

**SECURITIES AND EXCHANGE COMMISSION**  
WASHINGTON, D.C. 20549

**FORM 8-K**

**CURRENT REPORT**  
**Pursuant to Section 13 or 15(d)**  
**of the Securities Exchange Act of 1934**

**Date of Report (Date of earliest event reported): January 14, 2019**

**DIODES INCORPORATED**  
(Exact name of Registrant as Specified in Its Charter)

**Delaware**  
(State or Other Jurisdiction  
of Incorporation)

**002-25577**  
(Commission  
File Number)

**95-2039518**  
(IRS Employer  
Identification No.)

**4949 Hedgcoxe Road, Suite 200,**  
**Plano, TX**  
(Address of Principal Executive Offices)

**75024**  
(Zip Code)

**Registrant's Telephone Number, Including Area Code: (972) 987-3900**

**Not Applicable**  
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instructions A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

**Item 8.01 Other Events.**

From time to time, Diodes Incorporated (the "Company") may give corporate presentations to its customers, suppliers and other related interested parties. Copies of the Company's corporate presentation slides, updated on January 14, 2019, are attached herewith as Exhibit 99.1.

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits.

<u>Exhibit Number</u>	<u>Description</u>
99.1	Corporate Presentation Slides

**Index to Exhibits**

<u>Exhibit Number</u>	<u>Description</u>
99.1	<a href="#">Corporate Presentation Slides</a>

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Dated: January 14, 2019

DIODES INCORPORATED

By /s/ Richard D. White  
RICHARD D. WHITE  
Chief Financial Officer



**Needham 21st Annual Growth Conference**

New York, New York

January 15<sup>th</sup>, 2019

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Any statements set forth herein that are not historical facts are forward-looking statements that involve risks and uncertainties that could cause actual results to differ materially from those in the forward-looking statements. Such forward-looking statements include, but are not limited to, statements regarding updates to Diodes Incorporated's fourth quarter 2018 business outlook as of November 6, 2018, which include the following: expect revenue to be approximately \$315 million, plus or minus 3 percent, or down 1.9 percent sequentially; expect GAAP gross margin to be 36.0 percent, plus or minus 1 percent; non-GAAP operating expenses, which are GAAP operating expenses adjusted for amortization of acquisition-related intangible assets, are expected to be approximately 21.0 percent of revenue, plus or minus 1 percent; expect net interest expense to be approximately \$2.0 million; expect tax rate to be 29.5 percent, plus or minus 3 percent; shares used to calculate diluted EPS for the second quarter are anticipated to be approximately 52.2 million; purchase accounting adjustments for Pericom and previous acquisitions of \$3.5 million after tax are not included in these non-GAAP estimates; and other statements identified by words such as "estimates," "expects," "projects," "plans," "will," and similar expressions.

Potential risks and uncertainties include, but are not limited to, such factors as: the risk that such expectations may not be met; the risk that the expected benefits of acquisitions may not be realized or that integration of acquired businesses may not continue as rapidly as we anticipate; the risk that we may not be able to maintain our current growth strategy or continue to maintain our current performance, costs, and loadings in our manufacturing facilities; the risk that we may not be able to increase our automotive, industrial, or other revenue and market share; risks of domestic and foreign operations, including excessive operation costs, labor shortages, higher tax rates, and our joint venture prospects; the risk that we may not continue our share repurchase program; the risks of cyclical downturns in the semiconductor industry and of changes in end-market demand or product mix that may affect gross margin or render inventory obsolete; the risk of unfavorable currency exchange rates; the risk that our future outlook or guidance may be incorrect; the risks of global economic weakness or instability in global financial markets; the risks of trade restrictions, tariffs, or embargoes; the risk of breaches of our information technology systems; and other information, including the "Risk Factors" detailed from time to time in Diodes' filings with the United States Securities and Exchange Commission.

This presentation also contains non-GAAP measures. See the Company's press release on November 6, 2018 titled, "Diodes Incorporated Reports Third Quarter 2018 Financial Results" for detailed information related to the Company's non-GAAP measures and a reconciliation of GAAP net income to non-GAAP net income.



## Dr. Keh-Shew Lu

President and CEO

Diodes Incorporated	Since 2005
Texas Instruments	27 years



### Experience:

- Senior Vice President of TI Worldwide Analog and Logic
- President of Texas Instruments – Asia

### Education:

- Master's Degree and Doctorate in Electrical Engineering  
Texas Tech University
- Bachelor's Degree in Engineering  
National Cheng Kung University - Taiwan



## Laura Mehrl (冯蓉媞)

Company spokesperson,  
Director of Investor Relations

Since May 2010

### Experience:

- Director of Investor Relations, Diodes Incorporated, Plano, Texas
- Senior Business Development Manager, STMicroelectronics, Carrollton, Texas
- Sales Director for Analog Devices Inc., Shanghai, China
- Product Marketing Manager at Texas Instruments (TI), Dallas, Texas
- Senior Engineer at Lattice Semiconductor Inc., Hillsboro, Oregon
- Wafer fab design engineer and product engineer at TI, Lubbock, Texas

### Education:

- MBA with concentration in International Marketing, Texas Tech University
- BS in Electrical and Computer Engineering, University of Iowa



A leading global manufacturer and supplier of high-quality **application specific, standard products** within the broad discrete, logic, analog and mixed-signal markets, serving the **Automotive, Industrial, Consumer, Communications, and Computing** segments.



