

# 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

IDM

IDM

2018

IDM

IDM

3 6 1 8

1 8

IDM

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



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021-60750632

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	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

MOSFET

2020      IPO      EPS    0.42

/      70~90    PE

29.40~37.80

1      IDM

2

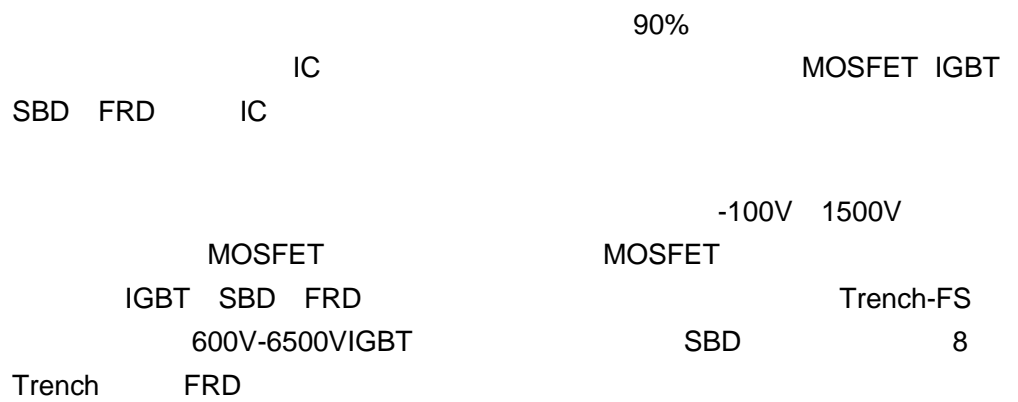
3

IDM+

2

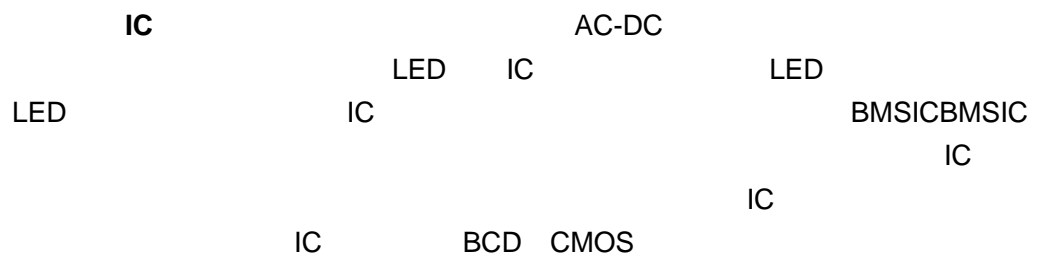
	2019	1-6	2018		2017		2016	
	102,793.73	90.16%	241,885.78	90.14%	206,857.89	88.44%	108,118.07	81.19%
	6,193.05	5.43%	13,764.40	5.13%	9,694.05	4.14%	8,535.64	6.41%
	4,190.38	3.68%	9,937.33	3.70%	12,750.40	5.45%	11,638.61	8.74%
IC	829.34	0.73%	2,761.23	1.03%	4,603.45	1.97%	4,880.93	3.67%
	114,006.51	100.00%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

1



3

MOSFET	MOS	MOS	MOS	MOS	-100V-1500V
IGBT	600V-1200V				
SBD	45V-150V		SBD	SBD	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

