

(688396)

2020.07.08

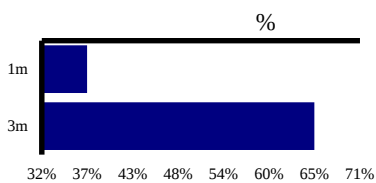
(688396)

74.80

62.55

57.81

www.crmicro.com



52

32.38-59.45
70,293

EBIT

(IC)

NOPLAT

EBIT

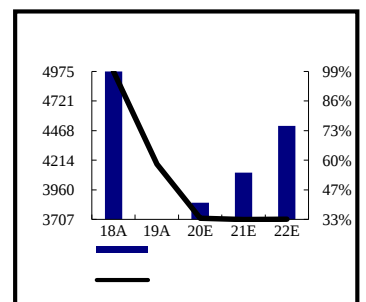
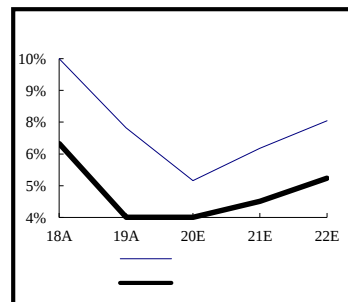
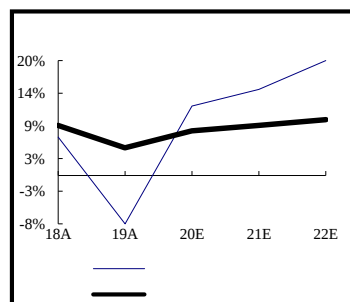
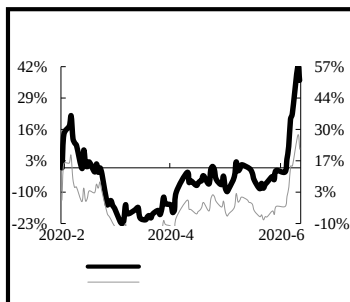
EBIT

(ROE)
(ROA)
(ROIC)

PE
PB
EV/EBITDA
P/S

2018A	2019A	2020E	2021E	2022E
6,271	5,743	6,440	7,406	8,888
4,690	4,431	4,755	5,378	6,320
85	66	74	85	102
126	112	126	144	173
374	377	423	486	583
546	274	502	645	865
0	0	0	0	0
11	0	0	0	0
0	31	47	-40	-48
586	478	685	956	1,244
53	-6	72	100	128
108	112	130	179	231
429	401	522	717	925
1,538	2,438	6,984	7,310	7,760
27	44	44	44	44
0	82	82	82	82
3,898	3,816	3,966	4,266	4,566
571	557	557	557	557
9,992	10,095	15,203	16,412	17,966
4,654	1,979	2,121	2,384	2,783
318	1,726	1,726	1,726	1,726
5,020	6,391	11,356	12,302	13,458
7,471	7,897	12,862	13,808	14,964
497	277	452	581	778
953	709	-7	-7	-7
133	-1,192	63	64	99
-533	-611	-308	-508	-557
1,050	-816	200	130	314
1,482	576	631	889	1,113
-575	-41	-308	-508	-557
-627	-180	4,223	-56	-105
281	356	4,546	325	450
6.7%	-8.4%	12.1%	15.0%	20.0%
8150.3%	-49.9%	83.3%	28.6%	33.9%
511.0%	-6.7%	30.2%	37.4%	29.0%
25.2%	22.8%	26.2%	27.4%	28.9%
8.7%	4.8%	7.8%	8.7%	9.7%
6.8%	7.0%	8.1%	9.7%	10.4%
10.4%	7.4%	5.1%	6.5%	7.7%
5.4%	5.1%	4.3%	5.5%	6.4%
6.7%	3.5%	3.5%	4.2%	5.2%
91.9	86.9	86.9	86.9	86.9
35.0	51.8	51.8	51.8	51.8
581.6	641.6	861.6	808.8	737.9
3.5	1.4	1.2	1.2	1.2
8.5%	10.6%	4.8%	6.9%	6.3%
49.8%	36.7%	25.3%	25.0%	25.1%
99.1%	58.0%	33.9%	33.4%	33.5%
161.59	173.16	132.95	96.76	75.03
0.00	0.00	6.76	6.29	5.81
0.61	—	124.38	100.34	74.20
7.55	8.25	10.34	9.37	7.81
0.0%	0.0%	0.0%	0.0%	0.0%

/



1.				
40%+	.....			4
1.1.			.....	4
1.2.			.....	6
1.3.	IDM			
40%+7				
2.			.....	9
2.1.	IGBT		.....	10
2.2.	SiC	SiC MOSFET	GaN	.. 12
2.3.		IOT	....	15
3.	12		.....	18
4.	.....			19
5.	.....			20
6.	.....			20

1.