## *Global Operations and World-class Manufacturing & Packaging*

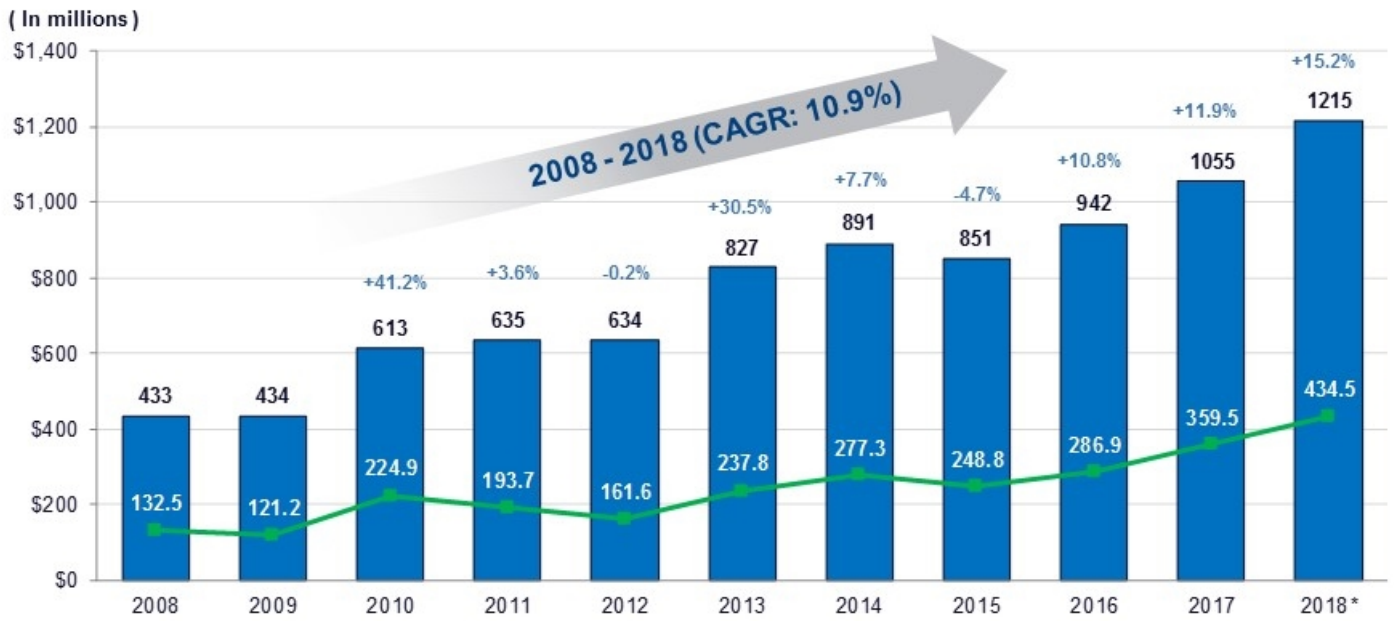
- NASDAQ: DIOD
- Founded in 1959
- Headquartered in Plano, TX; 21 locations globally
- Manufacturing in UK, Germany, China, and Taiwan
- ISO9001:2008 Certified / TS16949:2009 Certified  
ISO14001 Certified
- Key acquisitions:
  - Anachip Corporation, Taiwan Jan. 2006
  - Advanced Power Devices Nov. 2006
  - Zetex June 2008
  - Power Analog Microelectronics (PAM) Oct. 2012
  - BCD Semiconductor Mar. 2013
  - Pericom Semiconductor Nov. 2015
- Over 7700 employees worldwide
- 27 consecutive years of profitability







## 2018: Record Annual Revenue & Gross Profit



\*2018 estimate based on midpoint of 4Q'18 guidance as provided on November 6, 2018



- Goal 1: \$1B Market Cap
- Goal 2: \$1B Annual Revenue
- Goal 3: \$1B Gross Profit
- Goal 4: \$1B Profit Before Tax

✓ 2010

✓ 2017

● \$1B PBT

● \$1B Gross Profit

✓ \$1B Revenue

✓ \$1B Market Cap



## Mission:

Profitability growth to  
expand shareholder value

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## Strategy:

Grow revenue to \$2.5B  
at 40% GPM

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## Goal:

\$1B Gross Profit by 2025



	2017		2025	Implied CAGR
NR	\$1B	→	2.5B	11.4%
GP%	35%	→	40%	
<b>GP\$</b>	<b>\$360M</b>	<b>→</b>	<b>\$1B</b>	<b>13.6%</b>
R&D%	5%	→	7%	
SG&A%	15%	→	13%	
<b>Op. Profit</b>	<b>15%</b>	<b>→</b>	<b>20%</b>	



Based on the midpoint of 4Q18 guidance, NR would grow 15.2% YoY, GP\$ would grow 20% YoY in 2018



~40% of  
revenue

## **Automotive**

- Connected driving, comfort/style/safety, electrification/powertrain

## **Industrial**

- Embedded systems and precision controls

~60% of  
revenue

## **Consumer**

- IoT: wearables, home automation, smart infrastructure

## **Communications**

- Smart phones: advanced protocols and charging

## **Computing**

- Cloud computing: server, storage, data centers



## Connected driving

- **ADAS** (Advanced Driver Assistance Systems)
- **Telematics**
- **Infotainment Systems**

## Comfort, style and safety

- **Lighting**
  - Migration to LED and intelligent illumination
- **Brushless Motor Control (BLDC)**
  - Migrating from Brushed to Brushless DC Motors

## Electrification/Powertrain

- **Conventional Powertrain → Hybrid → Electrification**
- **Battery management**
  - Move to 48V battery