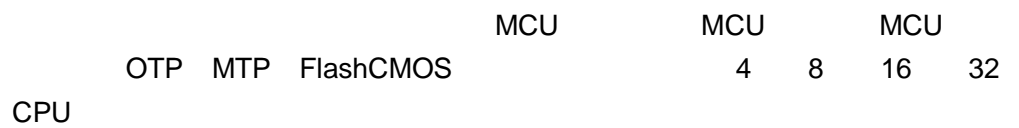
**2**



**5**

MEMS		

**3**



6

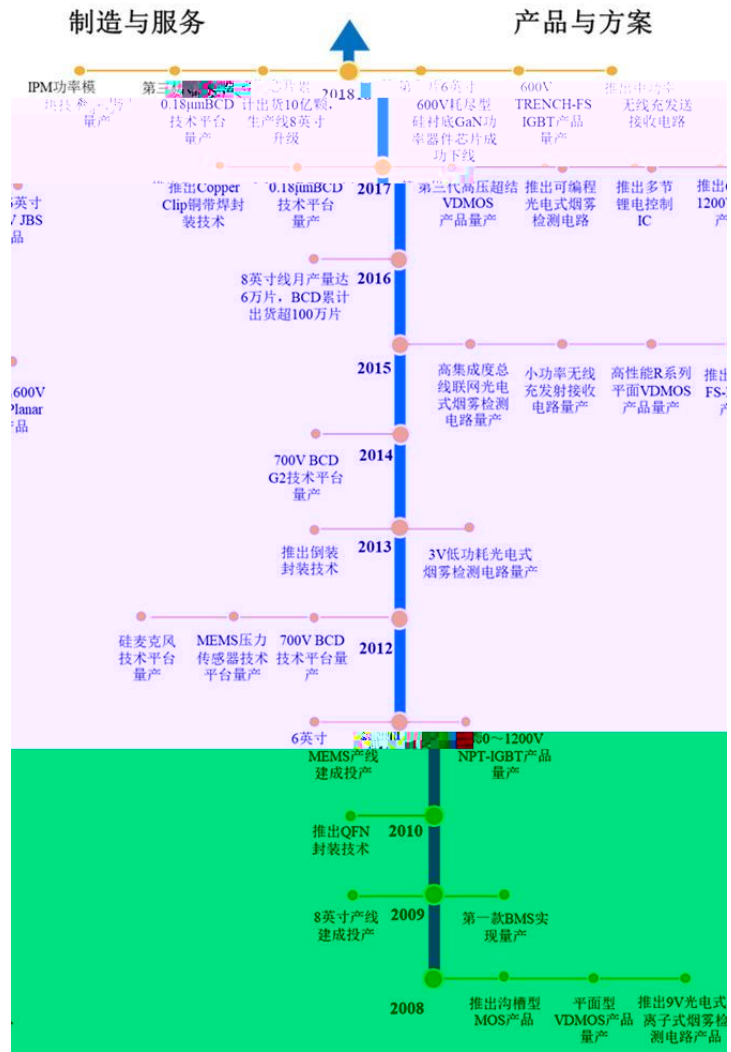
MCU		MCU	PC	MCU		
MCU		MCU		MCU		
MCU	8	16	32	CPU		

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
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Diodes Incorporated

MPS International, Ltd

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

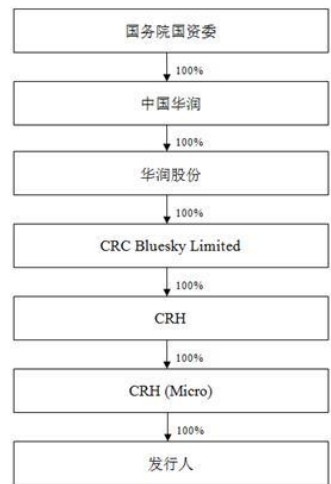
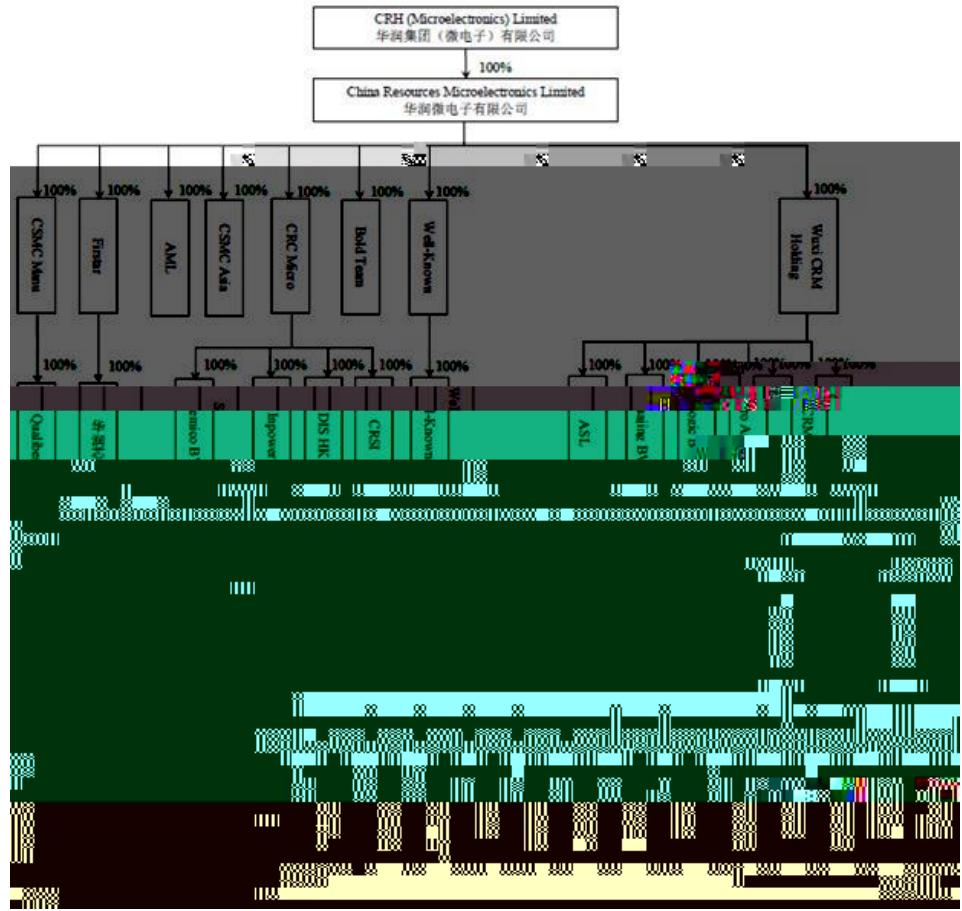
2004  
2018  
IDM

