

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

1	2008-2018	11	
2		15	
3		15	
4		17	
5		17	
6		17	
7		17	
8		18	
9		18	
10		18	
11		19	
12	2017	20	
13	2018	20	
14		21	
15	2017	21	
16		22	
17	2014-2021	23	
18	2014-2021	24	
19		24	
20	SiC	26	
21	GaN	26	
22	2018	27	
23	2018	IC	27
24	2018	MOSFET	28
25	2018	IGBT	28
26	2018		29

1		6
2		7
3		7
4	IC	8
5		8
6		9
7		9
8		10
9		10
10	2018	12
11	2018	12

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+

“ ” 2003

IDM

2016 30.52% 2018

42.90%

2018 12 31

7956

8.1%

IDM

1

	2019	1-6	2018		2017		2016	
	114,006.51	43.40%	268,348.74	42.90%	233,905.79	39.92%	133,173.25	30.52%
	102,793.73	39.13%	241,885.78	38.67%	206,857.89	35.31%	108,118.07	24.78%
	6,193.05	2.36%	13,764.40	2.20%	9,694.05	1.65%	8,535.64	1.96%
	4,190.38	1.60%	9,937.33	1.59%	12,750.40	2.18%	11,638.61	2.67%
IC	829.34	0.32%	2,761.23	0.44%	4,603.45	0.79%	4,880.93	1.12%
	148,672.05	56.60%	357,190.81	57.10%	351,975.70	60.08%	303,155.72	69.48%
	105,984.39	40.35%	267,427.00	42.75%	256,329.27	43.75%	218,777.02	50.14%
	36,930.19	14.06%	78,568.04	12.56%	82,011.16	14.00%	72,936.51	16.72%
	5,757.47	2.19%	11,195.78	1.79%	13,635.27	2.33%	11,442.19	2.62%
	262,678.55	100.00%	625,539.55	100.00%	585,881.49	100.00%	436,328.97	100.00%

1.

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

90%

IC MOSFET IGBT

SBD FRD IC

MOSFET MOSFET

IGBT SBD FRD Trench-FS

600V-6500VIGBT SBD 8

Trench FRD

-100V 1500V

3

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

IC AC-DC

LED IC LED

LED IC BMSICBMSIC

IC IC

IC BCD CMOS

4 IC

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

2

MEMS MEMS
MEMS
UL ESD

5

MEMS		

3

CPU CPU CPU
OTP MTP FlashCMOS MCU MCU MCU
4 8 16 32

6

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

2.

7

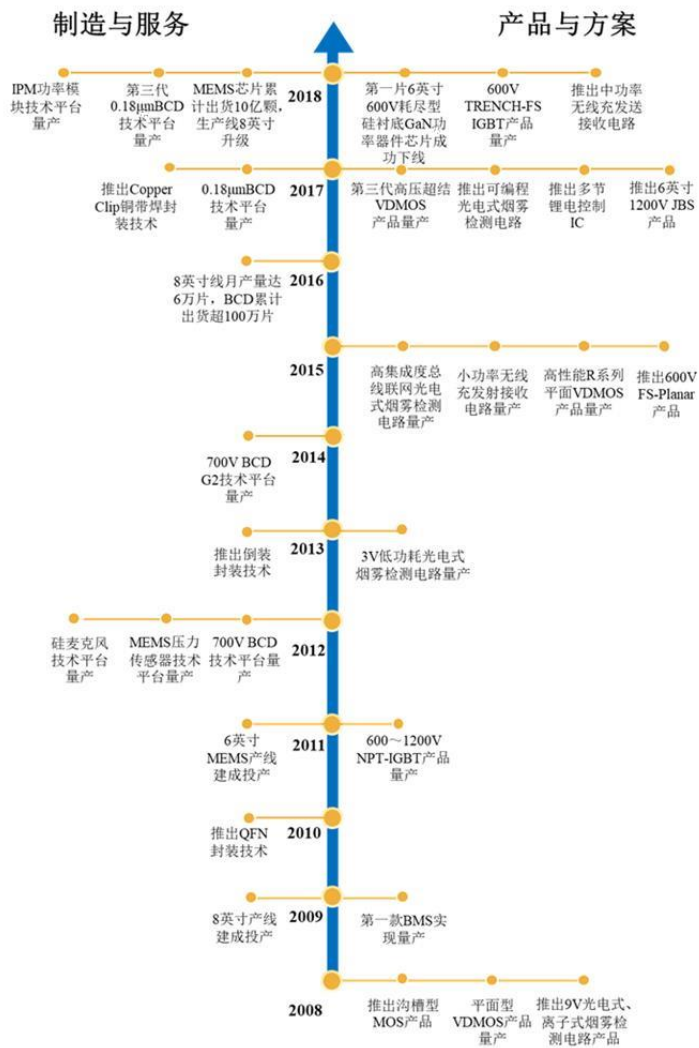
	2019	1-6	2018		2017		2016	
	105,984.39	71.29%	267,427.00	74.87%	256,329.27	72.83%	218,777.02	72.17%
	36,930.19	24.84%	78,568.04	22.00%	82,011.16	23.30%	72,936.51	24.06%
	5,757.47	3.87%	11,195.78	3.13%	13,635.27	3.87%	11,442.19	3.77%
	148,672.05	100.00%	357,190.81	100.00%	351,975.70	100.00%	303,155.72	100.00%

1 8 3 6
73 6 1 8
247 6 60
IC
62
50 m12 /
FC
PEPINNOVATION
2.4 2018
27%

8

			2018
	3 6	Analog BCD MEMS DMOS PowerDiscrete	247
	1 8	Advance BCD Analog DMOS	73
	1 8		

1 2008-2018



Diodes Incorporated

MPS International, Ltd

10 2018

1	DiodesIncorporated	15,941.15	2.54%
2	MPSInternational,Ltd	14,621.37	2.33%
3		13,907.58	2.22%
4		13,015.22	2.08%
5		12,119.04	1.93%
		69,604.36	11.10%

