

/

IDM

2020 2 IDM 9
IDM
æ Q 1/2 "

IDM

1.	IDM	.....5
1.1.	IDM	.....5
1.2.		.....7
1.3.		.....9
1.4.		.....12
2.		.....13
2.1.		.....13
2.2.	MOSFET	.....15
2.2.1.		.....15
2.2.2.		.....17
2.3.		.....19
2.4.	MOSFET	.....23
3.		.....24
3.1.	15	.....24
3.2.		.....24
4.		.....27
4.1.		.....27
4.2.		.....30

1	IDM	.....	5
2		.....	6
3	2018	.....	6
4		.....	7
5		.....	7
6		.....	8
7		.....	9
8		.....	9
9		.....

2

排名	企业	2018年销售额(亿元)	业务模式
1	深圳市海思半导体有限公司	509	设计
2	江苏润兴集团控股有限公司	268	封测
3	南通华达微电子有限公司	239	封测
4	中芯国际集成电路制造有限公司	225	代工
5	北京紫光展锐科技有限公司		设计
6	上海华虹(集团)有限公司		代工
7	天水华天科技股份有限公司		封测
8	北京智芯微电子技术有限公司		设计
9	华大半导体有限公司	65	设计
10	发行人	63	IDM

2018
57%
43%
75%
90%

3 2018

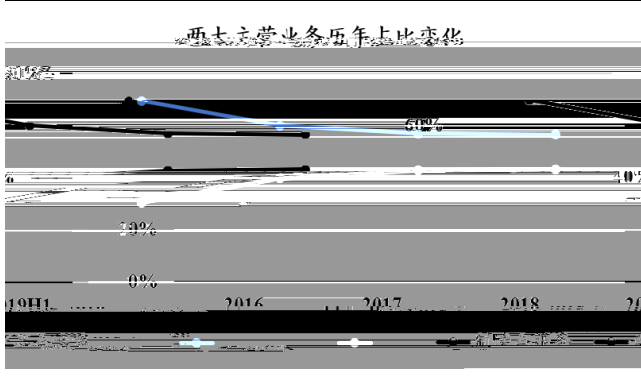


Wind

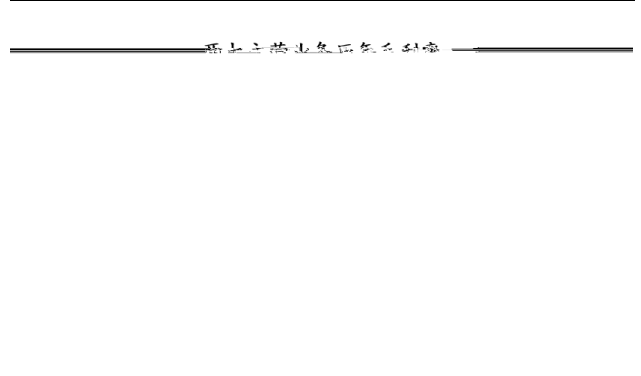
CMOS/ANALOG BICMOS RF/Mixed-Signal CMOS
BCD MEMS
0.8μm/1.0μm UHV BCD
DMOS DMOS IGBT BJT