14 2018

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

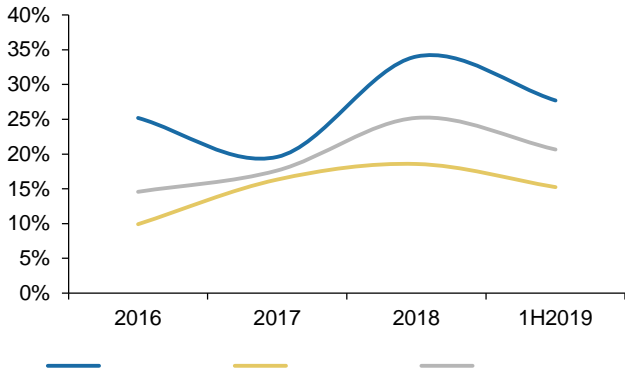
15 2018

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

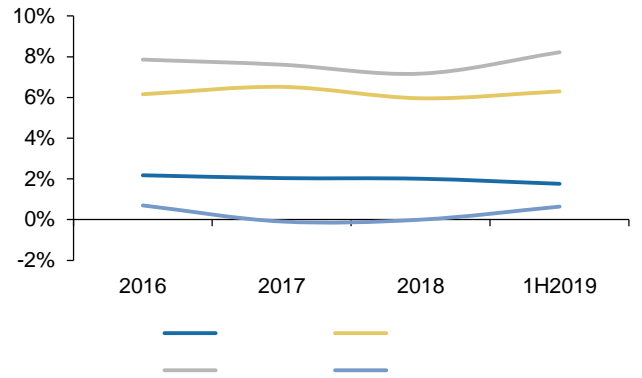




4

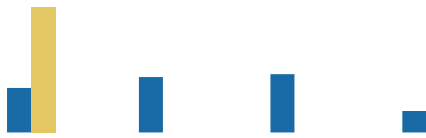


5



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

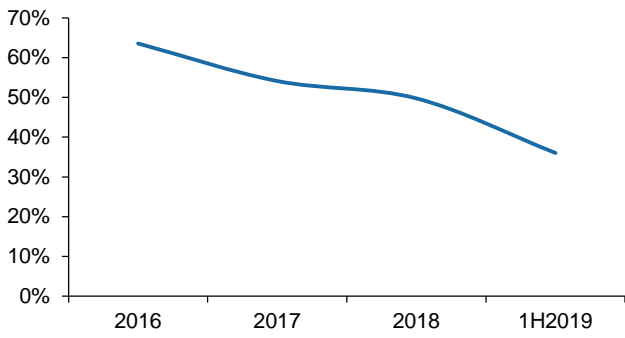
6



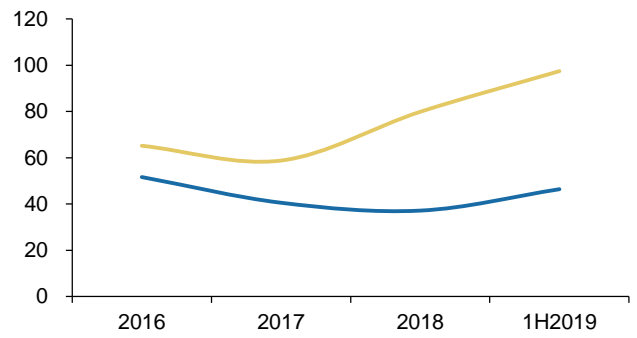
7

- 2019 6 30 36.03%