40%+

1

2

3

IDM

IDM

IDM

IDM

100%

40%+

1.1.

1:	8						
	25			5.00%		3.80%	
	8			2.00%		12.25%	
	5			0.00%		20.00%	
	3	5		0.00%	2.00%	19.60%	33.33%
	8			0.00%		12.50%	
	5			0.00%		20.00%	

2019H2

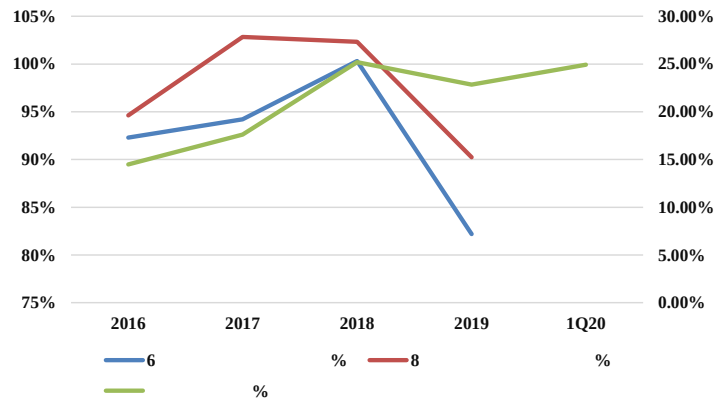
2-3

20Q1

2020Q1

IDM

4 20Q1



1.3. IDM

40%+

IDM

IDM

IDM

40%+

1 IDM

IDM

IDM

2019

IDM

29.48%

17.76%

IDM

IDM

IDM

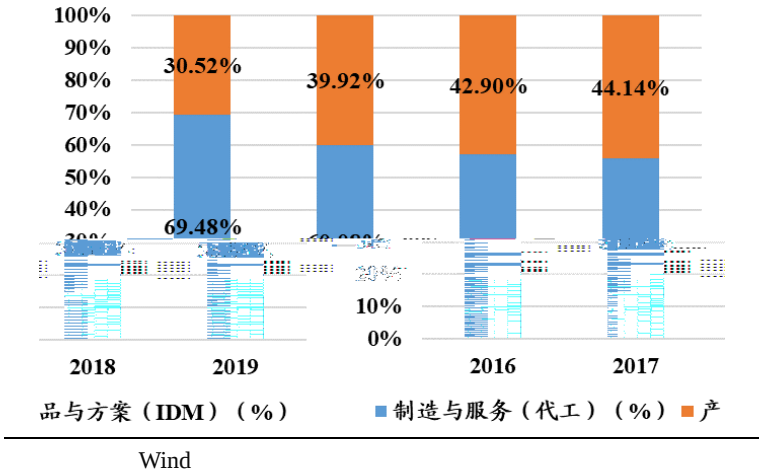
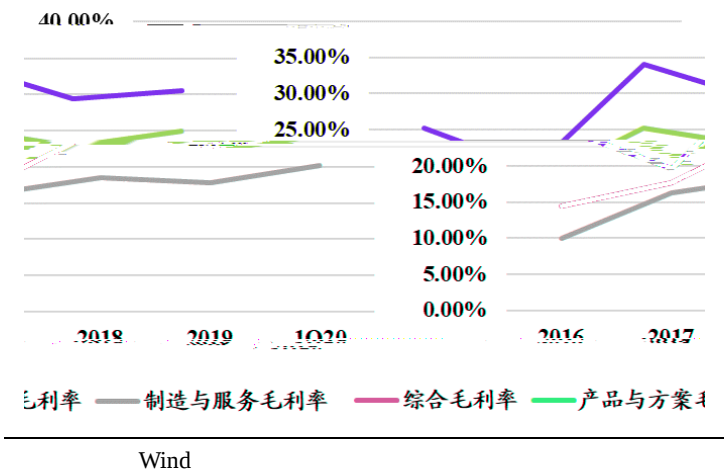
IDM

