26 .....
27 .....
28

1 K F Ĭ

1. IDM

IDM

1.1.

4 40 1983

4

1

2

IPO

“ ” 7812.5

IPO

5

4

1 SK		2
	3	
1		2
1		

IDM IHS Markit

IDM

8 *IDM*

9 *IDM*

1.3.

Bipolar CMOS DMOS IC

BCD 5700V BCD

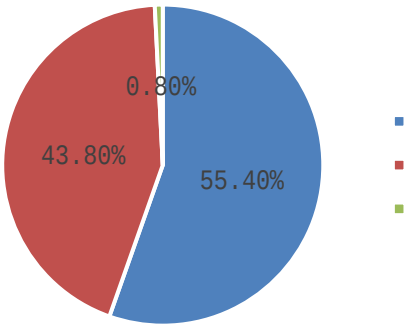
BCD SOI BCD BCD

0.11 m

MEMS

MEMS **CMOS** **MEMS**

14



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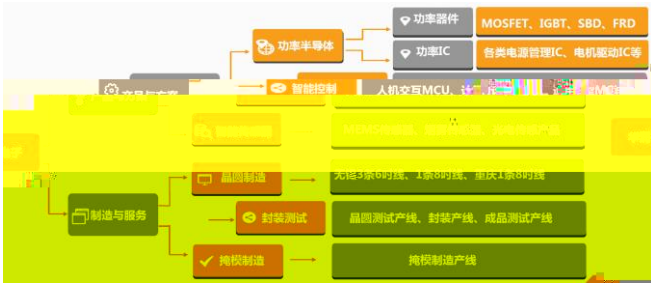

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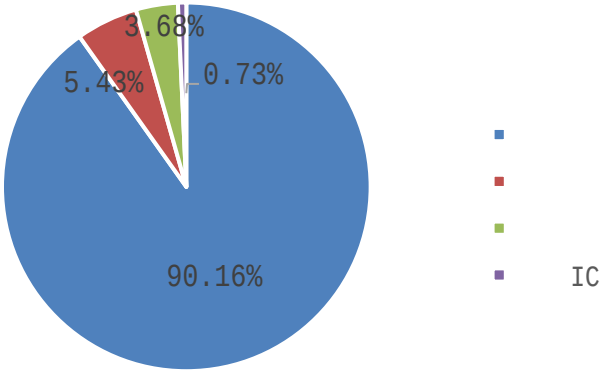