- 2016 2018

8



9

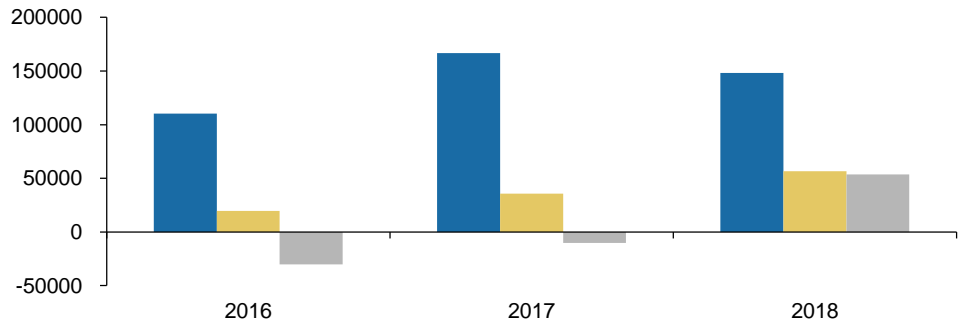


2016~2018  
148244

110342      166746

19695      35860      56712

10

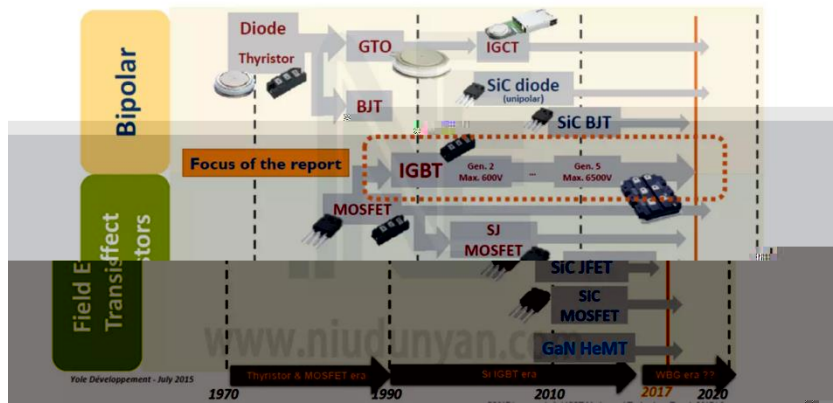


/

1940 1958 1960 1970 1980

PN GE MOS

11



Yole

IC  
MOSFET IGBT

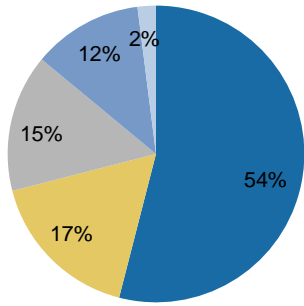
IC

IC

IHSMarkit  
2018

IC MOSFET IGBT  
60.98% 20.21% 13.92%

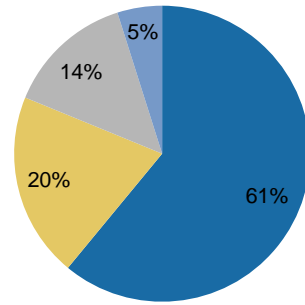
**12 2017**



■ IC ■ MOSFET ■ / ■ IGBT ■