IGBT 3300 V-6500 V

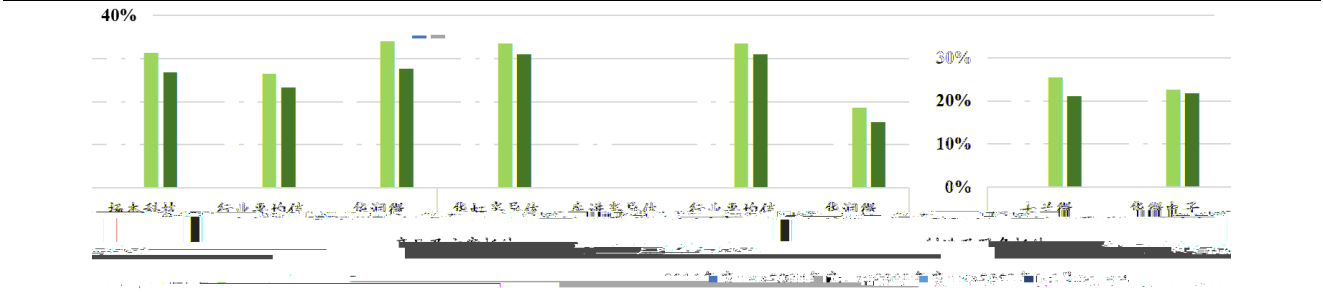
10



11

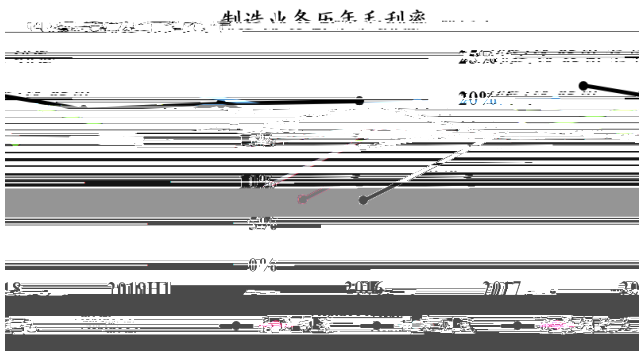


12

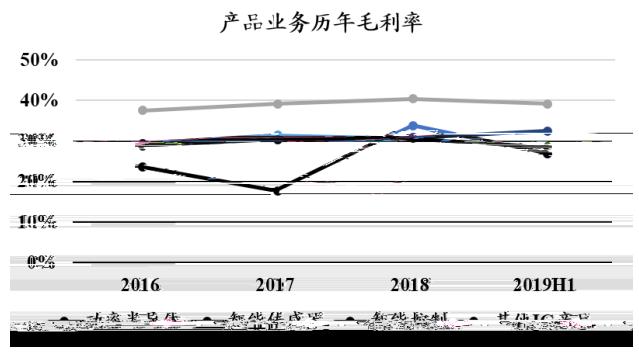


77%

15



16



8

6

6

8

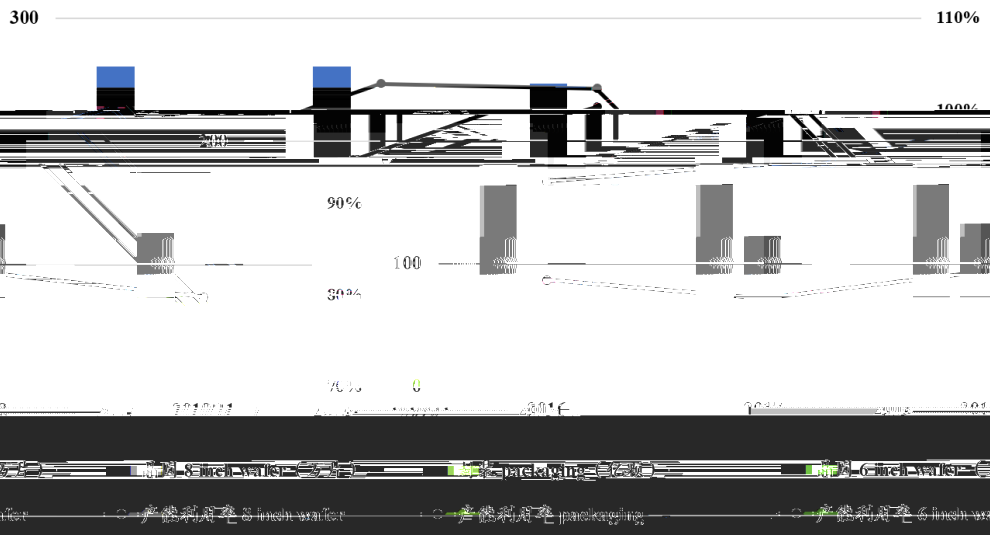
2018

8

6

17

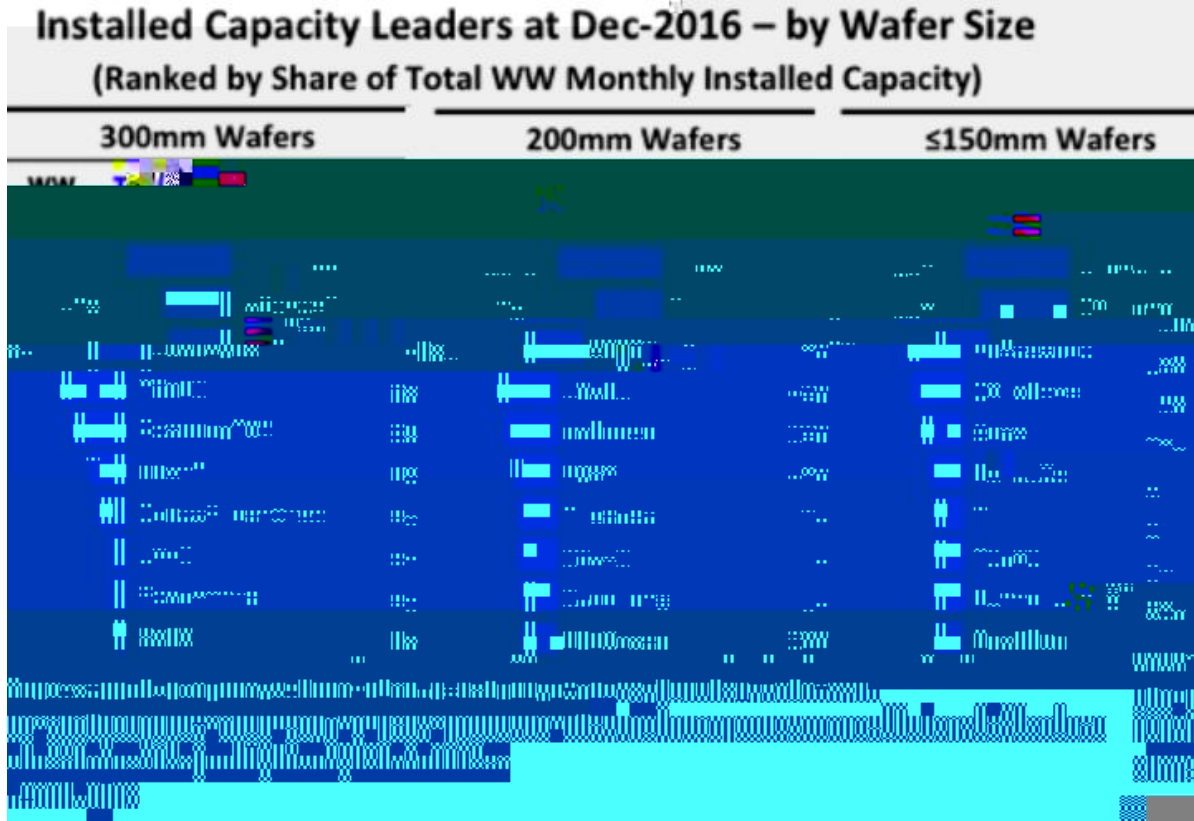
公司历年全年产能



22.2% MOSFET

2.2.2.

27



IC Insights

12 8
 12 300 mm wafer
 Micron SK Hynix Toshiba
 TSMC Intel Global Foundry UMC SMIC 6 150
 mm wafer
 6 IDM STMicro
 35% 2018 8
 TSMC SMIC
 12 8
 IDM Infineon OnSemi Renesas 12
 IDM CRM Silan 8
 12 2.5
 12
 8