MOSFET

IDM

-100V 1500V

MOSFET MOSFET

VDMOS MOS MOS

17

FRD

IC BCD

BCD

IC IC IC

IC LED IC IC

+

MEMS

1 MEMS

2

ESD

UL

3

19

MEMS

MCU MCU MCU

OTP MTP FlashCMOS 4 8

16 32 CPU

35%

2018

138 9.5% 35%

2021 159

4.8%

28

IHS Markit

IGBT IHS Markit

ASP

Gartner 2016 40% 13% 27%

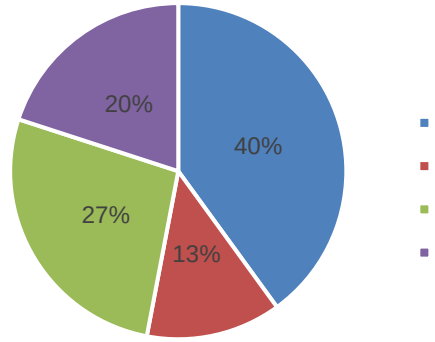
strategic Aanalysis

338 704 108%

21%

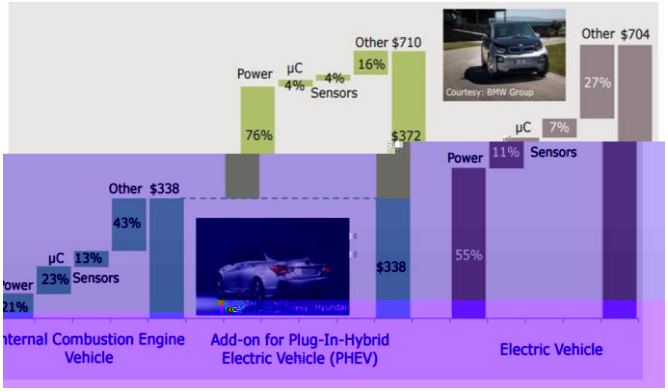
55% 71 387 5

30



Gartner 2016

31



StrategicAnalysis

50

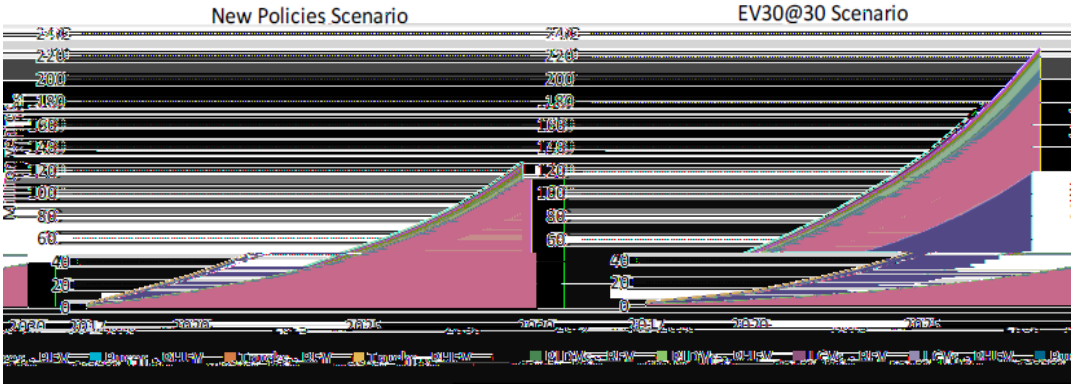
IEA

2020

310 1300 24% 2030 12500

50

32



IEA

2 MEMS

IoT Analytics 2020

30% BIS Research 36%

26.2% 17.2% 10.21%

8.35%

35

BIS Research

MEMS **60%**

2018 MEMS 523 19.5% 2018-2020

17.41%

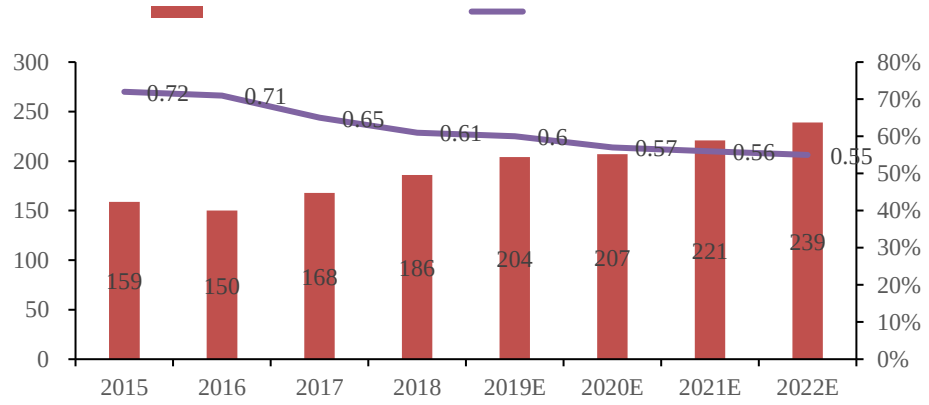
36 ***MEMS***

3 MCU

MCU MCU Micro Control Unit CPU RAM ROM I/O MCU MCU 4 8 16 32

MCU **240** MCU MCU IC Insights 2018 MCU 186.2 3 11.4% 2018-2022 6.42% 2022 MCU 240

37 MCU



IC Insights

MCU **40** MCU IHS Markit 2017 MCU 46 5 9.5%

60

62 69

PEPINNOVATION

40 *IDM*

IDM

41	*%*

Õ

8 IGBT

-

3.24%

SiC 2020 7 4

SiC 1200V 650V SiC

6 SiC

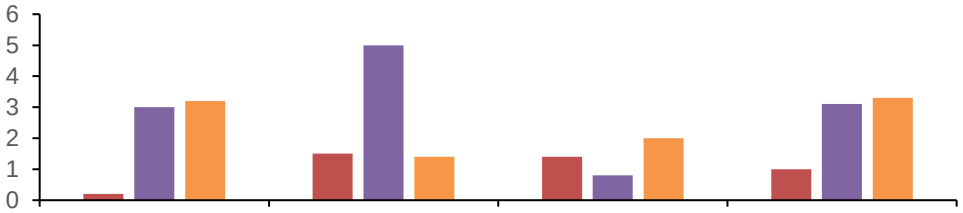
2 IDM

650V GaN SiC JBS SiC MOSFET

Si 2 4 eV

Si SiC

43



ORNL

SiC IHS 2015

3 2

IHS 2015 Si PE SiC GaN

/ 0.06 MOSFET IGBT 0.14 0.61 SiC

Si 10

44 SiC

IHS(2016)

2025

12 50

45 SiC

IHS(2016)

46

IHS(2016)

4.

1

47

/	2018	2019	2020E	2021E	2022E
	3,572.00	3,184.00	3502.40	3782.59	4009.55
	1.50%	-11.00%	10.00%	8.00%	6%
	18.57%	17.76%	18.50%	18.50%	18.50%
	2,683.00	2,516.00	3,019.20	3,562.66	4,097.05
	14.70%	-6.20%	20.00%	18.00%	15.00%
	34.02%	29.48%	33.50%	34.00%	34.50%
	15.00	44.00	35.00	35.00	35.00
	-22%	193.00%	-20%	0%	0%
	28.46%				

49