Yole IHS Gartner

**13 2018**



■ ■ ■ ■

IHS Markit

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

**2 MOSFET**

MOSFET

MOSFET

IHS

MOSFET

40%

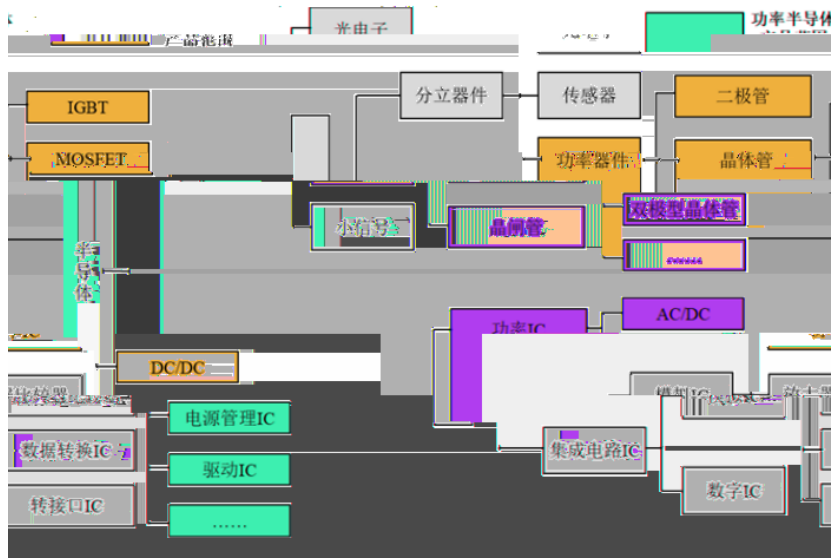
**3 IGBT**

IGBT

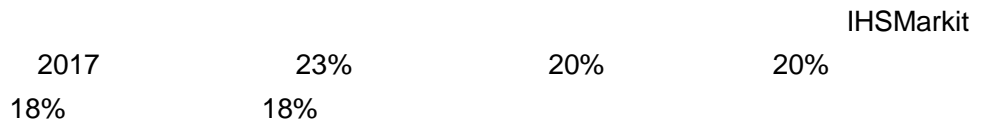
IGBT

IGBT

BJT MOSFET

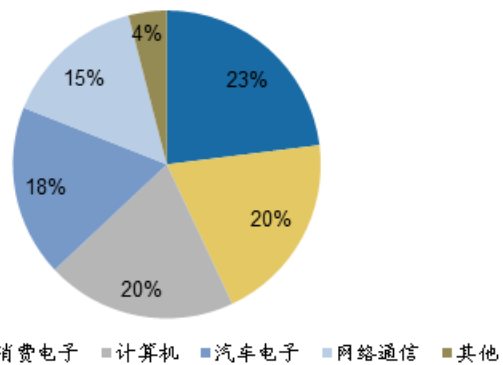


IHS



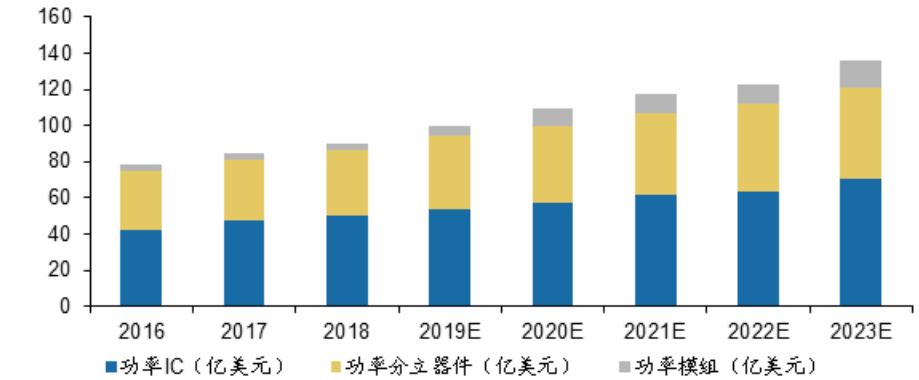
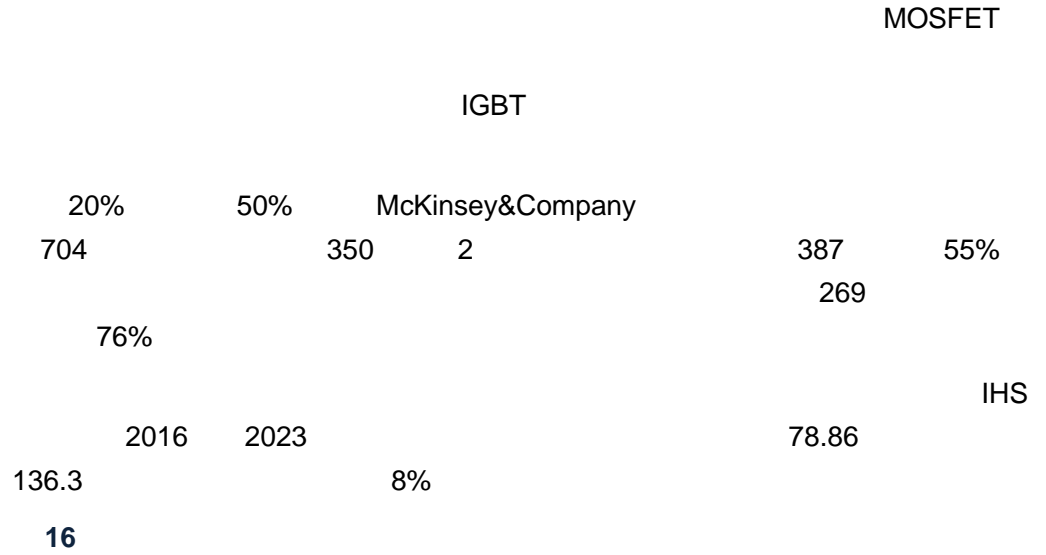
IHSMarkit