11 2018

1		12,111.62	4.51%
2		8,940.20	3.33%
3		8,649.37	3.22%
4		7,986.67	2.98%
5		7,638.38	2.85%
		45,326.24	16.89%

12 2018

1	MPSInternational,Ltd	14,546.07	4.07%
2		13,907.58	3.89%
3	DiodesIncorporated	13,141.05	3.68%
4		12,055.29	3.38%
5		11,858.04	3.32%
		65,508.03	18.34%

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		6
9		5.4
10		4.9

100%

CRH(Micro)

99.996%

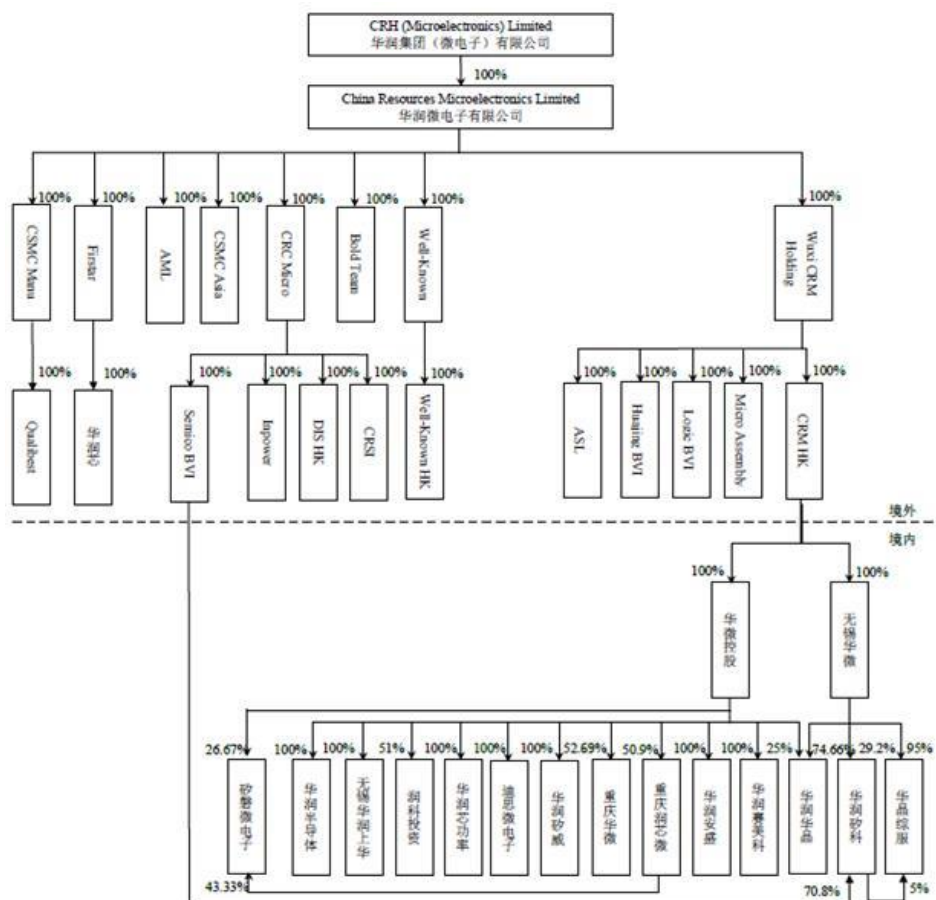
0.004% CRCBlueskyLimited

CRH99.99%

RiverlinkLimited

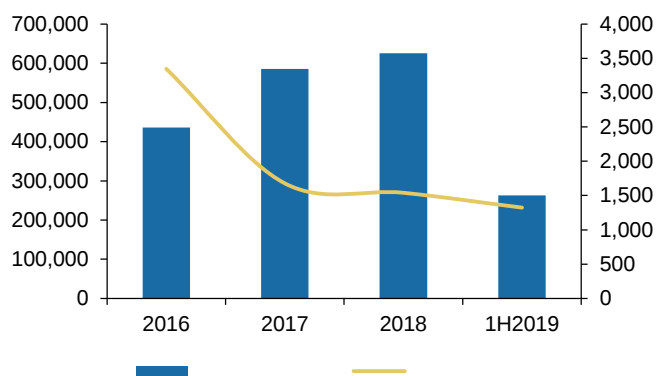
CRH0.01%

100%



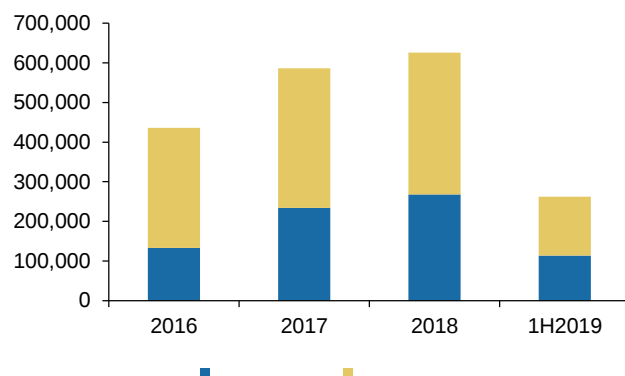
● 2016 2018 4.4 6.3
100% 2017
34.28% 2018 149,552.52
6.77% 39,658.06
2017