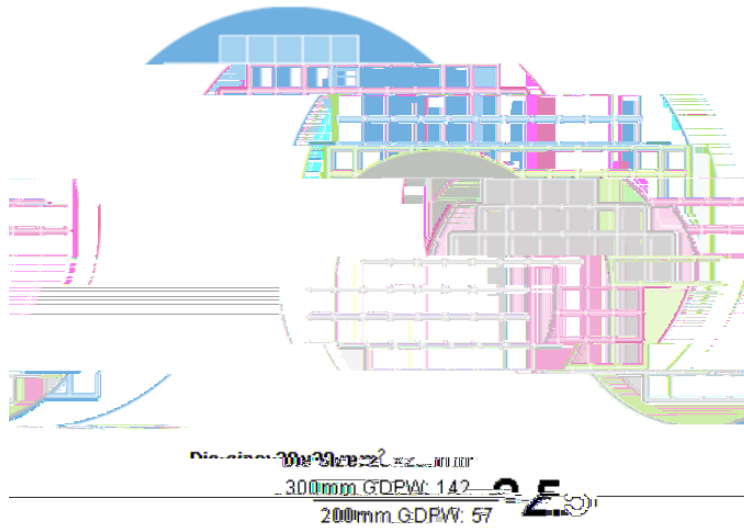
28 wafer

Foundry	Application	Wafer size	Process node
45nm	TSMC	300mm	12-inch, 8-inch
28nm	SMIC	300mm	8-inch
8-inch	PowerChip	300mm	12-inch
6-inch	UMC	300mm	12-inch

TSMC SMIC PowerChip UMC

29 12

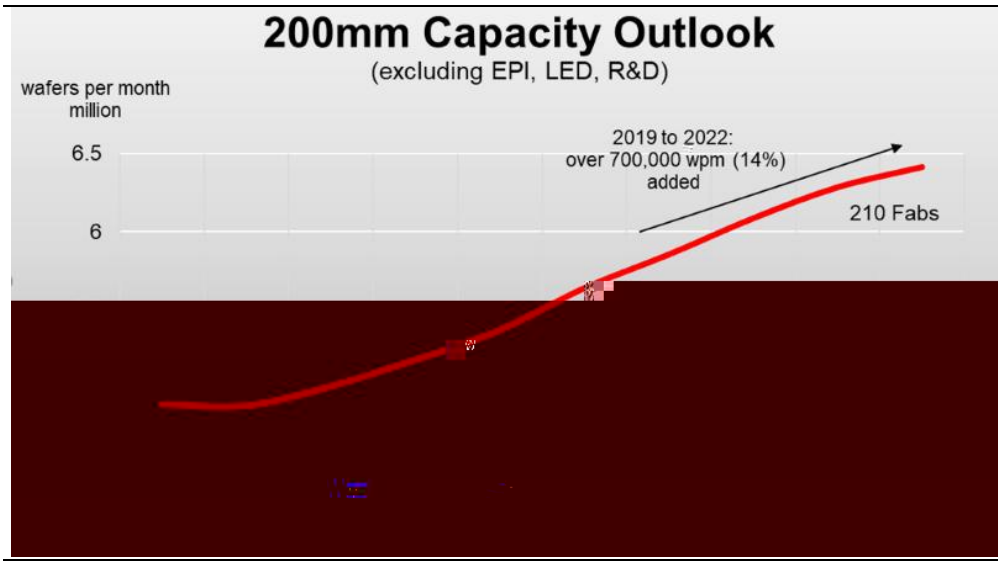
Larger Die Sizes More Efficiently Utilize 300mm Wafer Area