15 2017



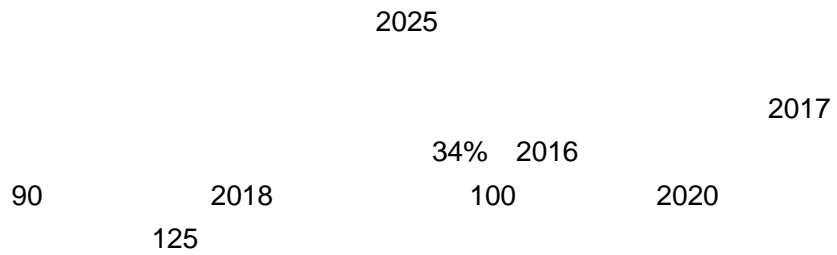
IHS Markit

1



IHS

2



3

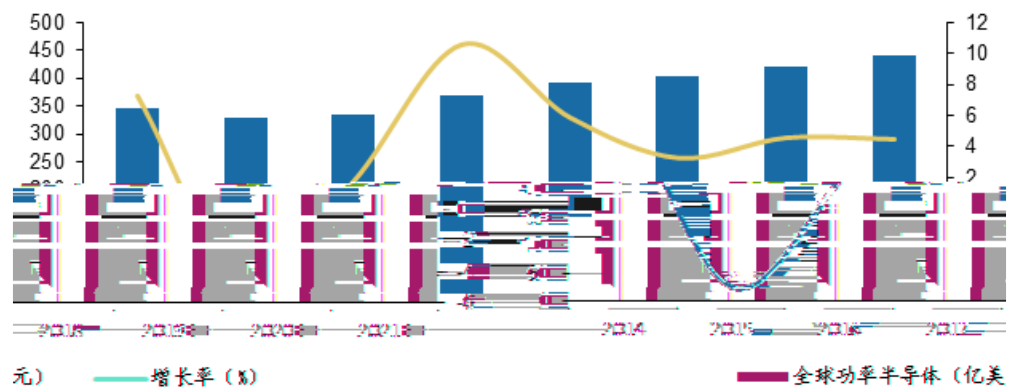
	IHS	2017	7.11
	2.44	34%	2022
65%	Infineon		5.85
		9.5	0.7
2022		2017	26.45
2017	2022	16.9%	57.79

4 5G

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

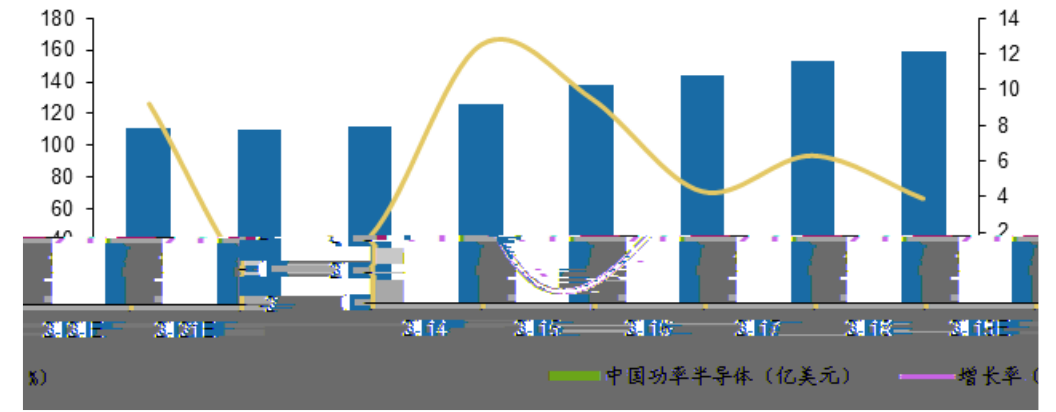
	IHSMarket	2018	391
2021		441	4.1%
		2018	138
	35%		9.5%
	159		2021
		4.8%	

