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



1 K F Ĭ

# 1. IDM

IDM

## 1.1.

4 40 1983

4

*1*

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

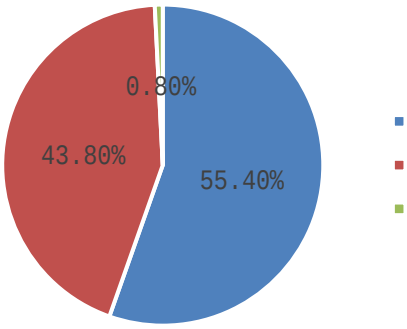
BCD SOI BCD BCD

0.11 m

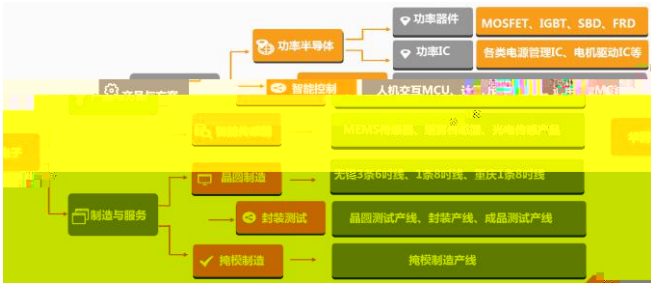
**MEMS**

**MEMS** **CMOS** **MEMS**

*14*




*15*

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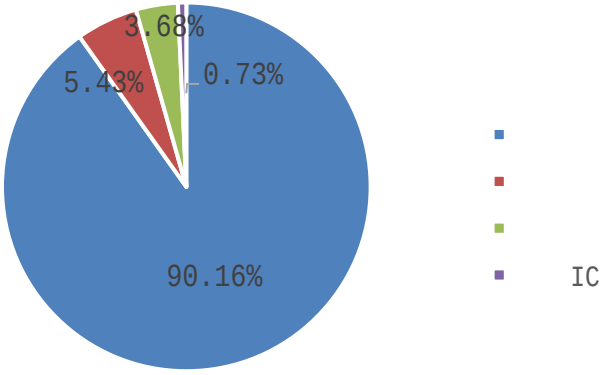



**MOSFET**

**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%

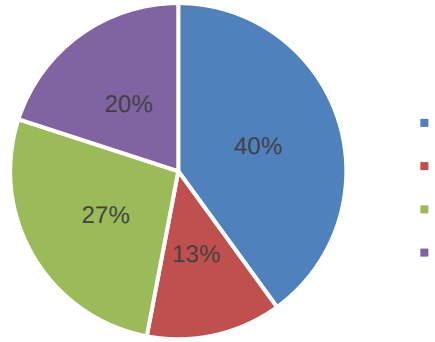
strategic Aanalysis

338 704 108%

21%

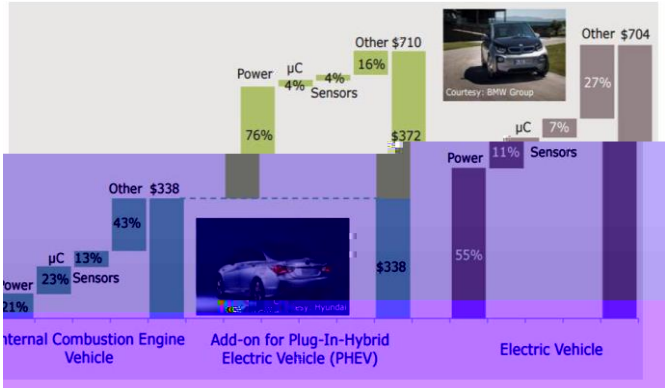
55% 71 387 5

***30***




Gartner 2016

***31***




StrategicAnalysis

**50**

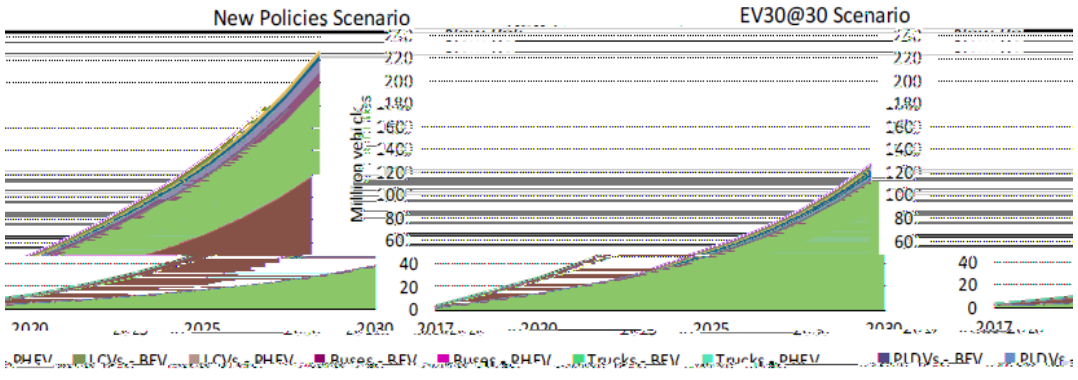
IEA

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%

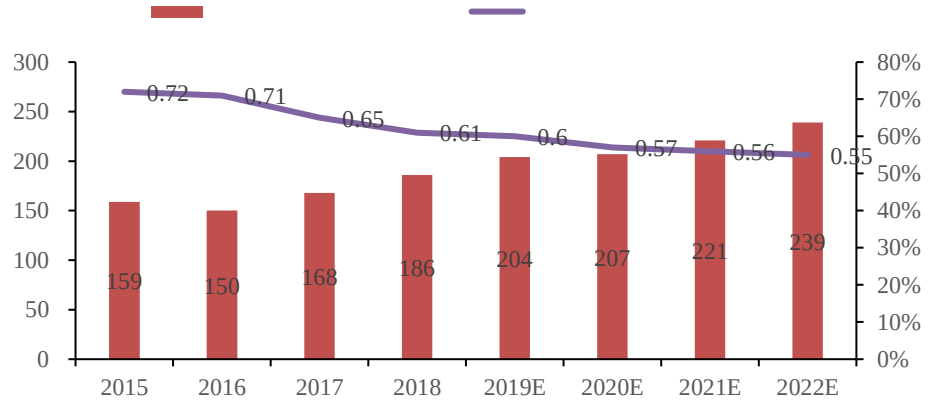
*36* *MEMS*

### 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

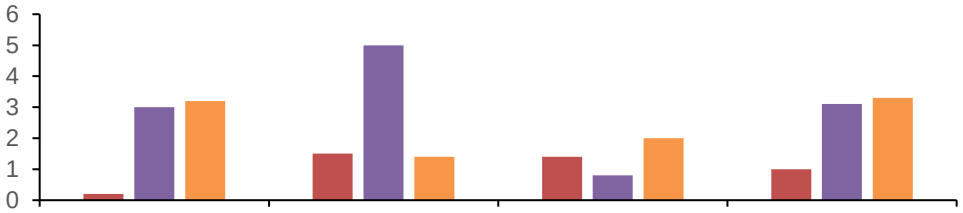
2 IDM

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*