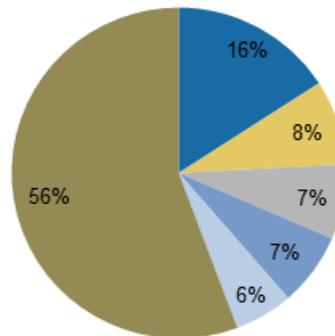


■ 英飞凌 ■ 德州仪器 ■ 安森美 ■ 意法半导体 ■ 高通 ■ 其他

IHS

IC

IHS 2018
IC 44% ADI 16%
23 2018 IC



■ 德州仪器 ■ 英飞凌 ■ 高通 ■ ADI ■ 意法半导体 ■ 其他

IHS

MOSFET

iHS

62%

27%

24 2018

MOSFET

IHS

IGBT

IHS

2018

IGBT

67%

34%

600 1700V

650V

400V

2018 IHS 138 2018
391 35% Dialog
42% 14%
26 2018

17

	MOS	1				FOM		MOS	,	MOSFET
			2		3					
MOSFET	VDMOS	1				FOM	2	VDMOS		
				UIS	3	EMI				
	MOS	1			2			MOS		
					FOM	3				
IGBT	IGBT	1	Trench-FS				2	IGBT		
					3					
	SBD	1	8	Trench	2	45V-150V		SBD		SBD
			3							
FRD		1			2			FRD		
			3					FRD		
	IC	1				WPC	QI	2		
						EMI	3			
IC	IC		2-7		5-8		10			IC
	LED	IC	1		700V	2		3		LED
										IC
			1		2		3			M-BUS

								2016	2018
								34,558.55	44,742.09
								44,976.10	
								7.86%	7.61%
								7.17%	
								2019	6
								30	7,937
									36.93%

2 2019 6 30 4

8

1 1 3 1 1 1

2

18



GaN

GaN

GaN

8

300000

19

1	8	150,000	50%
2		60,000	20%
3		30,000	10%
4		60,000	20%
		300,000	100%

1 8

8 BCD

8 MEMS

BCD MEMS 16,000

2

IC

MEMS

3

4

2019-2021

60,000.00

72,555.35

IDM

IC

20

	2016	2017	2018	2019	2020	2021
YTD	2,188	2,763	2,674	2,847	3,024	3,213
4Q	300	575	663	417	501	598
IF	9.9%	16.3%	18.6%	14.6%	16.6%	18.6%
YTD	3,032	3,520	3,572	2,847	3,024	3,213
4Q	300	575	663	417	501	598
IF	9.9%	16.3%	18.6%	14.6%	16.6%	18.6%
YTD	2,188	2,763	2,674	2,847	3,024	3,213
4Q	300	575	663	417	501	598
IF	9.9%	16.3%	18.6%	14.6%	16.6%	18.6%

2019

Q4

2020 5G

IDM

2019/20/21

28.47/30.24/32.13

-20.3%/6.2%/6.3%

14.6%/16.6%/18.6%

2019

IDM

2016 2018

IHS Markit 2018

12	31	2017A	2018A	2019E	2020E	2021E
		4,598	5,106	5,191	10,140	11,579
		1,219	1,538	1,916	6,155	6,724
		1,322	1,177	1,160	1,428	1,752
		900	1,181	1,010	1,200	1,443
		1,157	1,211	1,105	1,357	1,660
		5,149	4,886	4,881	5,006	4,960
		0	0	0	0	0
		4,226	3,898	3,921	3,975	3,960
		397	351	301	351	301
		268	294	317	338	357
		257	343	343	343	343
		9,747	9,992	10,072	15,146	16,539
		2,409	4,654	4,606	4,994	5,488
		0	0	0	0	0
		1,012	916	906	1,081	1,304
		1,397	3,737	3,701	3,913	4,184
		2,867	318	318	318	318
		0	0	0	0	0
		0	0	0	0	0
		2,867	318	318	318	318
		5,276	4,972	4,925	5,312	5,806
		830	830	879	1,216	1,216
		6,022	6,021	5,972	9,709	9,709
		-3,479	-3,049	-2,675	-2,163	-1,363
		3,832	4,148	4,175	8,762	9,562
		638	872	972	1,072	1,172
		9,747	9,992	10,072	15,146	16,539

12	31	2017A	2018A	2019E	2020E	2021E
		5,876	6,271	5,814	7,172	8,808
		4,840	4,690	4,550	5,406	6,503
		79	85	78	97	119
		120	126	116	158	194
		383	374	320	466	573
		447	450	407	574	705
		-5	0	-43	-61	-97
		145	72	66	110	123
		0	0	0	0	0
		-34	11	0	0	0
		-46	586	521	672	989
		-13	5	0	0	0
		-59	591	521	672	989
		44	53	47	60	89
		-103	538	474	612	900
		-173	108	100	100	100
		70	429	374	512	800
EBITDA		1,379	1,500	1,348	1,547	1,860
EPS		0.08	0.52	0.43	0.42	0.66

12	31	2017A	2018A	2019E	2020E	2021E
		1,667	1,482	1,725	1,365	1,669
		-103	538	474	612	900
		1,372	953	1,005	1,075	1,146
		196	-95	181	-432	-499
		202	87	66	110	123
		-605	-575	-1,000	-1,200	-1,100
		-570	-533	-1,000	-1,200	-1,100
		0	0	0	0	0
		-35	-42	0	0	0
		-267	-627	-347	4,074	0
		0	-253	0	0	0
		0	85	0	4,074	0
		-267	-459	-347	0	0
		795	281	378	4,240	569
		434	1,200	1,538	1,916	6,155
		1,200	1,517	1,916	6,155	6,724

12	31	2017A	2018A	2019E	2020E	2021E
		33.6%	6.7%	-7.3%	23.3%	22.8%
		87.6%	137.6%	-11.1%	29.2%	47.0%
		123.2%	511.0%	-12.9%	37.0%	56.2%

12	31	2017A	2018A	2019E	2020E	2021E
		17.6%	25.2%	21.7%	24.6%	26.2%
		-1.7%	8.6%	8.2%	8.5%	10.2%
ROE		1.8%	10.4%	9.0%	5.8%	8.4%
ROIC		0.3%	8.4%	5.5%	7.0%	10.1%

12	31	2017A	2018A	2019E	2020E	2021E
		54.1%	49.8%	48.9%	35.1%	35.1%
		2.6%	24.5%	24.3%	16.2%	14.8%
		1.91	1.10	1.13	2.03	2.11
		1.51	0.83	0.89	1.77	1.83
		0.68	0.64	0.58	0.57	0.56
		4.89	5.32	5.32	5.32	5.32
		6.12	4.51	4.51	4.51	4.51
		0.08	0.52	0.43	0.42	0.66
		2.01	1.79	1.96	1.12	1.37
		4.62	5.00	4.75	7.21	7.86

P/E						
P/B						
EV/EBITDA						

