

(688396)

2020.07.08

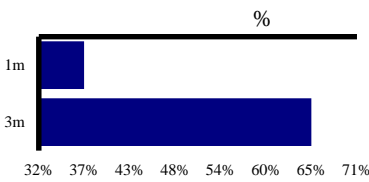
(688396)

74.80

62.55

57.81

www.crmicro.com



52

32.38-59.45

70,293

EBIT

	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

(IC)

NOPLAT

	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

EBIT

	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%

EBIT

	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%

(ROE)
(ROA)
(ROIC)

	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%

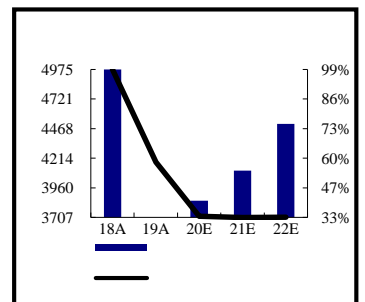
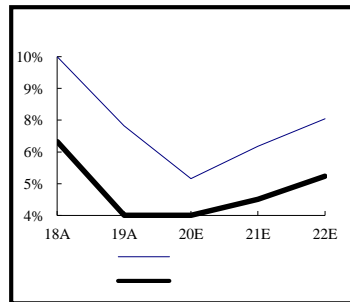
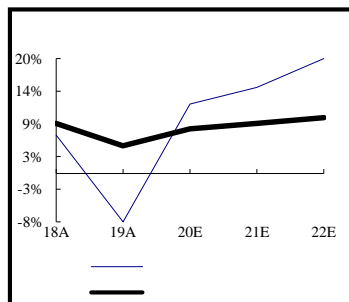
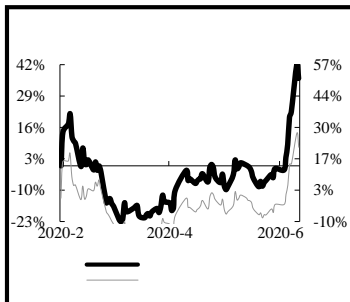
PE

PB

EV/EBITDA

P/S

	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

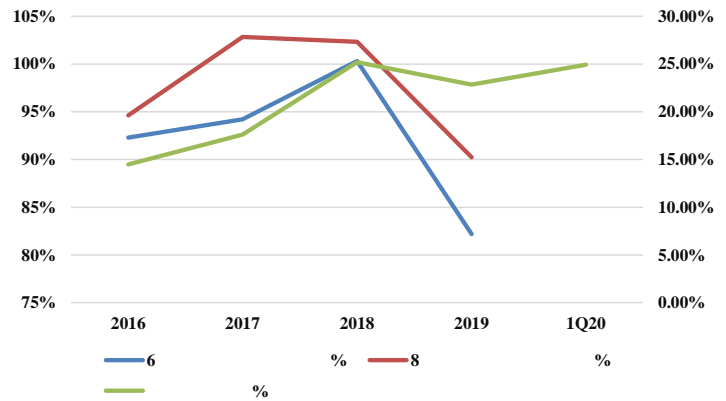
		25	5.00%	3.80%
		8	2.00%	12.25%
		5	0.00%	20.00%
	3 5	0.00%	2.00%	19.60% 33.33%
		8	0.00%	12.50%
		5	0.00%	20.00%

