



Analog and Discrete  
Power Solutions

# Investor Relations

Diodes Incorporated (DIOD)

Plano, TX, USA

August 8, 2024



Safe Harbor Statement Under the Private Securities Litigation Reform Act of 1995: Any statements set forth above 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 statements include statements containing forward-looking words such as “expect,” “anticipate,” “aim,” “estimate,” and variations thereof, including without limitation statements, whether direct or implied, regarding expectations of that for the third quarter of 2024, we expect revenue to be approximately \$346 million plus or minus 3 percent; we expect GAAP gross margin to be 34.0 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 27.5 percent of revenue, plus or minus 1 percent; we expect non-GAAP net interest income to be approximately \$2.5 million; we expect our income tax rate to be 18.5 percent, plus or minus 3 percent; shares used to calculate diluted EPS for the third quarter are anticipated to be approximately 46.6 million. 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 operating costs, labor shortages, higher tax rates, and our joint venture prospects; 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 August 8, 2024 titled, “Diodes Incorporated Reports Second Quarter Fiscal 2024 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

Chairman and CEO

### Experience:

- **President & CEO, Diodes Incorporated (2005 – 2023)**
- **Texas Instruments 27 years**
  - Senior Vice President of TI Worldwide Analog and Logic
  - President of Texas Instruments – Asia

### Education

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



## Gary Yu

President

### Experience:

- **Diodes Incorporated, since 2008**
  - Chief Operating Officer
  - Senior Vice President, Business Groups
  - President, Asia Pacific Region
  - General Manager, Shanghai Wafer Fabrication and BCD Business Unit
  - Vice President of Asia Pacific Sales
  - Manager, Sensor and Satellite Business Unit
- **Lite-On Semiconductor Corporation**
  - Vice President, Worldwide Sales
- **Texas Instruments**
  - IT, Finance and Capacity Planning

### Education:

- MBA - University of Dallas
- Master's Degree in Telecommunication Engineering, Southern Methodist University
- Bachelor's Degree in MIS, Fu-Jen University, Taiwan



## Gurmeet Dhaliwal

Head of Corporate Marketing & Investor Relations

### Experience:

- Head of Corporate Marketing, Diodes Incorporated
- Head of Corporate Marketing, Pericom Semiconductor
- Vice President, Marketing, CA Technologies (Broadcom)
- Director, Global Marketing Strategy, EMC
- Director, Marketing, Zarlink Semiconductor (Microchip)
- Marketing Management positions at Cisco and National Semiconductor (TI)

### Education:

- MBA, Marketing/Entrepreneurship, Saint Mary's College of California
- BS in Electrical and Computer Engineering, UC Santa Barbara



Diodes delivers analog and discrete power solutions through its high-quality semiconductor products to the world's leading companies in the automotive, industrial, computing, consumer electronics, and communications markets