17 2014-2021



IHS

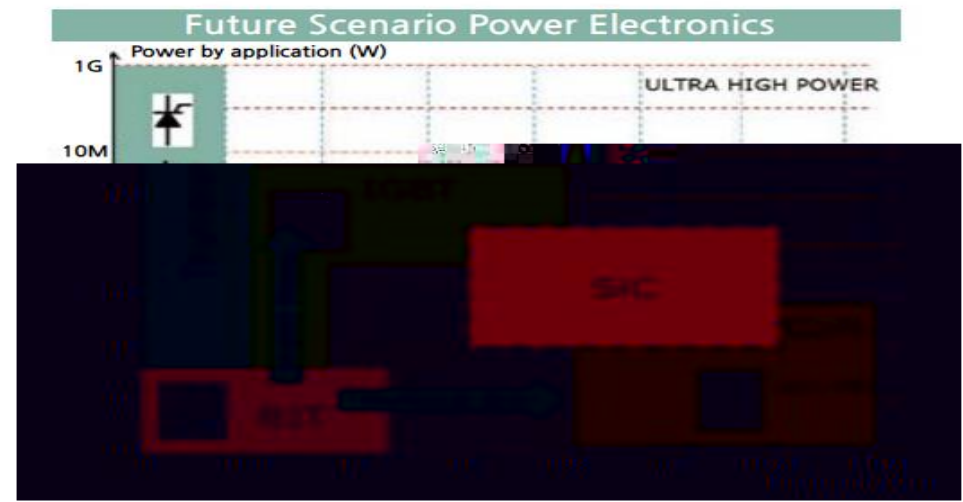
18 2014-2021



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 ROHM Cree SDK PFC / IHS PV UPS Infineon  
2023