4



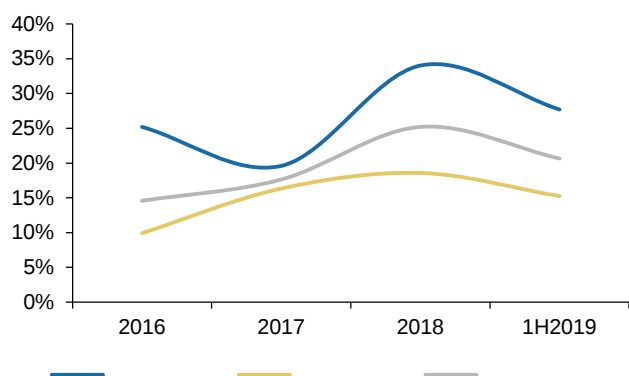
IHS

5

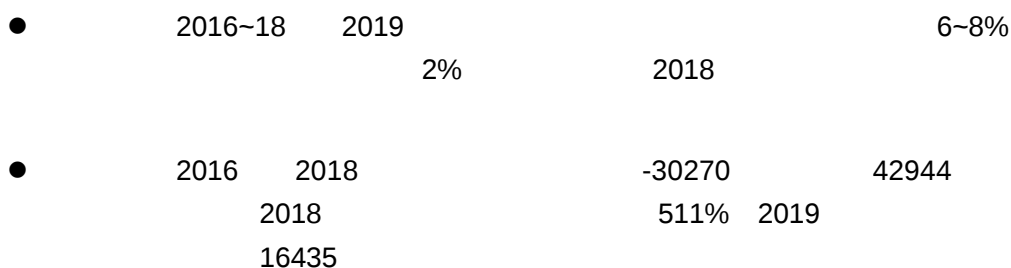
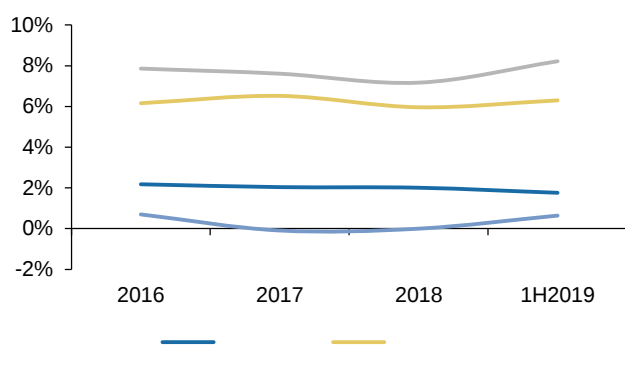


● 2016~18 2019 14.57%
17.63% 25.20% 20.65%
2016 5.60
2017
2018 16.33% 2016 9.91% 6.42%
18.57% 2017 2.24%

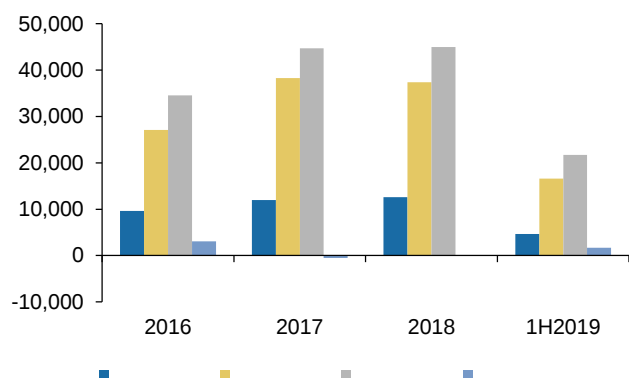
4



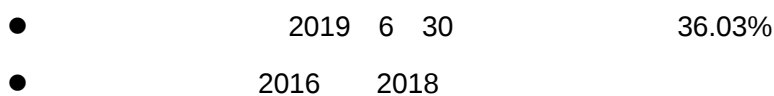
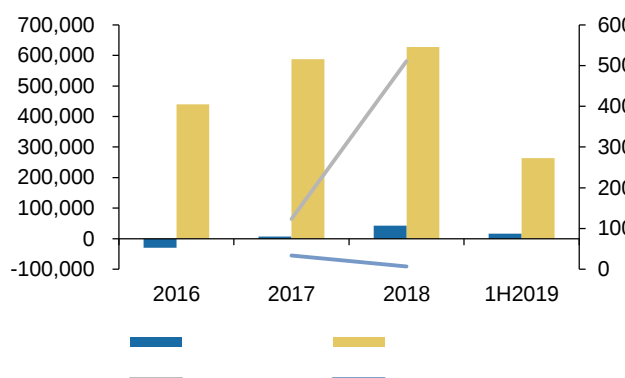
5