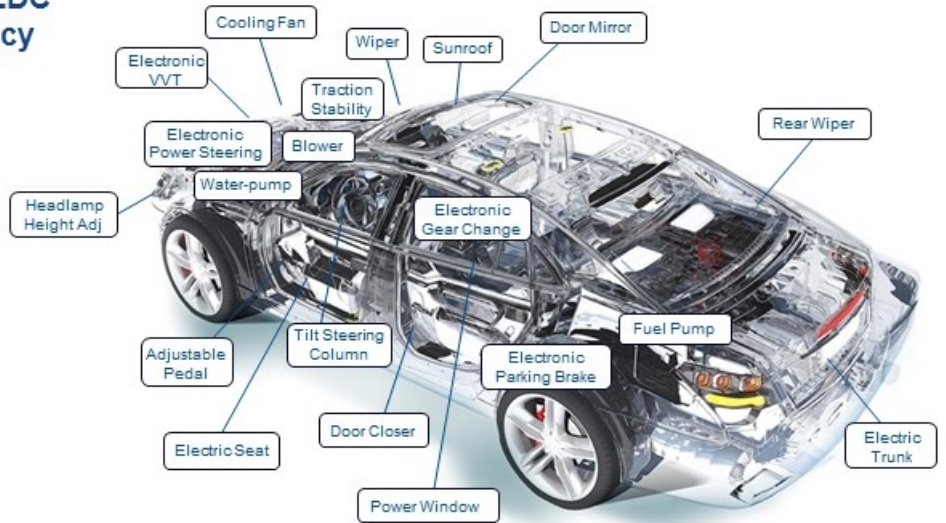


## Migrating from Brushed to BLDC Motors (~ 30 per vehicle)

Automotive market moving to BLDC motors for reliability and efficiency

- Forecast to grow to 3.8 Billion units by 2021

Diodes Key Products	\$/ Car
MOSFETs	\$18.75
Diodes Rectifiers	\$2.60
Hall Sensors	\$0.50
Gate Drivers	\$1.50
Crystals/XO	\$2.00
<b>Total</b>	<b>\$25.35</b>

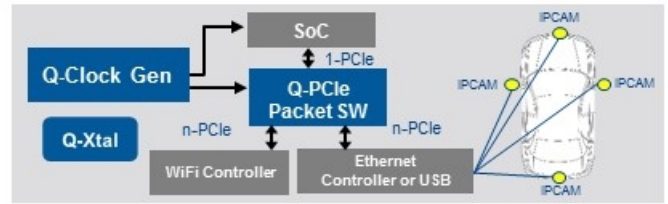




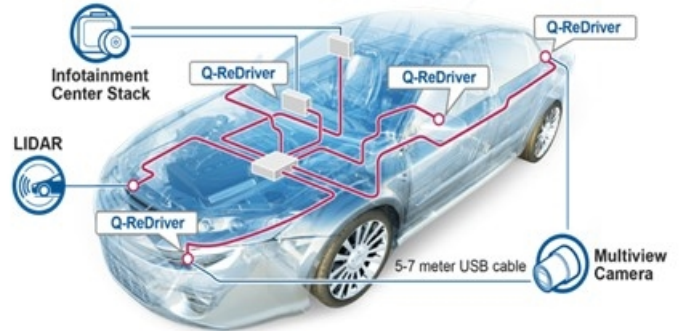
## Higher speed data rates and increased number of channels

### Robust and reliable data transfer

- ADAS, Telematics and Infotainment systems are merging into Connected Driving
- Forecast to grow to 280 Million units by 2021



Diodes Key Products	\$ / Car
Connectivity: (PCIe SW + ReDrivers, Signal SW, USB charger)	\$8.50
Crystal/XO and Clocks	\$3.50
Automotive Analog IC	\$1.52
MOSFETs, BJT	\$6.62
Diodes and Rectifiers	\$3.60
<b>Total</b>	<b>\$23.74</b>



## Diodes can address \$70 of semiconductor content per vehicle

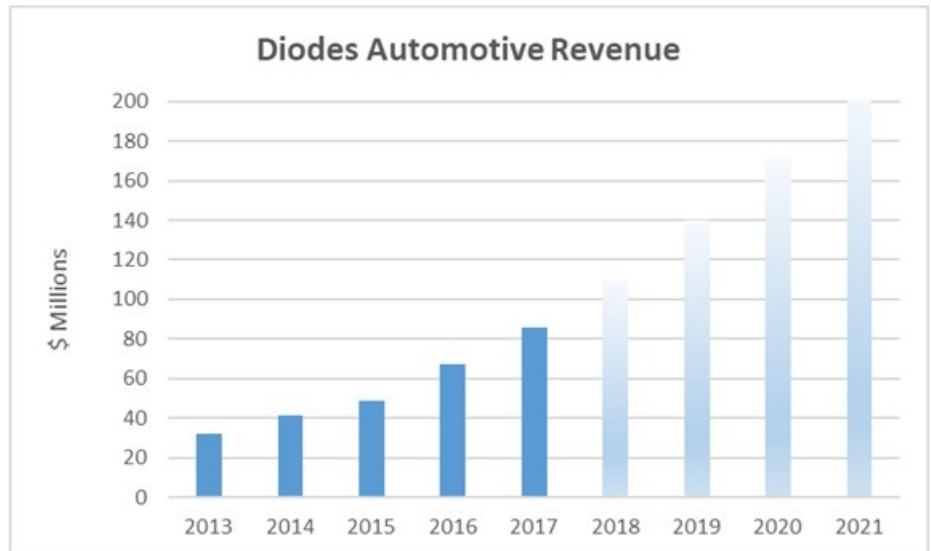
Diodes Key Products	\$/Car
Analog	\$2.02
Power Management	\$5.99
MOS/BJT	\$35.02
Diodes and Rectifiers	\$12.69
Timing and Connectivity	\$15.03
<b>Total</b>	<b>\$70.75</b>

**With 95M vehicles built in 2017,  
Diodes addressable SAM is \$6.7 Billion.**

\* SemiCast Automotive Report 2016 forecast



- **Automotive revenue 27% CAGR 2013 to 2017**
- **Automotive represented 9% of Diodes' total revenue in 2018**
- **Automotive will continue to be an increasingly significant market segment for Diodes**



- Increasing IC content in embedded systems
- Switching and signal path for networked systems and automation
- Signal conditioning and timing for precision controls
- Motor controls, sensors and power management for smart meters