2020Q1

20Q1

IDM

4 20Q1



1.3. IDM

40%+

IDM

IDM

IDM

40%+

1 IDM

IDM

IDM

2019

IDM

29.48%

17.76%

IDM

IDM

IDM

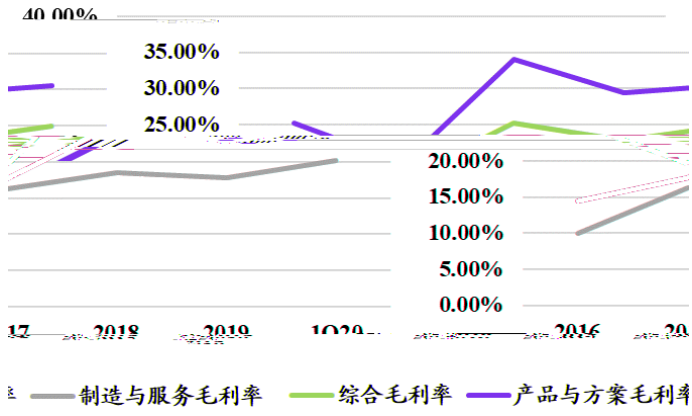
IDM

5

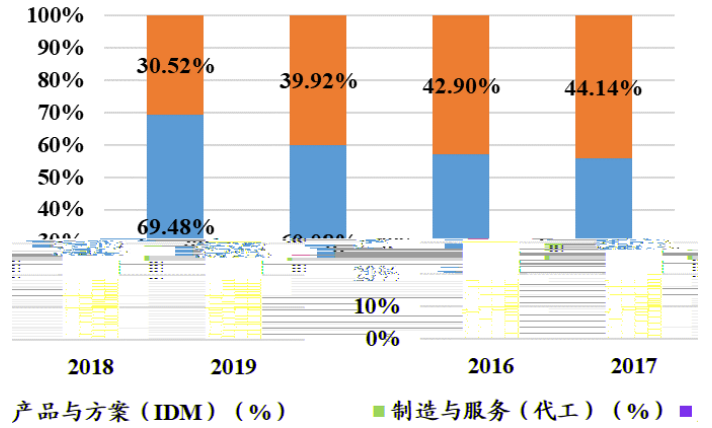
IDM

6 2016-2019

IDM



Wind



Wind

2

IDM
40%+

a

IDM

IDM

IDM

IDM

IDM

IDM

b

IDM

MOSFET

IGBT

IDM

1 2

IDM

2019

IDM

2016-

IGBT

MOSFET+IGBT

26%

32%

58%

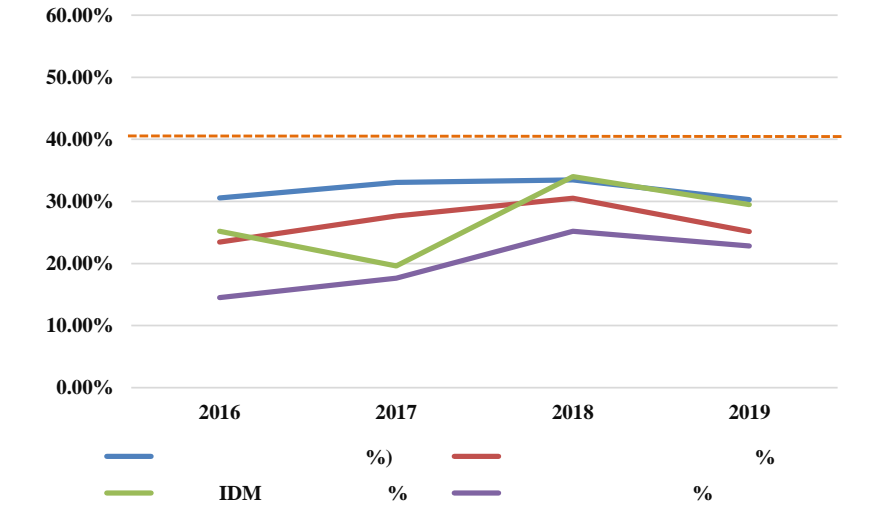
IDM

100%

40%+

7

40%+



1
2
3
2019
2019H1
2019

2.