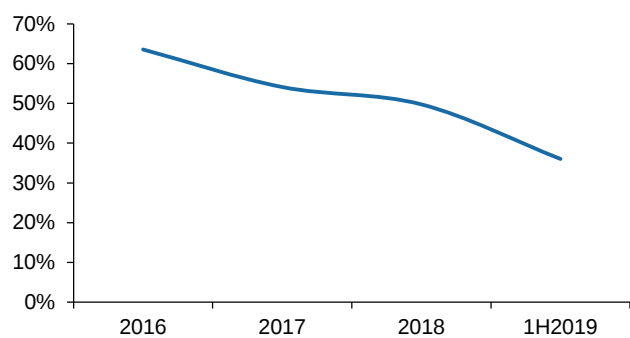
6



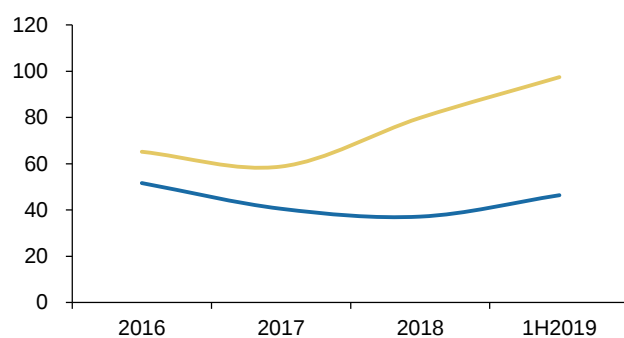
7



8

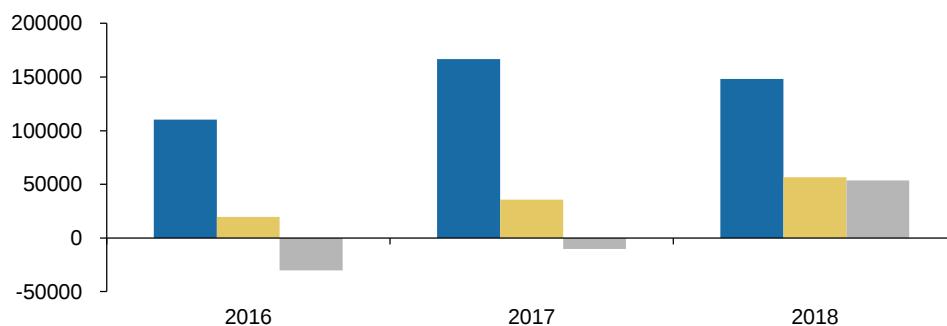


9



2016~2018	110342	166746
148244		
19695	35860	56712

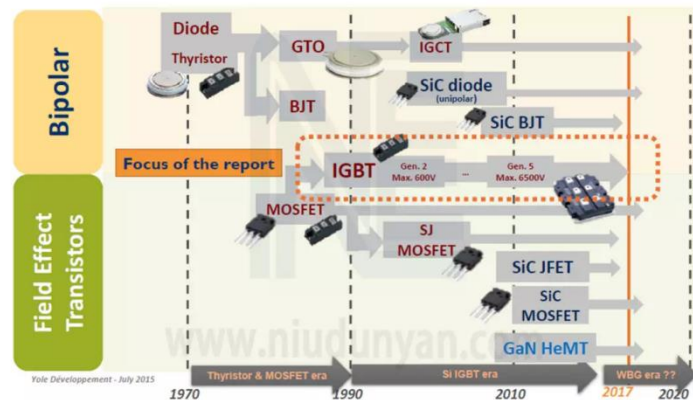
10



/

PN 1958 1940 GE 20 60 70
80 MOS

11



Yole

IC
MOSFET IGBT

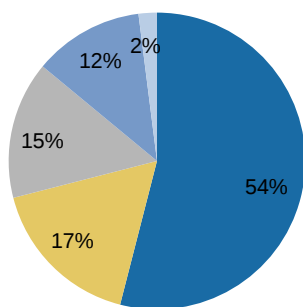
IC

IC

IHSMarkit
2018

IC MOSFET IGBT
60.98% 20.21% 13.92%

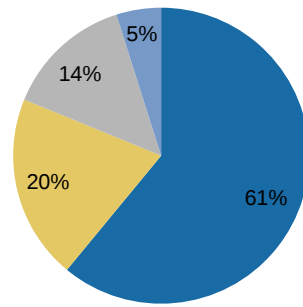
12 2017



■ IC ■ MOSFET ■ IGBT