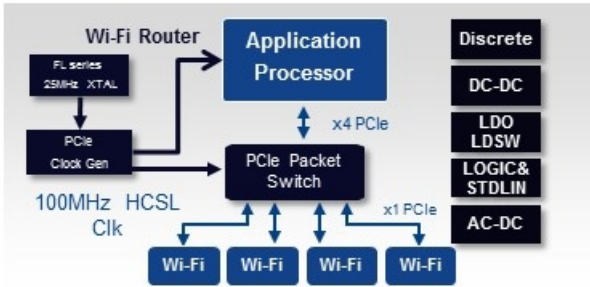
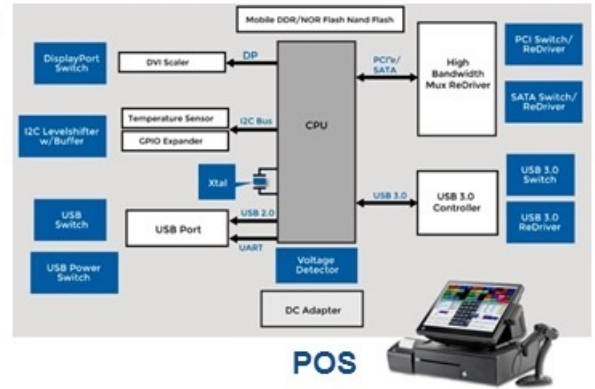
- **M2M – Dominated by short range technology**
  - 73% of them are short range, mostly Wi-Fi
- **2017: connections @ 750 million**
- **2023: connections @ 2600 million**

### M2M – By product

- IoT and M2M Modems
- Routers
- POS
- Wireless beacons
- Others

### M2M – By application

- Smart Infrastructure
- POS
- Manufacturing / Industrial



### Growth Opportunities:

- Power
- Xtal and clock
- Packet switch

Diodes Key Products	\$ / Device
Analog	\$0.20
Power Management	\$1.30
MOS/BJT	\$3.39
Diodes and Rectifiers	\$2.99
Timing and Connectivity	\$3.50
<b>Total</b>	<b>\$11.38</b>



**Smart Infrastructure**

**Consumer & Home**

**Wearables**

**Asset Tracking**

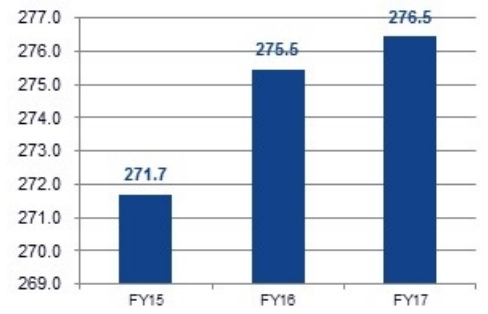
**DIODES INCORPORATED**

**Retail**

**Enterprise**

**Security & Surveillance**

**Consumer (\$M)**



Diodes Key Products	\$ / Box
Analog	>\$0.20
Power Management	>\$1.30
MOS/BJT	>\$10.00
Diodes and Rectifiers	>\$5.00
Timing and Connectivity	\$3.50
<b>Total</b>	<b>\$20.00</b>



## Smart Home – up to 477Mu

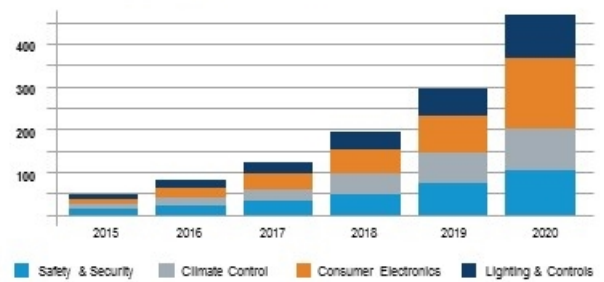
- Safety and Security
- Climate Control
- Consumer Electronics
- Lighting control

## Growth Opportunities

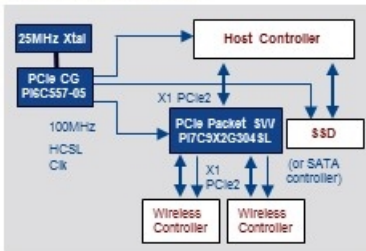
- Power
- LED driver
- Xtal and clock
- Packet switch

Diodes Key Products	\$ / Box
Analog	\$0.25 ~ \$0.40
Power Management	\$1.80
MOS/BJT	\$1.10
Diodes and Rectifiers	\$0.50
Timing and Connectivity	\$3.50
<b>Total</b>	<b>\$7.30</b>

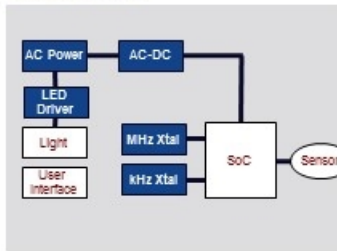
World market for connected home devices (excluding energy and controls) Unit Shipments, 2015 - 2020



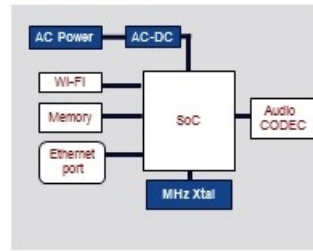
### Smart Home Gateway



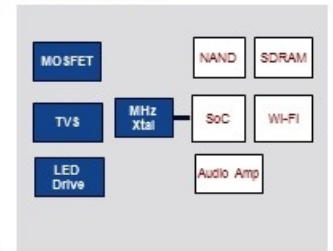
### Smart Lighting



### Smart Speaker



### Digital Assistant



- Focus on signal integrity and higher data rates
- Proliferation of USB Type-C™ connectivity and power delivery
- Power regulation and protection for new features
- Advanced power solutions for quick charge protocols