IGBT

1

MOS

IGBT

2

MEMS

IOT

MEMS

IDM

IDM

Fabless Foundry

IDM

a

b

c

2.1. IGBT

IGBT

IGBT

IGBT

IGBT

Trench-FS

IGBT

IGBT

IGBT

IGBT

8

IGBT

IGBT

6

8

IGBT

IGBT

8 IGBT

IGBT

IGBT

76

21

53

2 82

600V-6500V

IGBT

4 IGBT

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

IGBT

IPM

MOSFET

IGBT

IPM

IPM

IPM MOSFET IPM

IGBT IPM IPM

MOSFET IPM IGBT

600V 15A 2019

IPM IPM 500V 5A IPM IGBT

MOSFET IGBT IPM 600V

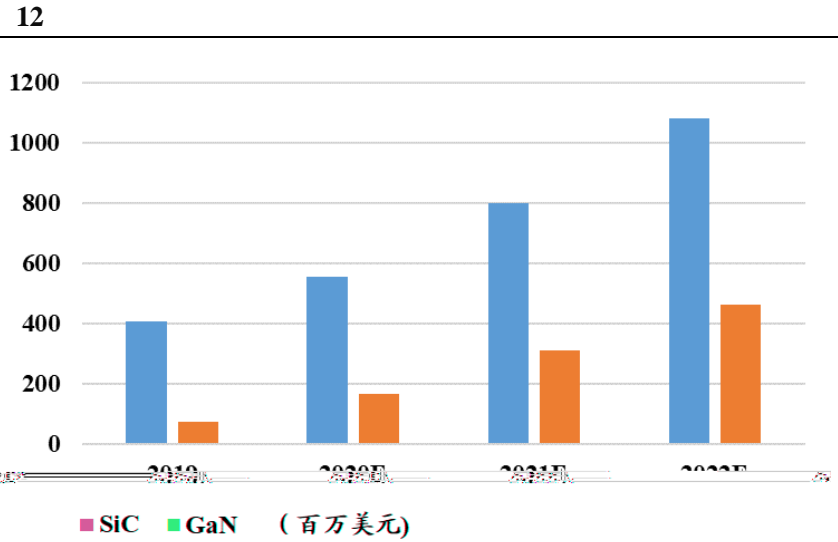
15A

1200V IPM IC

5: IPM

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

Yole Development 11 2022 GaN 4.5
SiC



Yole

6

GaN SiC IDM
650V GaN
SiC JBS SiC MOSFET

6 SiC GaN

GaN

6

SiC

SiC

GaN

GaN

GaN

6
GaN MOCVD

600V

GaN HEMT

650V

SiC

6

SiC

1000

2000

SiC

JBS

)