**65**  
Years in  
business



**32**  
Consecutive years  
of profitability




**~8400**  
Number of  
employees



**1.7Bn**  
Annual Revenue  
2023




**DIOD**  
Stock  
Symbol




**46%**  
of 2023 product  
revenue from  
automotive/industrial



**>28K**  
Number of  
products (SKU)  
shipped in 2023



**>42Bn**  
Number of  
units shipped  
in 2023



**>50K**  
Number of  
customers

**Vision:**  
Profitability  
Growth to  
Maximize  
Shareholder Value

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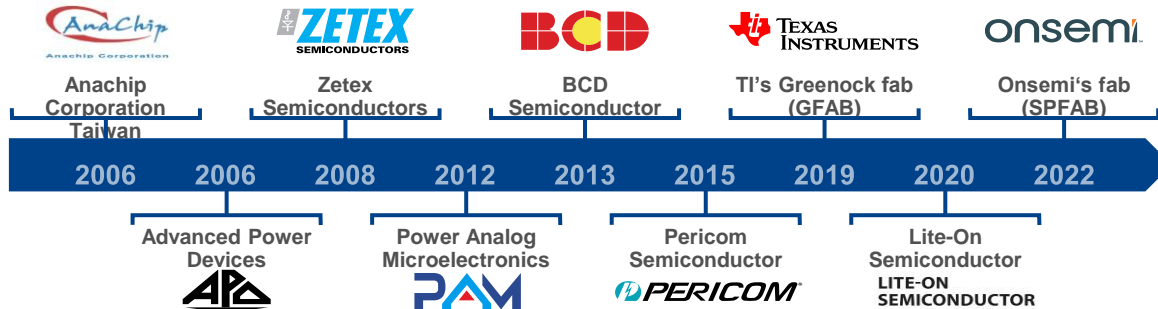
**Our Core Values:**  
Integrity,  
Commitment,  
Innovation

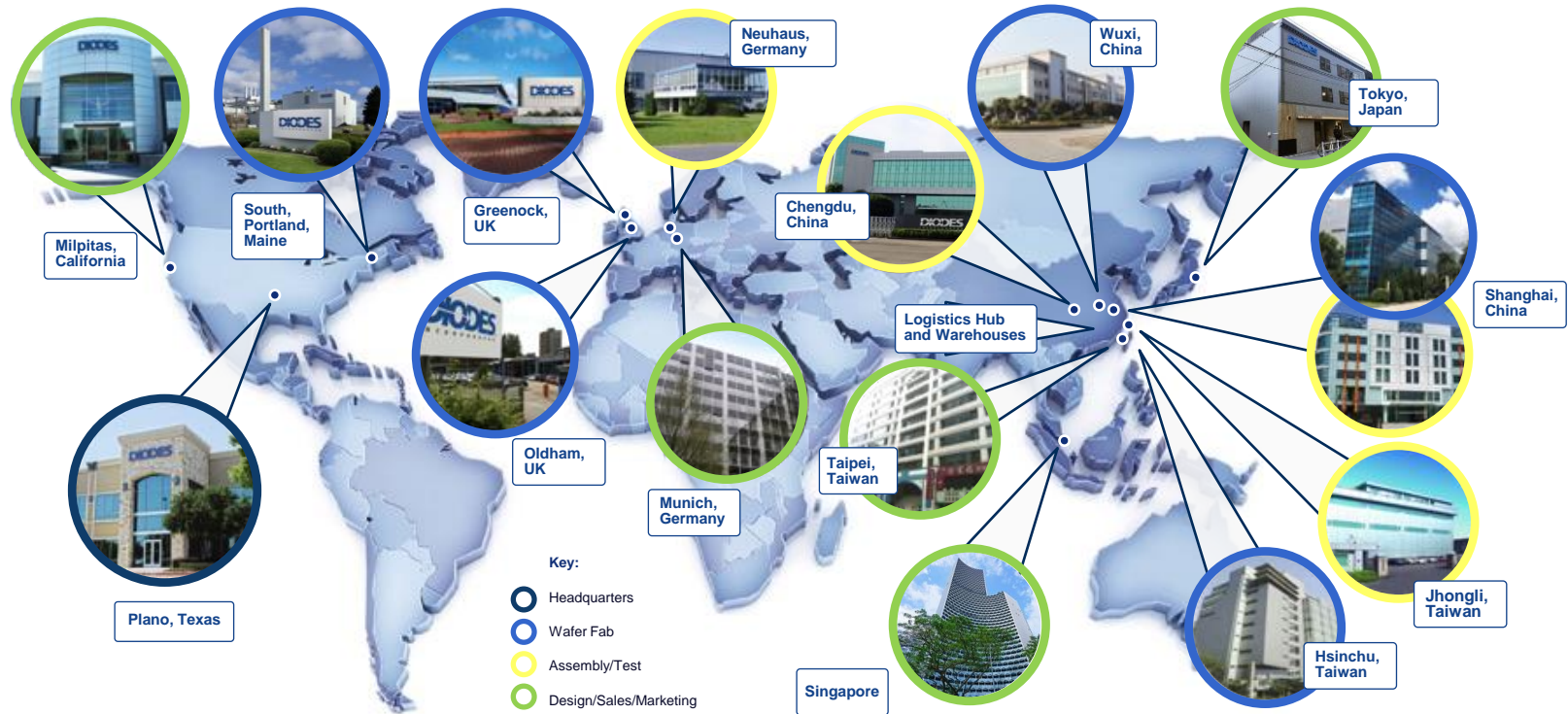
## Global Operations and World-class Manufacturing