Yole IHS Gartner

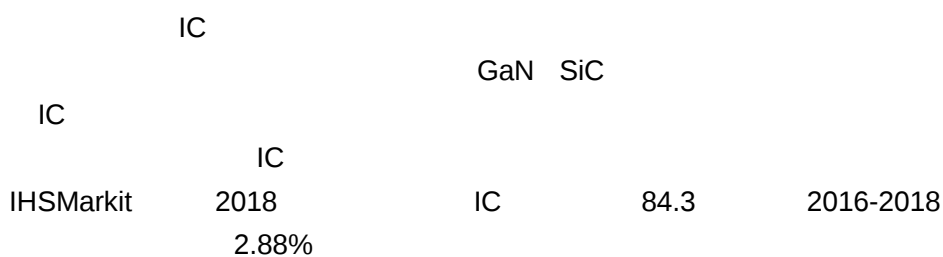
13 2018



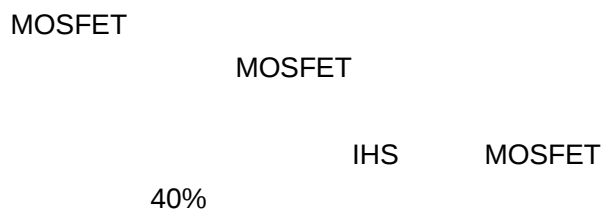
■ IC ■ MOSFET ■ IGBT

IHS Markit

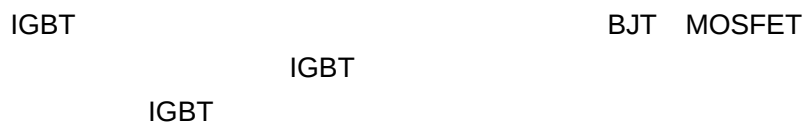
1 IC



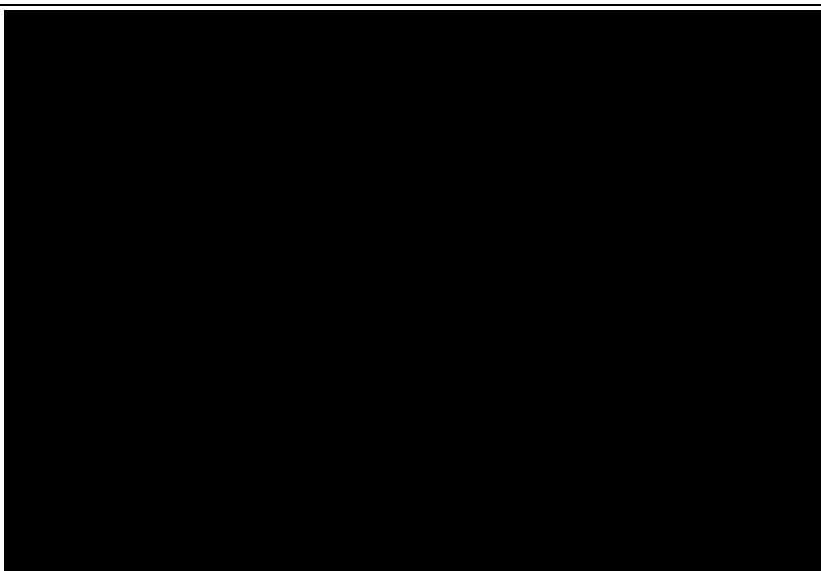
2 MOSFET



3 IGBT



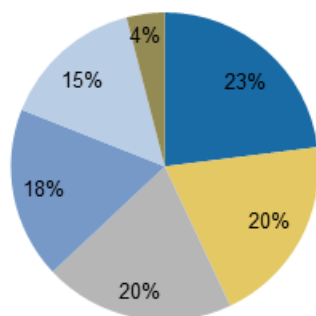
14



IHS

			IHSMarkit
2017	23%	20%	20%
18%	18%		

15 2017



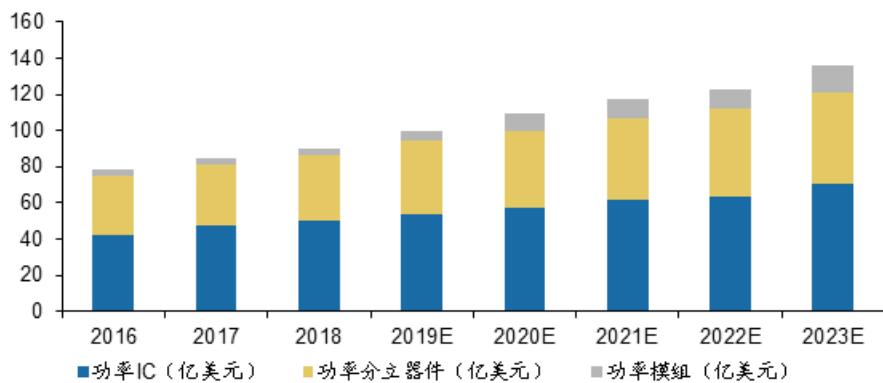
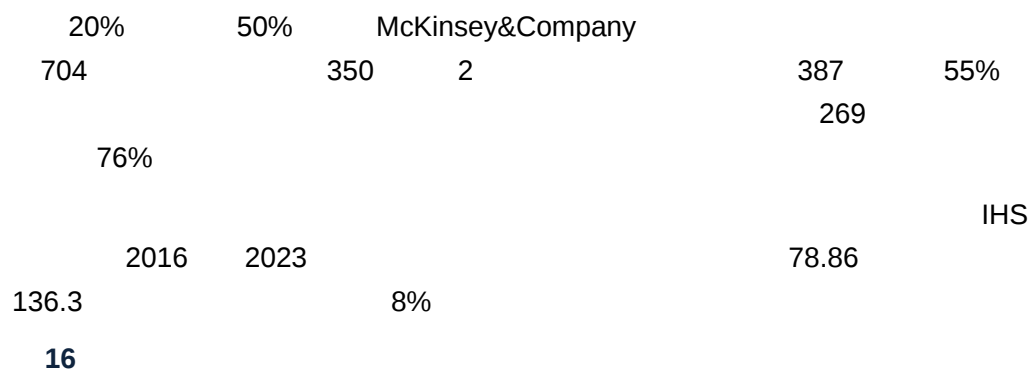
■ 工业控制 ■ 消费电子 ■ 计算机 ■ 汽车电子 ■ 网络通信 ■ 其他