## Smartphone – Flat year in 2017

### What's next?

#### Understand the impact

- Smart speaker/IoT rising
- AR / VR
- Foldable screens
- 5G
- Smartwatches

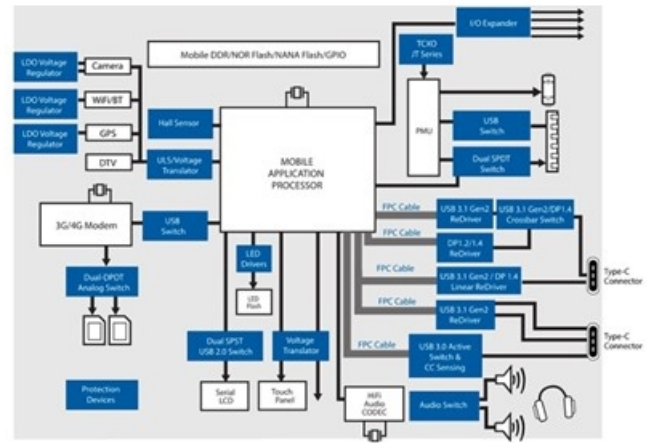
### Growth Opportunities

- Type-C
- MUX
- MOSFET
- LDO, OVP LDSW, Audio, DCDC, LED/OLED Driver, ACDC

### Top Five Smartphone Companies in SEA, Calendar Year 2017

Company	2016 Shipment Volumes	2016 Market Share	2017 Shipment Volumes	2017 Market Share	Year-Over-Year Change
1. Samsung	23.3	23.0%	29.3	29.1%	25.8%
2. OPPO	13.3	13.2%	17.2	17.0%	29.3%
3. Vivo	3.3	3.2%	7.2	7.2%	118.2%
4. Huawei	5.2	5.1%	5.4	5.4%	3.8%
5. Apple	4.6	4.5%	4.5	4.4%	-2.2%
Others	51.6	51.0%	37.1	36.8%	-29.1%
<b>Total</b>	<b>101.3</b>	<b>100.0%</b>	<b>100.7</b>	<b>100.0%</b>	<b>-0.6%</b>

Source: IDC Worldwide Quarterly Mobile Phone Tracker, March 2018



Diodes Key Products	\$ / Phone
Analog	\$0.55
Power Management	\$1.50
MOS/BJT	\$0.33
Diodes and Rectifiers	\$0.42
Timing and Connectivity	\$3.00
<b>Total</b>	<b>\$5.80</b>



- WW enterprise and service provider router market grew 4% in 2017 to \$12.5B
- Continues to exhibit healthy growth, driven by network refreshes and investments in the fast-growing campus and datacenter segments

### Growth Opportunities

- Power
- Xtal XO, and clock
- Packet switch
- ReDriver



### Switching & Router Market Leaders



Diodes Key Products	\$ / Router
Analog	\$0.20
Power Management	\$0.30
MOS/BJT	\$3.70
Diodes and Rectifiers	\$2.10
Timing and Connectivity	\$13.00
<b>Total</b>	<b>\$19.30</b>



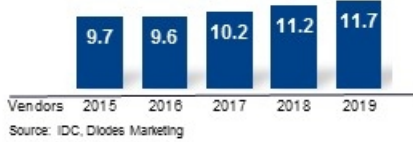
- ReDriver support for USB connectivity
- Wide range of signal protocols: PCIe, SAS, SATA, GbE, USB
- MUX products for high capacity solid state storage
- Crystal oscillators for increasing clocking speeds



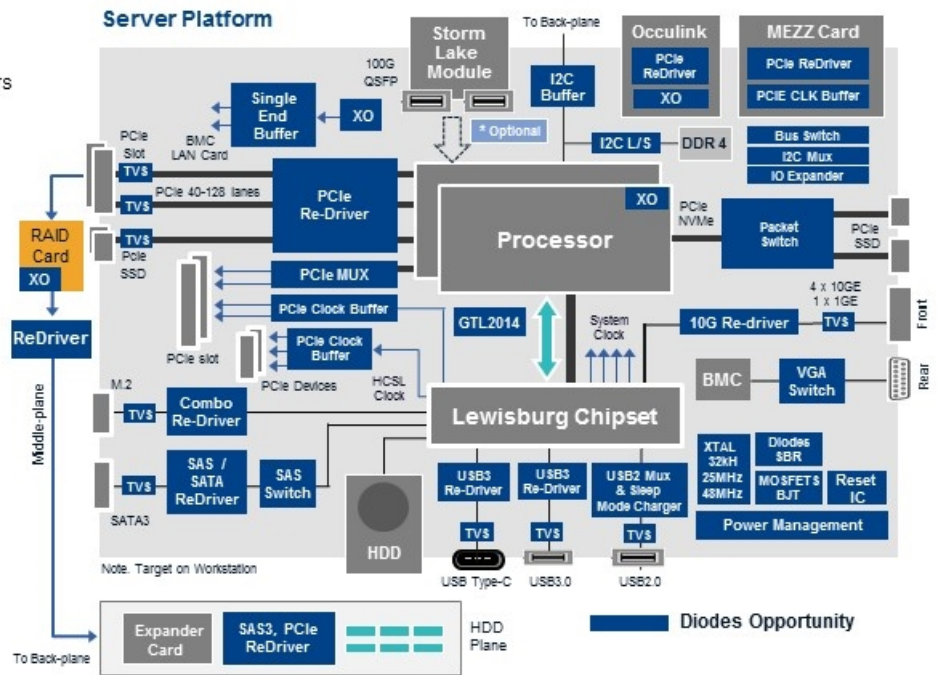
## Server Platform Solution

- Total unit shipment Growth (CAGR) = 3.82%
- Almost all of Server vendors are our existing customers
- ODM direct has the highest volume – mainly in TW
- Diodes products are well positioned in this segment
  - Connectivity, Signal Integrity, Timing, Standard Linear, Power Management, Power Switches and Protection devices