SiC MOSFET

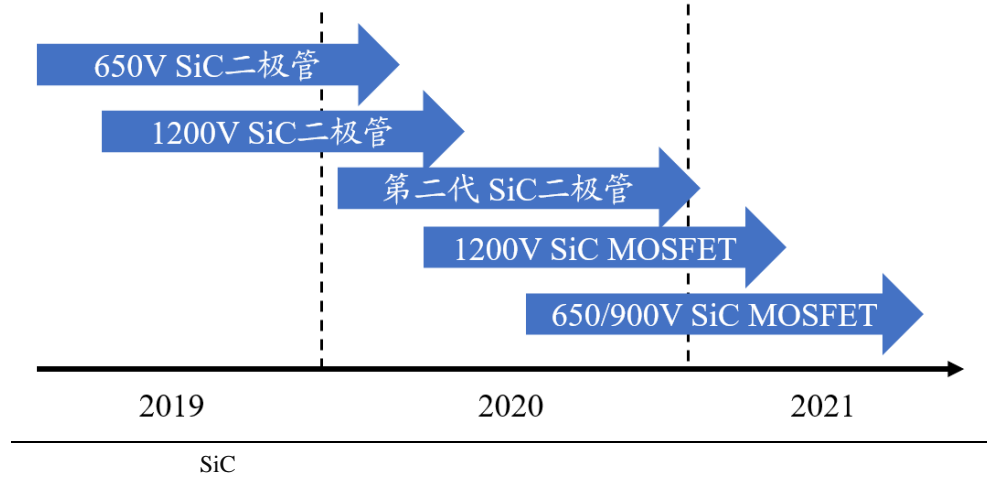
-

1200V 650V SiC JBS

8 SiC MOSFET UPS 650V 1200V 2020 6
2021

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

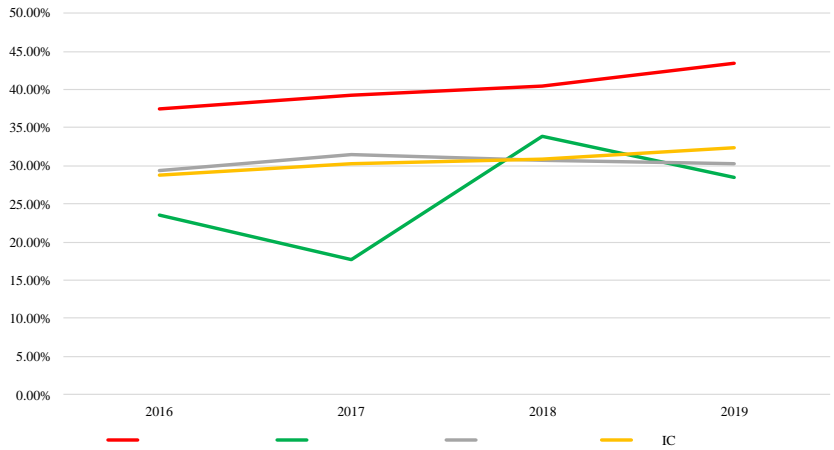
13



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

14 SiC

15 IDM



Wind

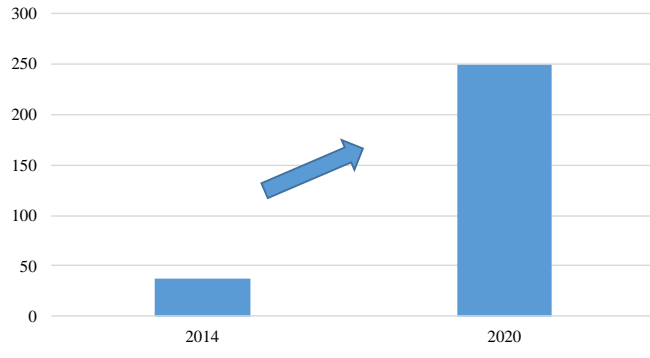
IDM

		MEMS			
		MEMS			
	IDM		Yole Development	2017	
MEMS	IDM				
MEMS	6	8			
					23.1
8	BCD/MEMS		BCD	MEMS	
1.6	MEMS		6	8	2019
8	MEMS				
	3				
6	8				

5G

		Gartner		2014
37.5	2020	250		137.2%
3,000				MCU
			60%-70%	
	IC	MEMS	Sensor Hub	IC

16 2014-2020 CAGR=137.2%



Gartner

MEMS

2018

944

12.56%

MEMS

MEMS

MEMS

60%

MEMS

2018

MEMS

146

10.8%

MEMS

Yole Development

2018-2022

MEMS

14.85%

MEMS

60%

2018

MEMS

523

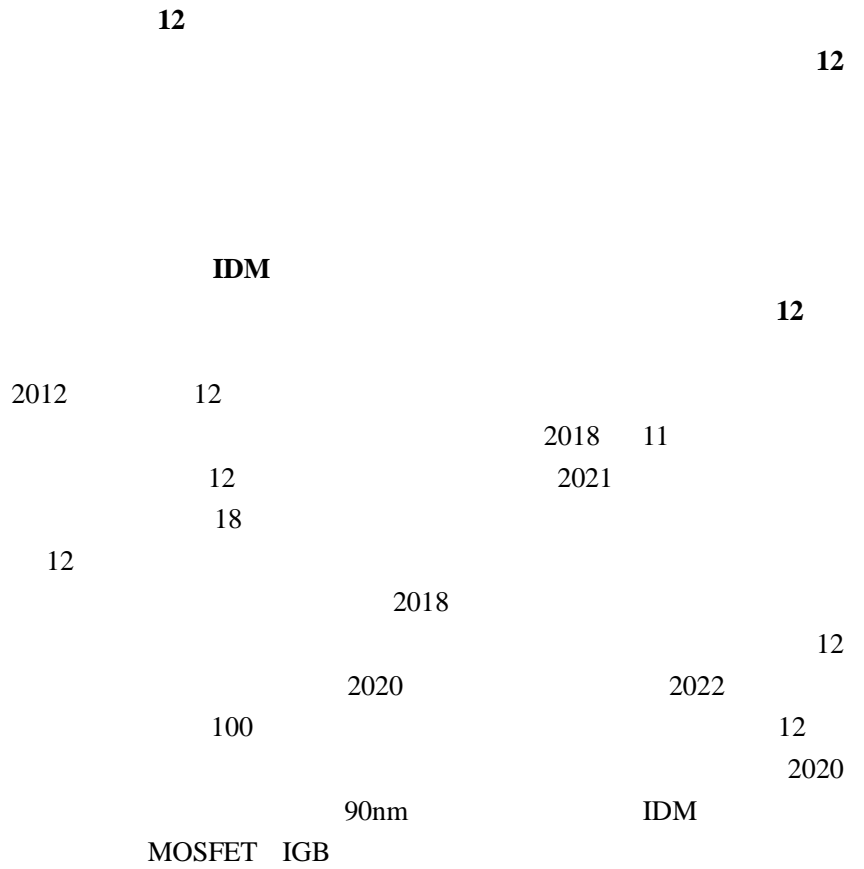
19.5%

2018-2020

17.41%

Yole

3. 12



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

%