8	CAGR	2.89%			
SEMI	8	200 mm Wafer	2019	580	/
	IDM		2022	650	
/		2.89%			
3.56%	8				

30

8



SEMI

IDM

Infineon

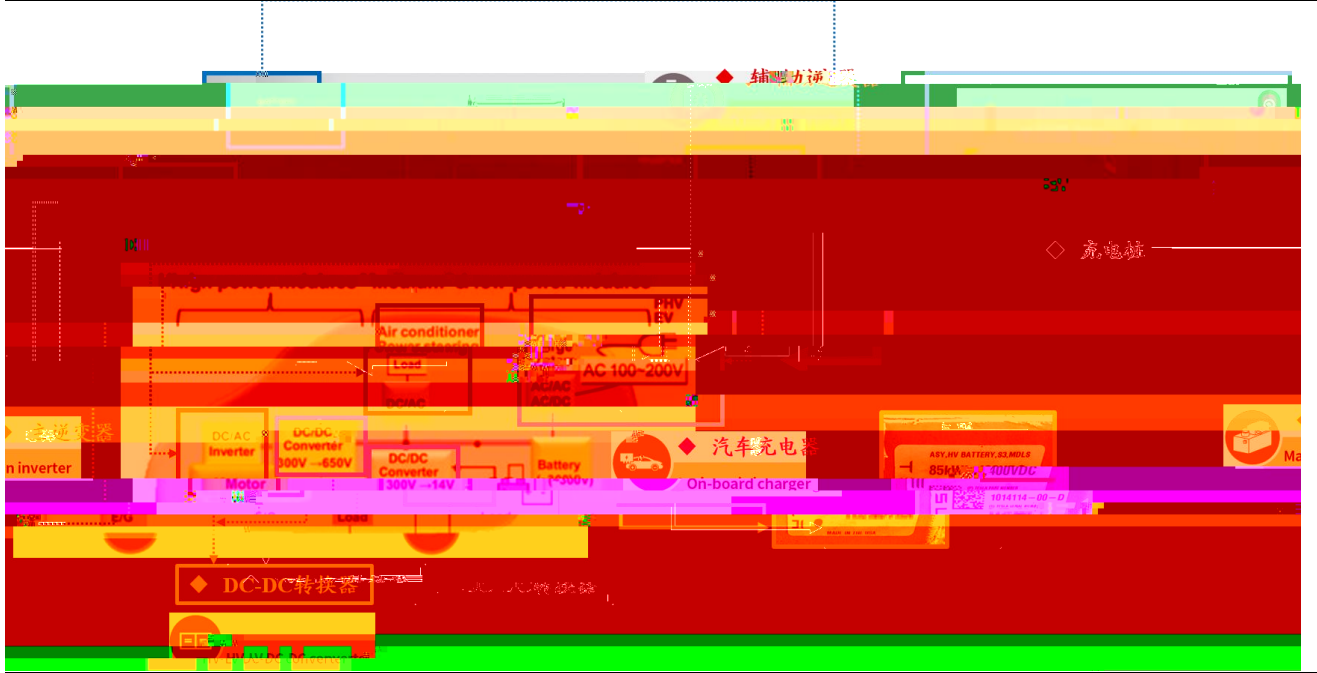
2019

22%

30%

15%

33



Infineon Toshiba

DC-AC

Inverter

IGBT

SiC MOSFET

Model S

84

IGBT Model 3

24 SiC MOSFET

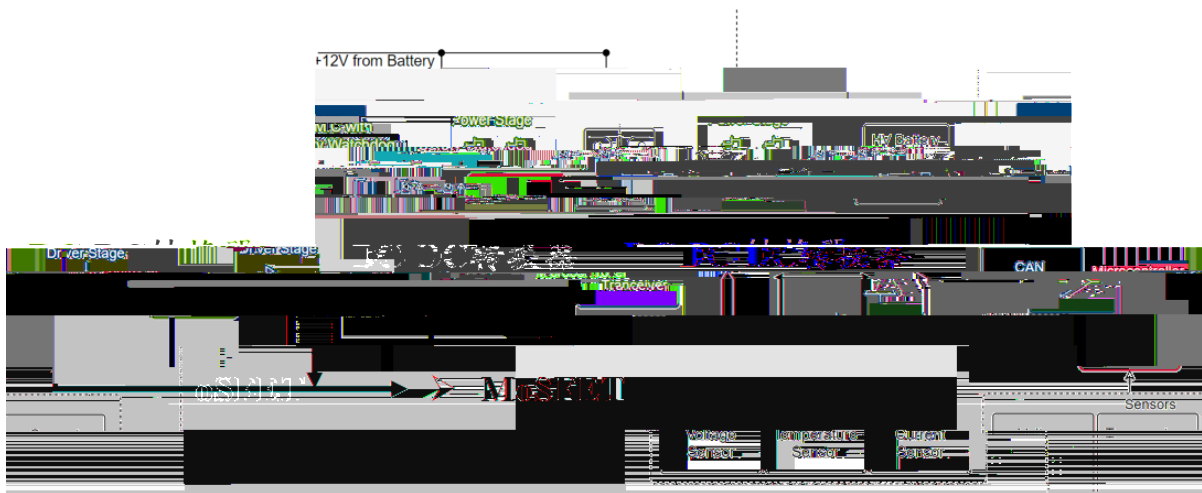
34 DC-AC



Infineon

converter	DC-DC	LV-HV	HV-LV	DC-DC
				low voltage to high
voltage				
Model S		400 V		650 V
	LV-HV	DC-DC	400 V	650 V
			HV-LV	DC-DC
		MOSFET	DC-DC	400 V