IHS Markit

1

MOSFET

IGBT



IHS

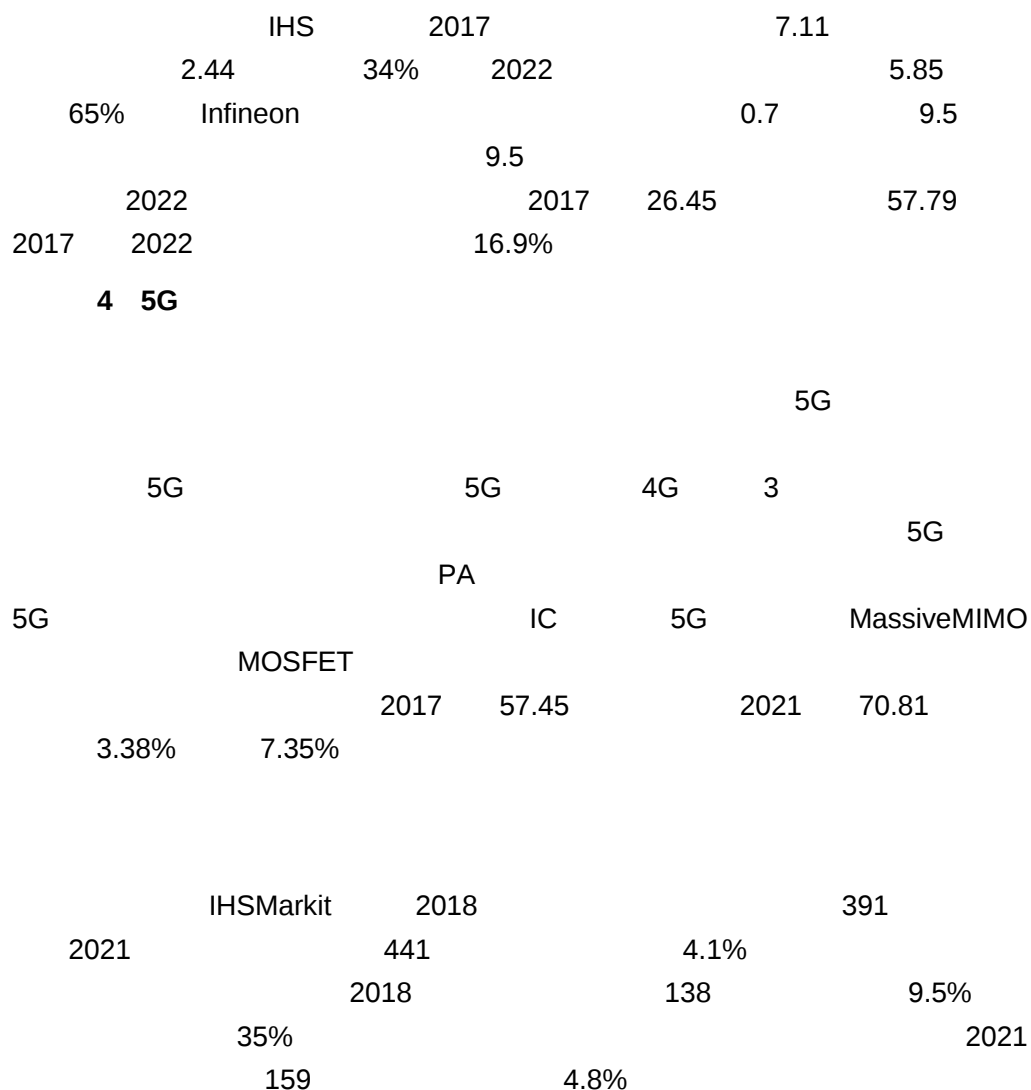
2

2025

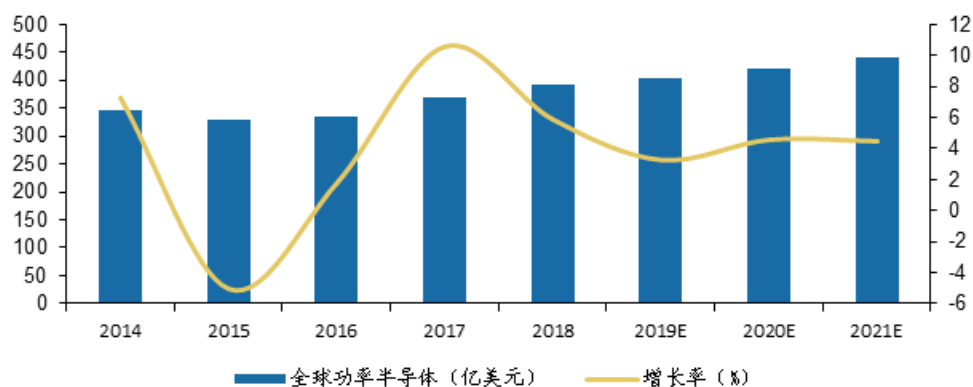
2017



3

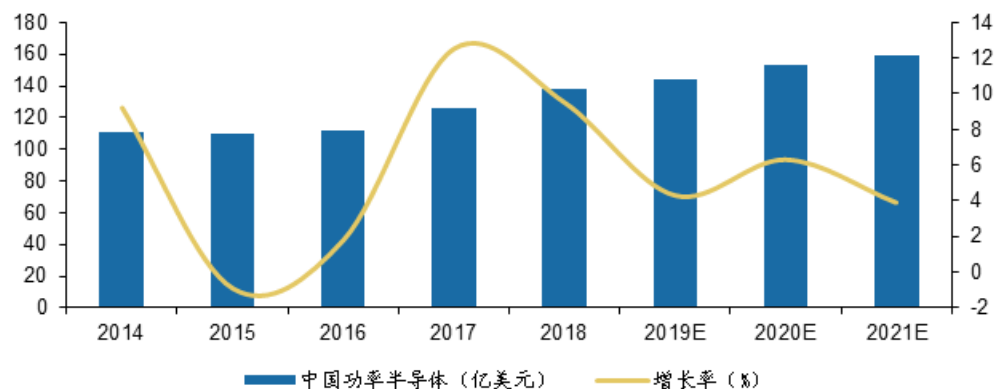


17 2014-2021



IHS

18 2014-2021



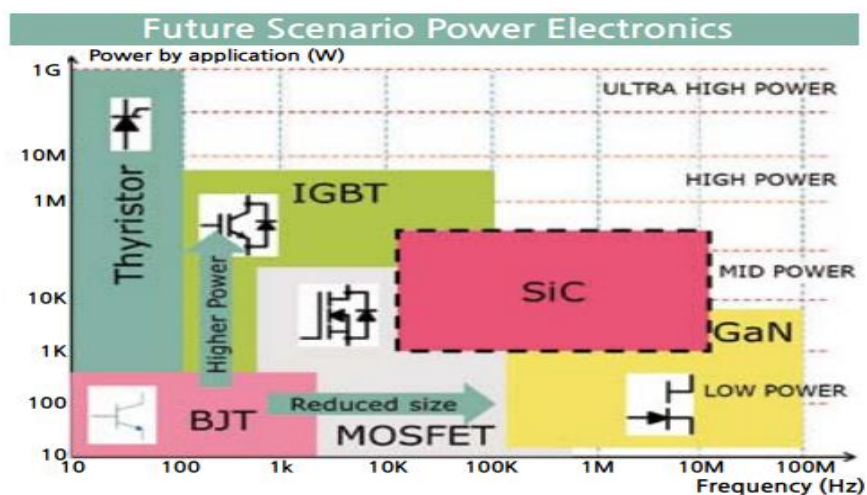