## WW Server total shipments (Mu)



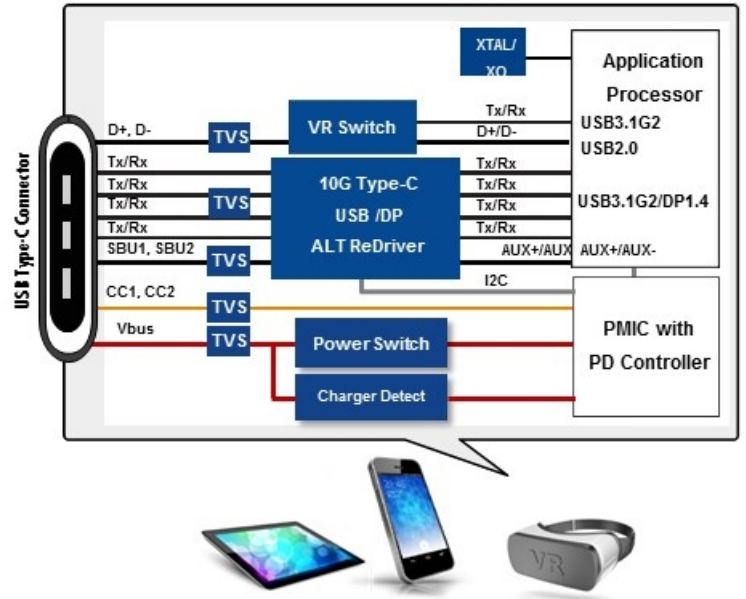
Diodes Key Products	\$ / Server
Connectivity, Signal Integrity and Timing	\$7.00
Analog	\$0.50
Power Management	\$3.30
MOS/BJT	\$6.70
Diodes, Rectifiers and TVS	\$3.50
<b>Total</b>	<b>\$21.00</b>



## Data speed, flexibility, and simplicity of use are key drivers

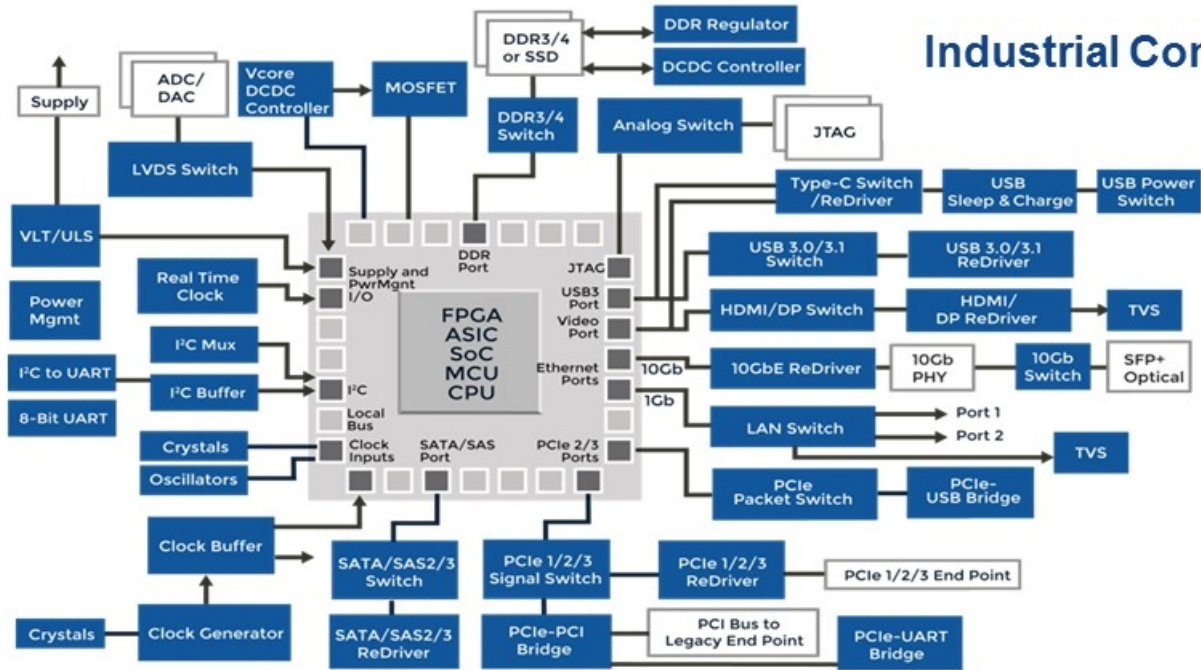
- Supports data, video, and power
- USB-C adoption to grow from 300M (2016) to 4B units (2021) - IHS Dec 2017

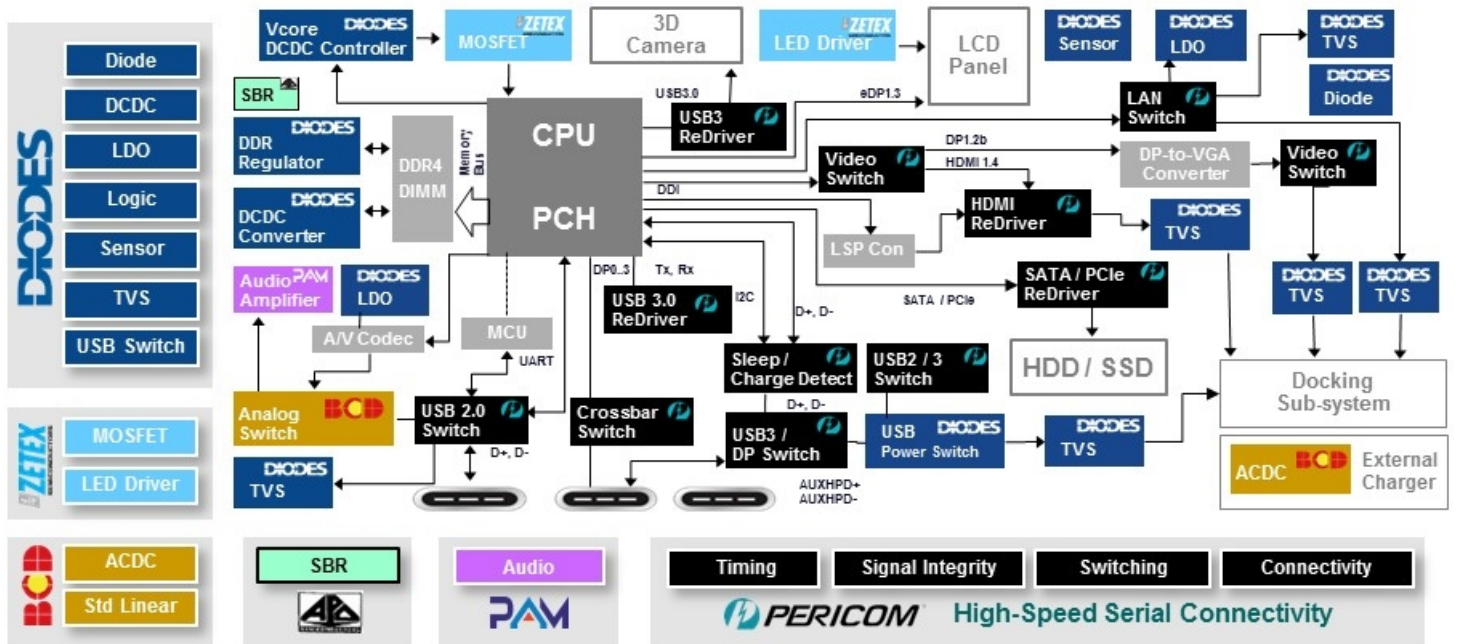
Diodes Key Products	\$ / Device
Connectivity, Signal Integrity and Timing	\$2.05
Analog (DCDC, LDO, Sleep Mode Charger etc)	\$0.64
Power Management Switch	\$0.46
TVS	\$0.50
<b>Total</b>	<b>\$2.55 ~ \$3.65</b>