5

IDM

6 2016-2019

IDM



2

IDM
40%+

a

IDM

IDM

IDM

IDM

IDM

IDM

b

IDM

MOSFET

IGBT

IDM

IDM

1 2

IDM

IDM

2016-

2019

IGBT

MOSFET+IGBT

26%

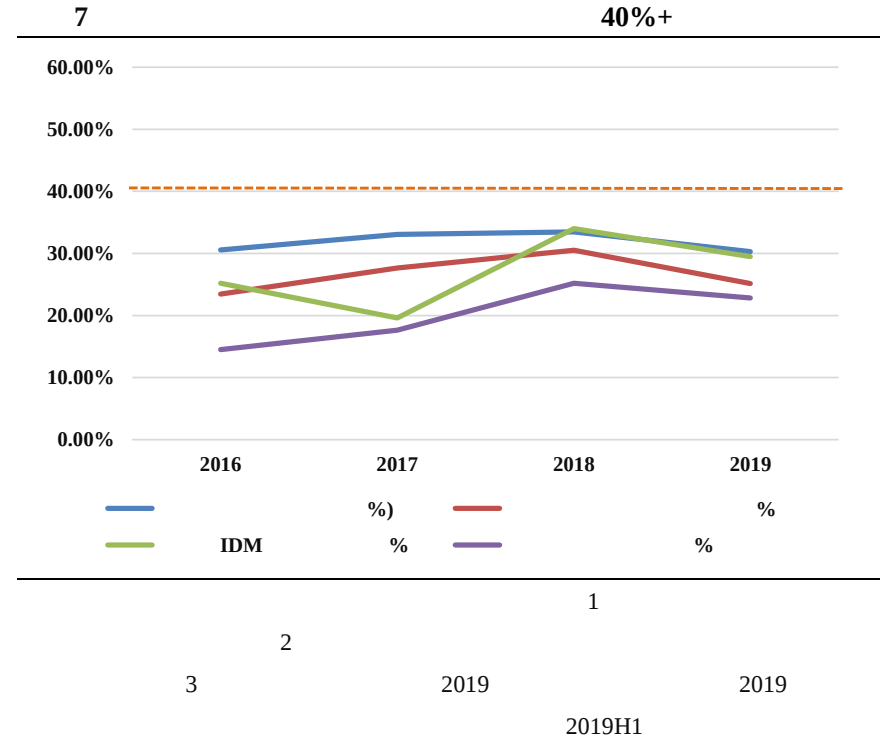
32%

58%

IDM

100%

40%+



2.

IGBT

1

MOS

IGBT

2

MEMS

IOT

MEMS

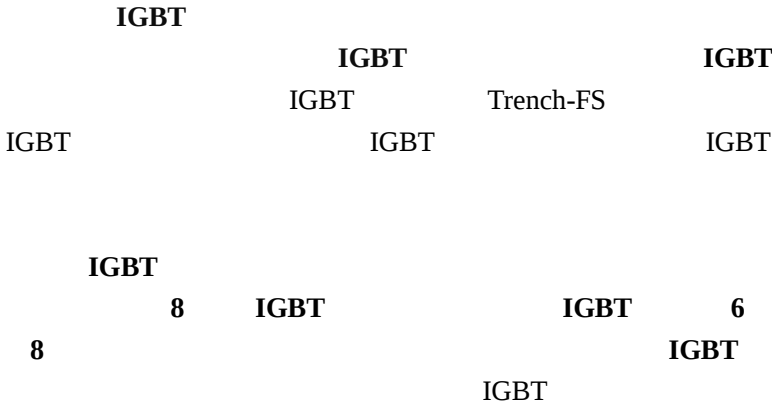
IDM

IDM

Fabless Foundry

IDM
a
b
c

2.1. IGBT



8 IGBT



IGBT

IGBT

IGBT

76

21

2

82

600V-6500V

IGBT

53

4 IGBT

<600V						/
650V						/ /
1200V	/	/	/	/	/	/
1700V						/
3300V						/ /
4500V						
6500V						/ / /

IGBT

IPM

MOSFET

IGBT

IPM

IPM

IPM

MOSFET

IPM

IGBT

IPM

MOSFET

IPM

IGBT

600V

15A

2019

IPM

MOSFET

IPM 500V 5A

IGBT

IPM

600V

15A

1200V

IPM

IC

5:

IPM

CS5755MT	IPM	5A/500V	MOSFET
CS5753AT	IPM	3A/500V	MOSFET
DPM31560	IPM	15A/600V	IGBT

5G

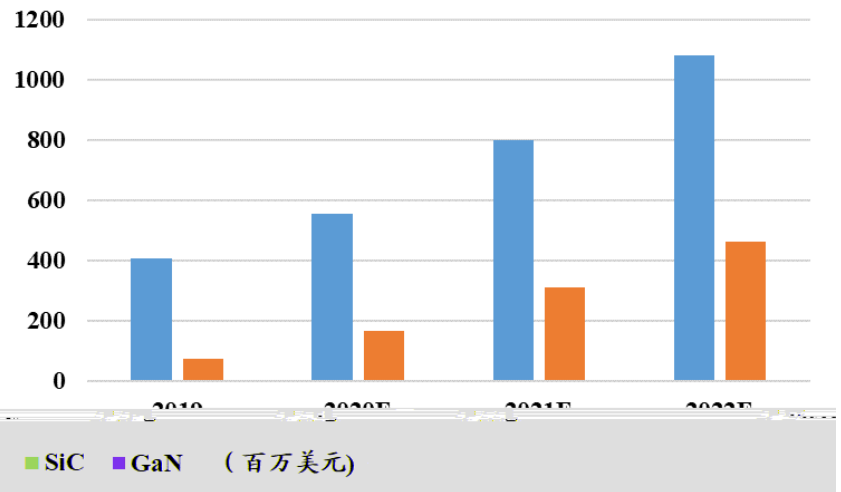
Yole Development
11

SiC

2022

GaN
4.5

12



Yole

6

GaN SiC

IDM

650V

GaN

SiC JBS

SiC MOSFET

6

SiC

GaN

GaN

6

SiC

SiC

GaN

GaN

6

GaN

GaN MOCVD

600V

GaN HEMT

650V

SiC

6

SiC

1000

2000

SiC

JBS

)

SiC MOSFET

-

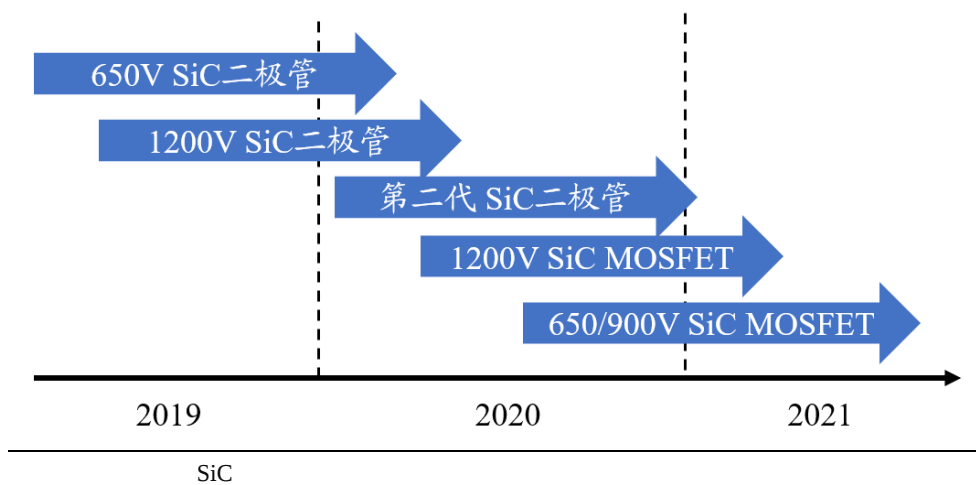
1200V 650V SiC JBS

		UPS		2020	6
8	SiC				
SiC MOSFET		650V	1200V		2021

6 SiC

650V 4-50A 1200V 2-40A

13



	SiC	5G			
SiC	5G		SiC	2020	
/		SiC	/OBC		UPS
				PCU	DC-
DC					

14 SiC



8

Sensor Hub IC

3. 12

12

12

IDM

12

2012

12

2018	11
2021	

12
18

12

2018

2020

2022

12

100

12
2020

90nm

IDM

MOSFET IGBT

12
 1
 2.25
 8 2.25 2
 90nm
 8 3 12
 8 12

12

12

12

4.

2020

IDM

2020/2021/2022 22.88%/19.79%/32.00%
 2020/2021/2022 5.20%/10.58%/ 8.00%
 2020/2021/2022 52%/50%/45%
 2020/2021/2022 0
 2020/2021/2022 12.14%/15.00%/20.00%
 2020/2021/2022 26.16%/27.38%/28.89%

8

	2017	2018	2019	2020E	2021E	2022E
	3519.76	3571.91	3183.52	3348.92	3703.13	3999.38
%	59.90%	56.96%	55.44%	52.00%	50.00%	45.00%
%		1.48%	-10.87%	5.20%	10.58%	8.00%
%	16.33%	18.57%	17.76 %	18.00%	17.76%	17.76%
	2339.06	2683.49	2515.66	3091.31		4888.13
%	39.81%	42.79%	43.81%	48.00%	50.00%	55.00%

	%	14.00%	28.46%	10.04%	-	-	-
		5875.59	6270.80	5742.78	6440.23	7406.26	8887.52
	%						

44

49