IHS

IGBT

MOSFET

SiC GaN

19



- 1.1eV
- 1.4
-

SiC GaN
5G

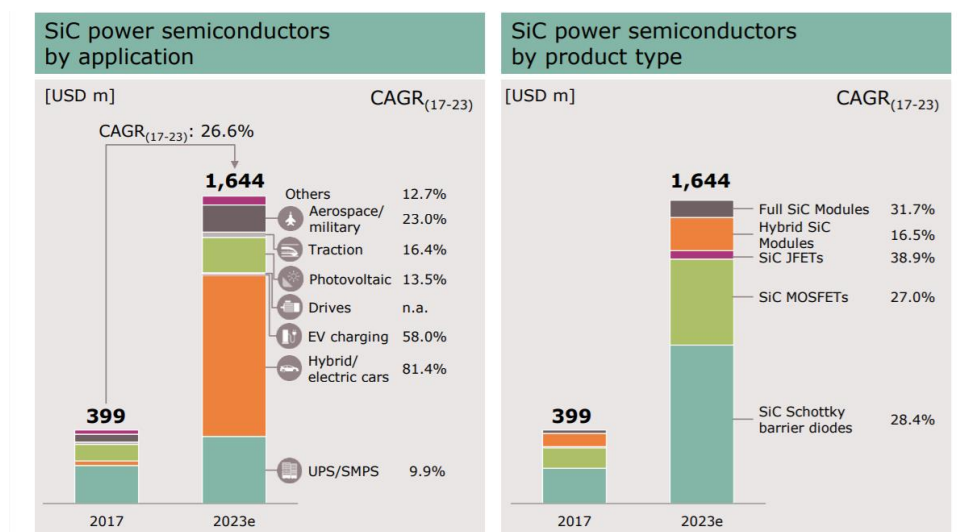
16

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

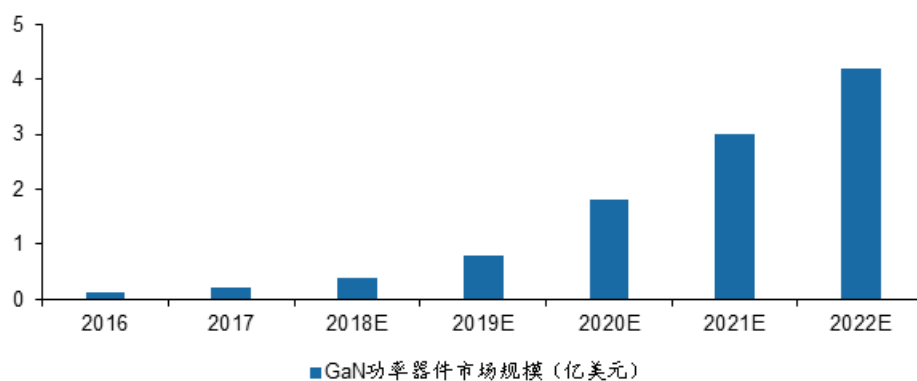
SiC SiC ROHM Cree SDK PV UPS
IHS Infineon
2023
16.4