## Industrial Controls







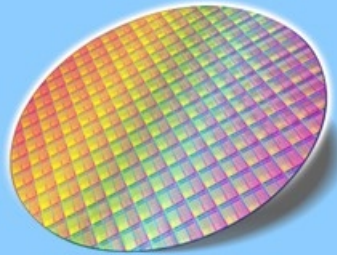
## Products



- 20Gbps ReDrivers and Switches
- Automotive Packet Switch for Telematics / ADAS
- Complete USB Type-C™ Signal Switching
- High speed clocking for cloud computing
- Ultra low power and low noise LDOs for IoT
- Low  $C_j$  TVS for signal integrity
- Lowest  $r_{DS(on)}$  LDMOS for battery efficiency

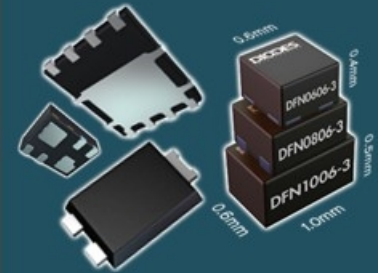
## Wafer Fab

- High performance 8" MOSFET trench technology
- Advanced Epi bipolar transistor processes
- Proprietary rectifier technology
- Rugged automotive grade NMOS and PMOS



## Assembly/Test

- Compact QFN and DFN
- Power density PowerDI
- Chip scale packaging and plating capability
- Extensive multi-chip package technology



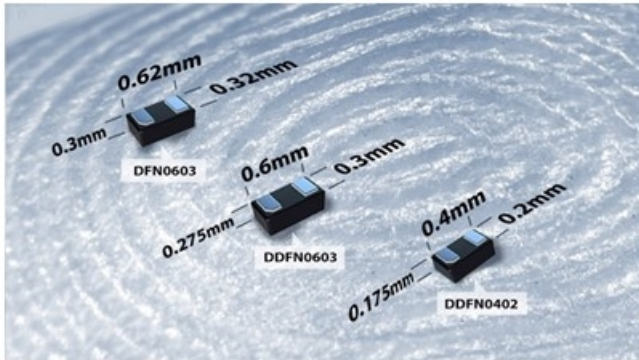
## Focus: Miniaturization and Power Efficiency



## Miniaturization and Multi-Chip Packaging

### Miniaturization

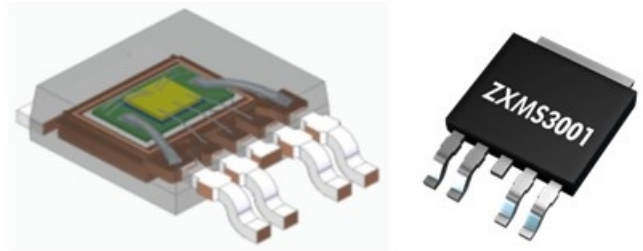
**DDFN0402**  
the smallest discrete  
semiconductor package



### Multi-Chip Packaging

Dual-Flat No-Lead (DFN) DDFN  
(Encapsulated CSP) Chip-Scale  
Package (CSP)

HS IntelliFET: ZXMS3001



## Packaging

- Shanghai-based packaging with capacity over 34 billion units
- Chengdu facility has potential capacity 3X of Shanghai
- Additional facilities in Neuhaus, Germany and Chengdu, China



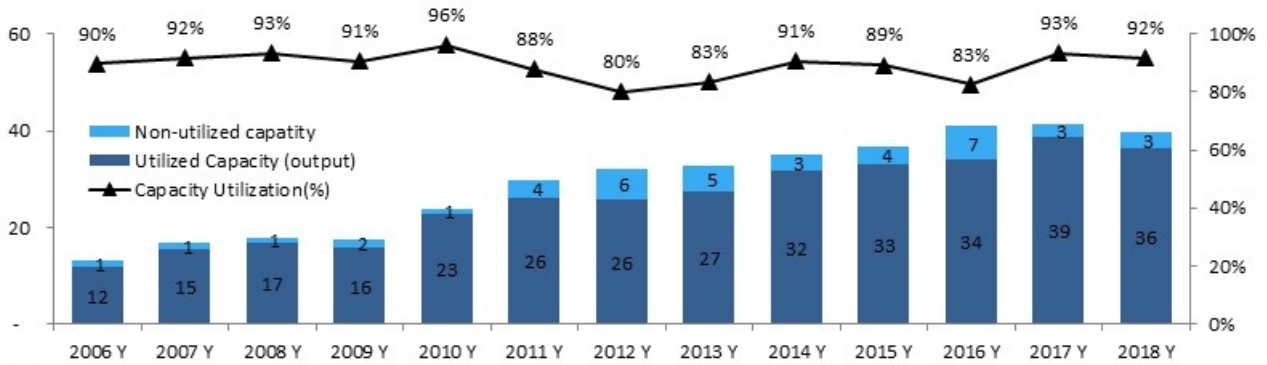
## Wafer Fabs

- Two fabs in Shanghai (6" and 8"), one discrete fab in Oldham, UK (6")
- Bipolar, BiCMOS, CMOS and BCD process
- Strong engineering capabilities