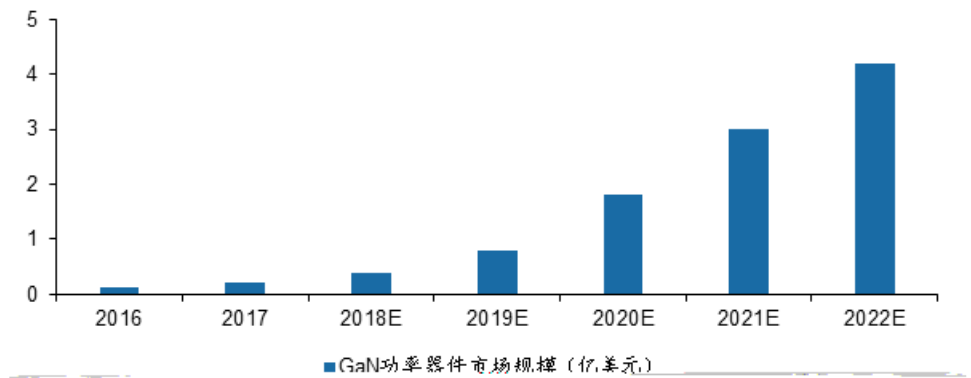
16.4

## 20 SiC

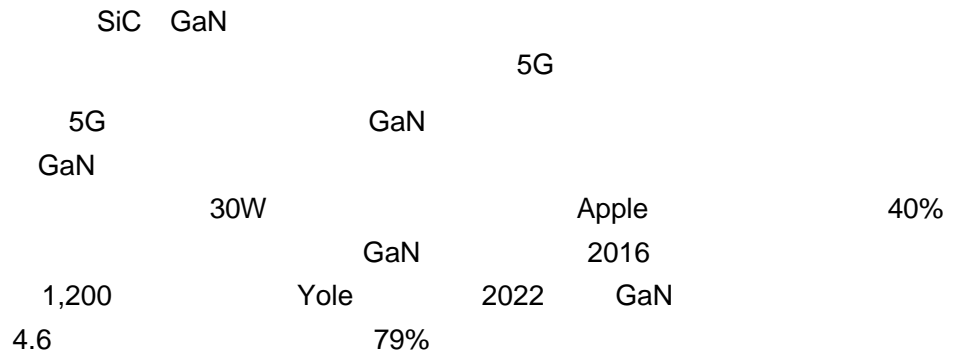


IHS

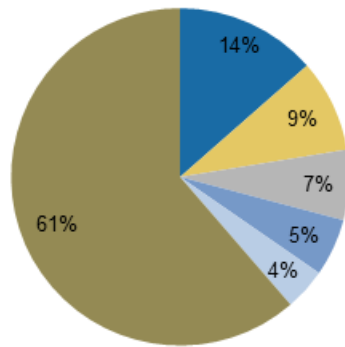
## 21 GaN



Yole



IHS 2018 39%  
14%  
22 2018

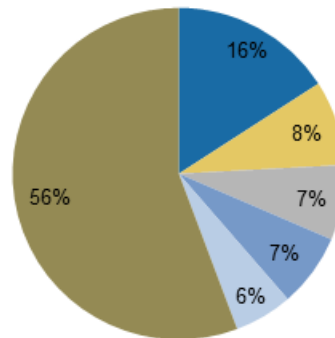


■ 英飞凌 ■ 德州仪器 ■ 安森美 ■ 意法半导体 ■ 高通 ■ 其他

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

1

1

3

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



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

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2016 2018

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IHS Markit 2018

12	31	2017A	2018A	2019E	2020E	2021E
		<b>4,598</b>	<b>5,106</b>	<b>5,191</b>	<b>10,140</b>	<b>11,579</b>
		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
		<b>5,149</b>	<b>4,886</b>	<b>4,881</b>	<b>5,006</b>	<b>4,960</b>
		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
		<b>9,747</b>	<b>9,992</b>	<b>10,072</b>	<b>15,146</b>	<b>16,539</b>
		<b>2,409</b>	<b>4,654</b>	<b>4,606</b>	<b>4,994</b>	<b>5,488</b>
		0	0	0	0	0
		1,012	916	906	1,081	1,304
		1,397	3,737	3,701	3,913	4,184
		<b>2,867</b>	<b>318</b>	<b>318</b>	<b>318</b>	<b>318</b>
		0	0	0	0	0
		0	0	0	0	0
		2,867	318	318	318	318
		<b>5,276</b>	<b>4,972</b>	<b>4,925</b>	<b>5,312</b>	<b>5,806</b>
		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
		<b>9,747</b>	<b>9,992</b>	<b>10,072</b>	<b>15,146</b>	<b>16,539</b>

12	31	2017A	2018A	2019E	2020E	2021E
		<b>5,876</b>	<b>6,271</b>	<b>5,814</b>	<b>7,172</b>	<b>8,808</b>
		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
		<b>-46</b>	<b>586</b>	<b>521</b>	<b>672</b>	<b>989</b>
		-13	5	0	0	0
		<b>-59</b>	<b>591</b>	<b>521</b>	<b>672</b>	<b>989</b>
		44	53	47	60	89
		<b>-103</b>	<b>538</b>	<b>474</b>	<b>612</b>	<b>900</b>
		-173	108	100	100	100
		<b>70</b>	<b>429</b>	<b>374</b>	<b>512</b>	<b>800</b>
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
		<b>1,667</b>	<b>1,482</b>	<b>1,725</b>	<b>1,365</b>	<b>1,669</b>
		-103	538	474	612	900
		1,372	953	1,005	1,075	1,146
		196	-95	181	-432	-499
		202	87	66	110	123
		<b>-605</b>	<b>-575</b>	<b>-1,000</b>	<b>-1,200</b>	<b>-1,100</b>
		-570	-533	-1,000	-1,200	-1,100
		0	0	0	0	0
		-35	-42	0	0	0
		<b>-267</b>	<b>-627</b>	<b>-347</b>	<b>4,074</b>	<b>0</b>
		0	-253	0	0	0
		0	85	0	4,074	0
		-267	-459	-347	0	0
		<b>795</b>	<b>281</b>	<b>378</b>	<b>4,240</b>	<b>569</b>
		<b>434</b>	<b>1,200</b>	<b>1,538</b>	<b>1,916</b>	<b>6,155</b>
		<b>1,200</b>	<b>1,517</b>	<b>1,916</b>	<b>6,155</b>	<b>6,724</b>

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						