20 SiC

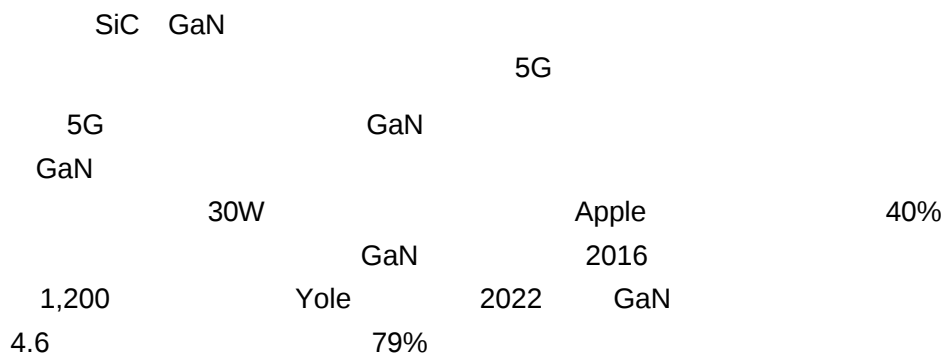


IHS

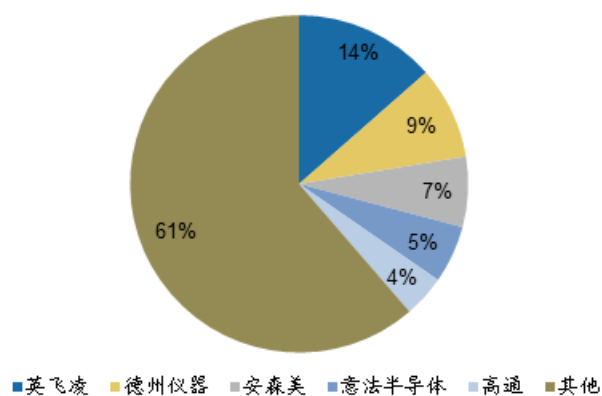
21 GaN



Yole



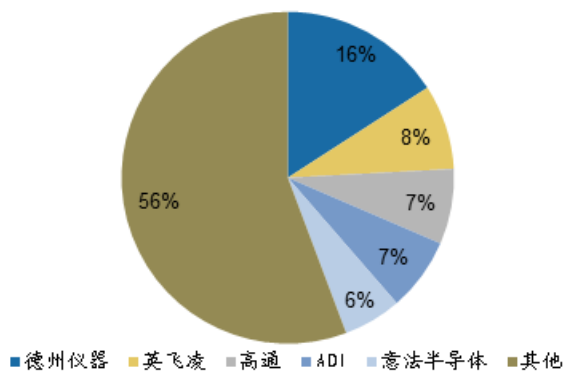
IHS 2018 39%
14%
22 2018



IHS

IC

IHS 2018
ADI
IC 44% 16%
23 2018 IC



IHS

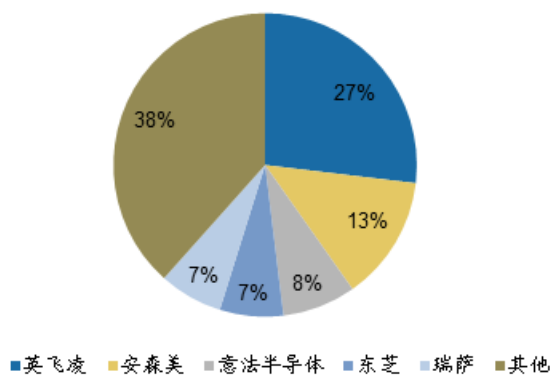
MOSFET

iHS

62%

27%

24 2018 MOSFET



IHS

IGBT

IHS

2018

IGBT

67%

34%

600 1700V

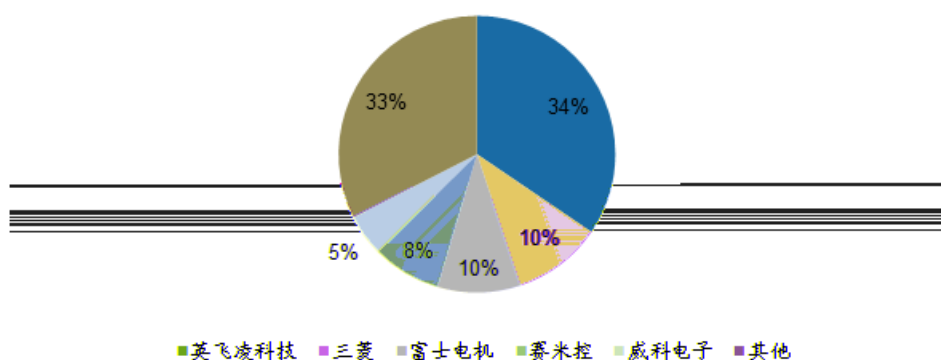
650V

400V

2018

2.2%

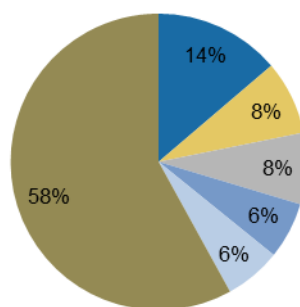
25 2018 IGBT



IHS

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

26 2018



■ 英飞凌 ■ 安森美 ■ 德州仪器 ■ 高通 ■ Dialog ■ 其他

IHS

	2016	2018
34,558.55	44,742.09	44,976.10
7.86%	7.61%	7.17%
641	2,290	7,937
		36.93%

4

1

3

2

--	--	--	--	--	--	--

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

72,555.35

60,000.00

IDM

IC

20

	2016	2017	2018	2019E	2020E	2021E
	4,397	5,876	6,271	5,814	7,172	8,808
YoY		33.6%	6.7%	-7.3%	23.3%	22.8%
	637	1,035	1,581	1,265	1,766	2,304
	14.5%	17.6%	25.2%	21.7%	24.6%	26.2%
	3,032	3,520	3,572	2,847	3,024	3,213
YoY		16.1%	1.5%	-20.3%	6.2%	6.3%
	300	575	663	417	501	598
	9.9%	16.3%	18.6%	14.6%	16.6%	18.6%
	2,188	2,563	2,674	2,006	2,106	2,211
YoY		17.2%	4.3%	-25.0%	5.0%	5.0%
	172	412	521	301	358	442
	7.8%	16.1%	19.5%	15.0%	17.0%	20.0%
	729	820	786	746	821	903
YoY		12.4%	-4.2%	-5.0%	10.0%	10.0%
	104	137	120	97	123	135
	14.3%	16.8%	15.3%	13.0%	15.0%	15.0%
	114	136	112	95	97	99
YoY		19.2%	-17.9%	-15.0%	2.0%	2.0%
	25	26	22	19	19	20
	21.6%	18.8%	19.5%	20.0%	20.0%	20.0%
	1,332	2,339	2,683	2,952	4,133	5,579
YoY		75.6%	14.7%	10.0%	40.0%	35.0%
	335	458	913	843	1,261	1,702
	25.2%	19.6%	34.0%	28.6%	30.5%	30.5%
	1,081	2,069	2,419	2,661	3,725	5,029
YoY		91.3%	16.9%	10.0%	40.0%	35.0%
	255	366	818	745	1,118	1,509
	23.6%	17.7%	33.8%	28.0%	30.0%	30.0%
	85	97	138	151	212	286
YoY		13.6%	42.0%	10.0%	40.0%	35.0%
	32	38	56	58	85	114
	37.5%	39.2%	40.4%	38.0%	40.0%	40.0%
	116	128	99	109	153	207
YoY		9.5%	-22.1%	10.0%	40.0%	35.0%
	34	40	30	32	46	62
	29.4%	31.4%	30.7%	29.0%	30.0%	30.0%
IC	49	46	28	30	43	57
YoY		-5.7%	-40.0%	10.0%	40.0%	35.0%
	14	14	9	9	13	17
	28.8%	30.3%	30.9%	29.0%	30.0%	30.0%
	33	17	15	15	15	15
YoY		-49.9%	-8.2%	0.0%	0.0%	0.0%
	1	2	4	5	5	5
	3.2%	14.0%	28.4%	30.0%	30.0%	30.0%

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					
				2019/20/21					
		29.52/41.33/55.79		10.0%/40.0%/35.0%					
		28.6%/30.5%/30.5%							
				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	/			
				PE					
				A					
				600460.SH					
				300373.SZ					
		300623.SZ		IDM					
		MOSFET	IPM	MCU					
		/							
		MOSFET							
		MOSFET							
				MOSFET					
				2020					
		52x	59x	95x					
		2020		IPO					
		70~90	PE		EPS	0.42	/		
						29.40~37.80			

21

		X							
		2018	2019E	2020E	2021E	2018	2019E	2020E	2021E
600460.SH	20.60	0.13	0.10	0.12	0.14	159	208	175	146
300373.SZ	33.38	0.40	0.48	0.64	0.82	84	70	52	41
300623.SZ	45.56	0.92	0.62	0.78	0.96	49	73	59	47
						97	117	95	78
Wind					Wind			2020/2/19	

2016	2018	439,676.33	587,558.97	627,079.65
2018			WSTS	2019
		13.3%		

		2016	2017	2018	2019	1-6	
		117.14	143.25		147.06		148.18
	9.06	13.09	9.15	3.58			
20.62%	22.28%	14.60%	13.54%	13%			3.46
4.47	4.50	2.17					7.86% 7.61%
7.17%	8.22%	7%					

2016	2017	2018	2019	1-6	114,525.11
134,183.29		137,193.96		50,043.33	
26.25%	22.90%	21.93%	19.05%		

IHS Markit 2018

2012

2019

2014

2015

2015

2016

2018

2019

12

10%

12

-10% +10%

12

10%

12

15%

12

5%-15%

12

-5% +5%

12

5%

26

35 6001

31

2

18

8

111

14

510627

518026

100045

200120

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gfyf@gf.com.cn

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