Economies of Scale: Capacity & Loading Percentage in SAT & CAT

\*CapEx Model = 5% - 9% of Revenue



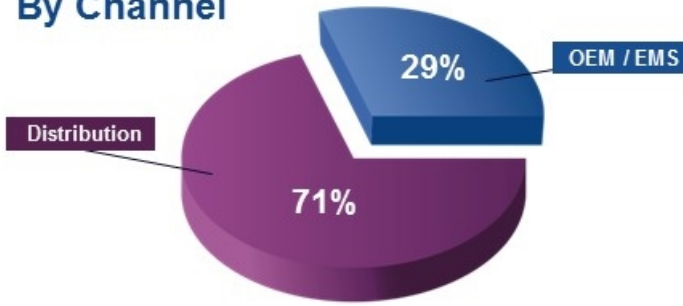
In millions, except per share	3Q17	2Q18	3Q18	YoY
Revenue	\$285.2	\$304.1	\$320.9	12.5%
Gross Profit (GAAP)	\$96.3	\$107.3	\$115.2	19.6%
Gross Profit Margin % (GAAP)	33.8%	35.3%	35.9%	+210bp
Net Income (GAAP)	\$14.5	\$25.1	\$30.9	
Net Income (non-GAAP)	\$22.6	\$29.3	\$34.5	52.7%
EPS (non-GAAP)	\$0.45	\$0.58	\$0.68	51%
Cash Flow from Operations	\$40.9	\$34.4	\$35.5	
EBITDA (non-GAAP)	\$46.8	\$64.5	\$72.0	53.9%



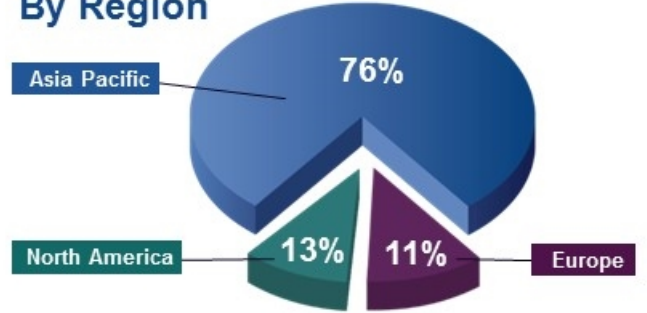
In millions	Dec 31, 2016	Dec 31, 2017	Sept 30, 2018
Cash	\$248	\$204	\$150
Short-term Investments	\$30	\$5	\$7
Inventory	\$193	\$217	\$219
<b>Current Assets</b>	<b>\$733</b>	<b>\$662</b>	<b>\$647</b>
<b>Total Assets</b>	<b>\$1529</b>	<b>\$1489</b>	<b>\$1467</b>
Long-term Debt ( including the current portion)	\$413	\$247	\$166
<b>Total Liabilities</b>	<b>\$708</b>	<b>\$615</b>	<b>\$515</b>
<b>Total Equity</b>	<b>\$820</b>	<b>\$874</b>	<b>\$952</b>



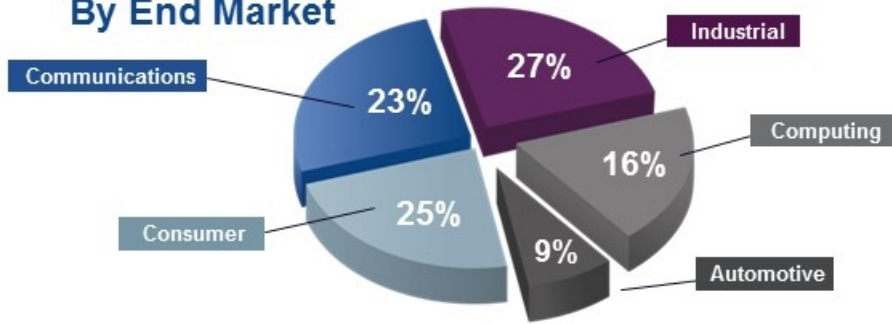
### By Channel



### By Region



### By End Market



- Revenue to be approximately \$315 million, plus or minus 3 percent, or down 1.9% q/q
- GAAP gross margin to be 36.0%, plus or minus 1%
- Non-GAAP operating expenses, which are GAAP operating expenses adjusted for amortization of acquisition-related intangible assets, are expected to be approximately 21.0% of revenue, +/- 1%
- Interest expense to be approximately \$2.0 million, and income tax rate is expected to be 29.5%, +/- 3%
- Shares used to calculate diluted EPS approximately 52.2 million
- Purchase accounting adjustments of \$3.5 million, after tax, for Pericom and previous acquisition are not included in these non-GAAP estimates

*\*Guidance as provided on November 6, 2018*





- **Vision: Expand shareholder value**
- **Mission: Profitability growth to drive 20% operating profit**
- **Next Strategic Goal: \$1B gross profit**
- **Tactics:**
  - Increased focus on high-margin Automotive, Industrial and Pericom products
  - Investment for technology leadership in target products, fab processes, and advanced packaging
  - System solutions to drive business expansion



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**Thank you**