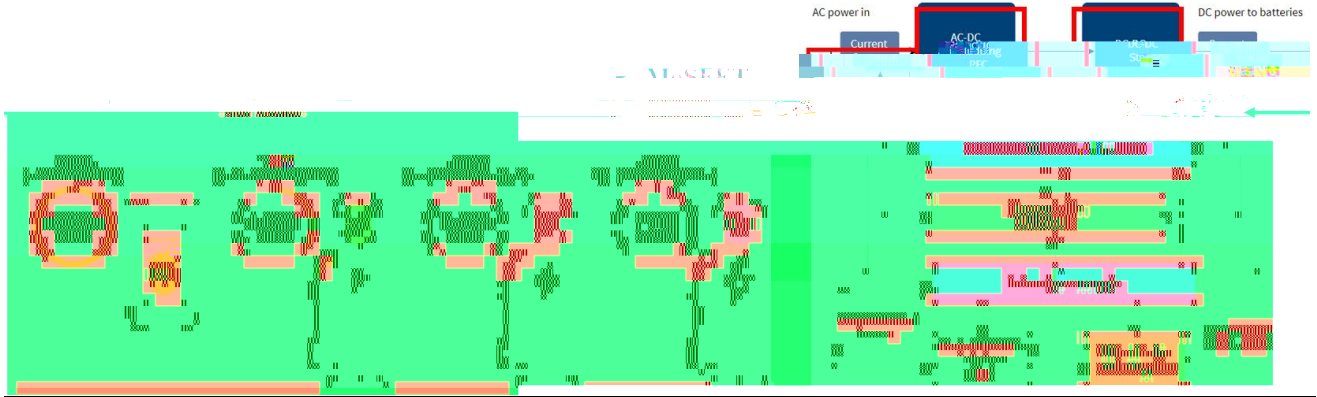
35 DC-DC



Infineon

AC-DC DC-DC
MOSFET IGBT

36



Infineon

OBC On-Board Charger IGBT MOSFET

IGBT MOSFET

37

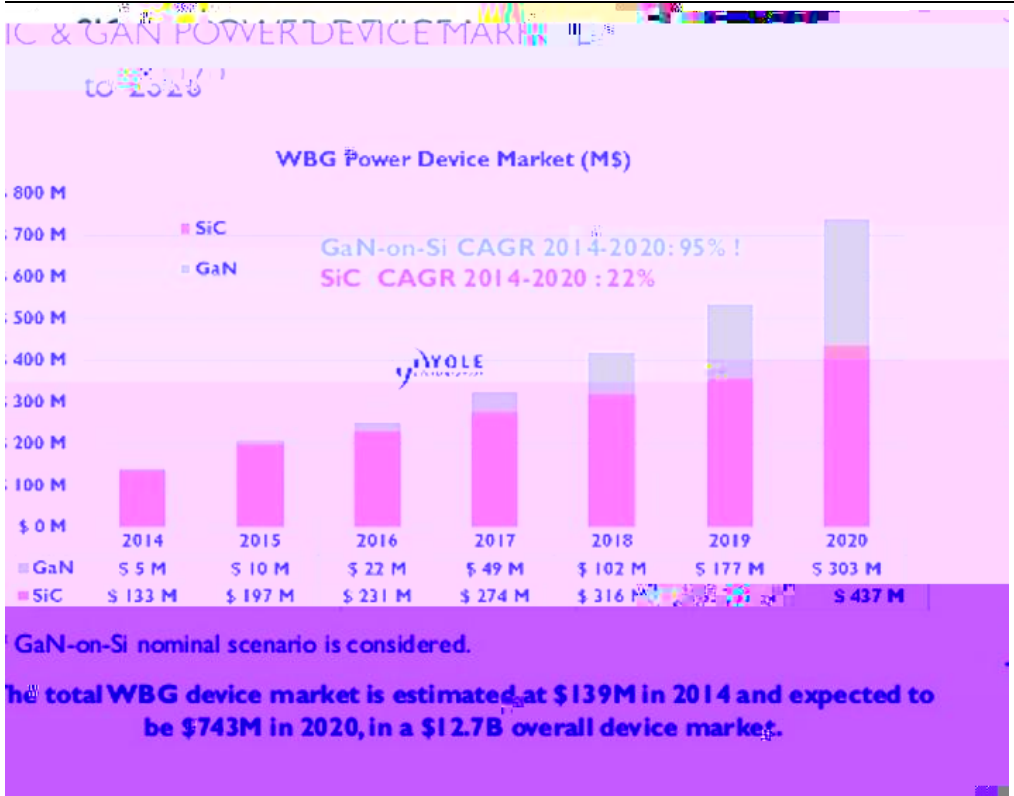


Infineon

3.

3.1. 15

41 SiC GaN



Yole

SiC-MOSFET

4.

4.1.

4.2.

				2020	2022		64.4
74.5	82.4	EPS	0.38	0.50	0.60	PE	90.6 69.0 57.7

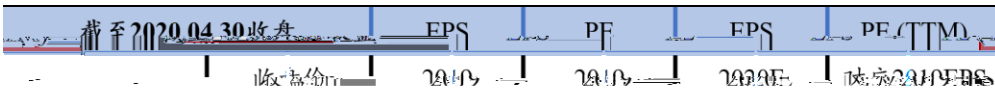
IDM

IDM

Fabless

