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%



东方证券
ORIENT SECURITIES

2

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B <

B

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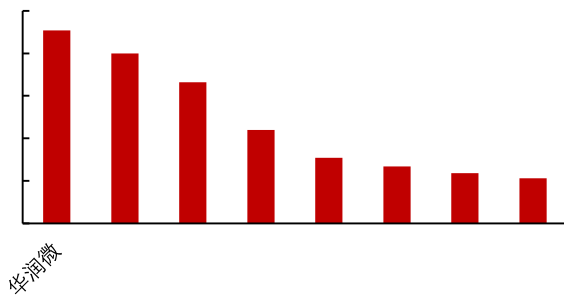
.....

1.

1.1

IDM

			6-8	5	2	1
MOSFET	IGBT	SJNFET	/	20	%	-100V
%		MOSFET		%	SiC/GaN	1500V



5-10

wind

2020

77%
65%

45% 55%

1.2 9

1983 % 4 1999

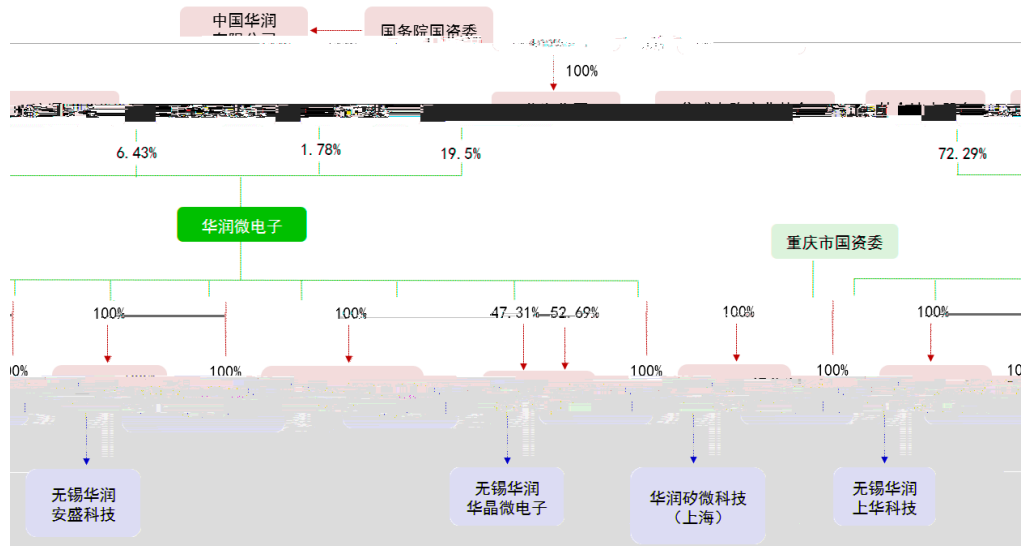
2001 2003 6

2004 0597.HK 2008

2009 8 2011 2017

2018 2019

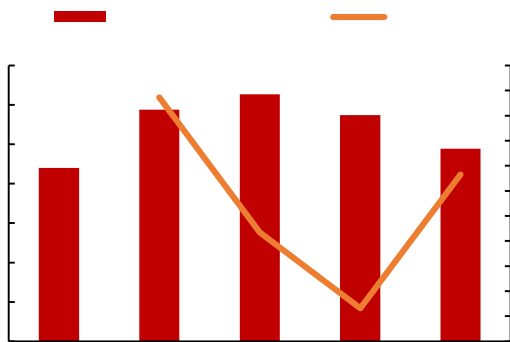
2020



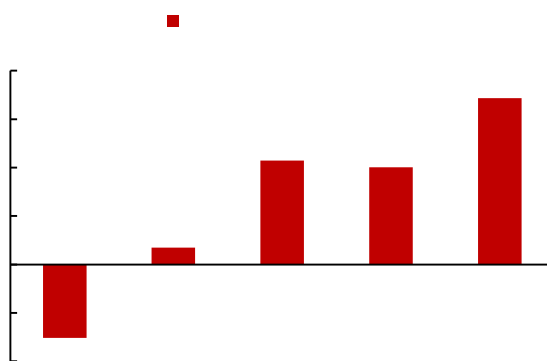
wind

1.3

	2020	B	48.9	18.3%	B	2020
2019						
		B	6.9	155%		



wind



wind



* SiC MOSFET IGBT
 ROHM

/

2
3

1/2

2021

24

EVTank

25

2021

MOSFET

EVTank

		2022	500			
<	30%	50%	70%	MOSFET	1.13	1.38
2019		2.7	3.1	3.5	1.63	

26 MOSFET

	2019E	2020E	2021E	2022E

DC/AC

%

50

<

10

MOSFET

2016

%

/

	MOSFET	IGBT	SJNFET	/
--	--------	------	--------	---

%

1

3

%

%

MOS

2.2

5000

/

IGBT

IGBT

2

			56.2%	%
	%		2019	IPM
500V 5A	IPM	600V 15A	%	
		IPM		

--	--	--	--	--

7 10

PT6007B PT6010

3.3

%

DC/AC	SiC	Si	OBC	SiC	DC/AC
	DC/DC				
	SiC	Si			
		SiC	6kg	43%	
75%		SiC		3%	2025
20%	6				

30%

GaN

2019

7.4

2025

20

CAGR

12%

Yole

Yole

SiC

GaN

1.42

2.44

6

650V

1200V

SiC JBS

GaN

SiC JBS

GaN

650V

SiC

GaN

MOCVD

MOSFET

2019

90
% MEMS

50%
40%

Yole

MEMS

MEMS

8

6
MEMS
2019

6

8

			2020H1

4.3

%

2020H1

1.27

35%

50

38

42

5G

AIOT

	2020-2022					
1)						
2)	5G					
	20-22					
	22.7%	23.3%	23.7%			
				20-22	35.1%	35.7%
	35.8%					
	20-22	28.3%	29.4%	30.2%		
3)	20-22					
					1.64%	1.63% 1.58%

	2020-2022			0.83	1.07	1.25		%
IDM	MOSFET	IGBT						
+	% IGBT			IDM		MOSFET		
	2021	72	PE		77			

1

MOSFET

MOSFET IGBT

2

3

%

	2018A	2019A	2020E	2021E	2022E
:	1,538	1,931	8,353	9,295	10,022

	2018A	2019A	2020E	2021E	2022E
:	6,271	5,743	6,888	7,936	8,893

. %

12 % /

15%

5% 15%

-5% +5%

-5%

— %
<

— :
<
)

5%

-5% +5%

-5%

< %

<
)

44

39

44

39

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