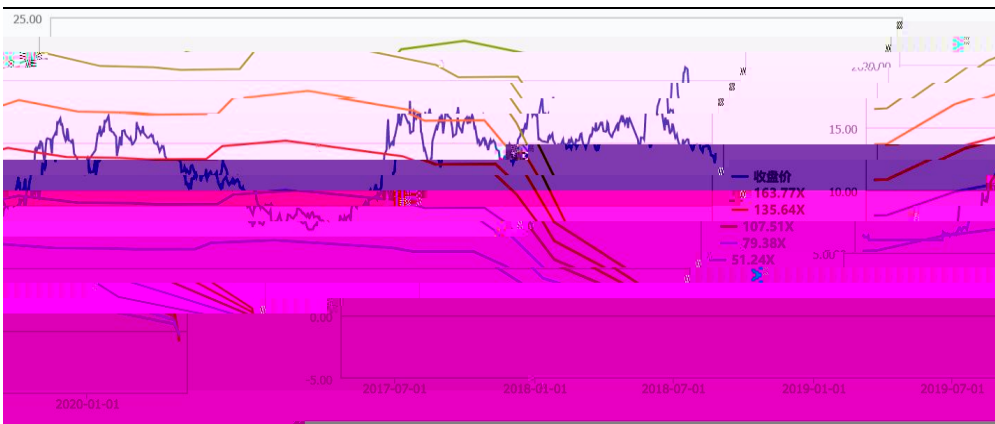
A		IDM		PE
107.51		Fabless		PE
142.56				
	120	PE	2020	45.6

48 PE



Wind

49 IDM PE Band



Wind

	2018A	2019E	2020E	2021E		2018A	2019E		
	1,931	2,775	3,998	5,290		512	516		
	508	508	508	508		6	0	0	0
	1,006	1,171	1,332	1,477		709	681	654	610
	594	1,214	1,200	1,207		69	30	30	30
	5,092	6,822	8,381	9,946		0	-4	-4	-5
	0	0	0	0		-715	-632	-36	-46
	82	82	82	82		-5			

2017

2018

1

2016

4

2016