- Headquartered in Plano, TX
- Manufacturing in US, UK, Germany, China, and Taiwan
- ISO 9001:2015 Certified / IATF 16949:2016 Certified
- ISO 14001:2015 Certified



## Key Acquisitions







## Our commitment to a sustainable and profitable business is built around ESG

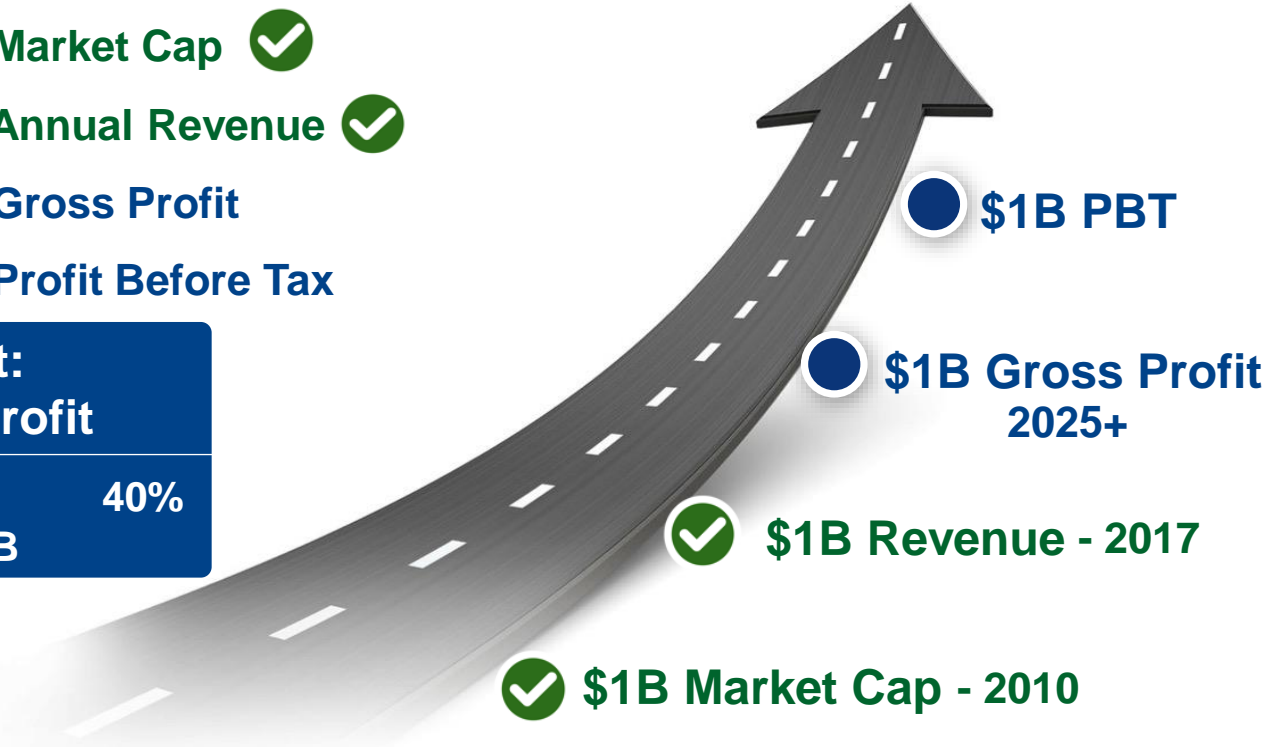


# Longer Term \$B Corporate Objectives

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

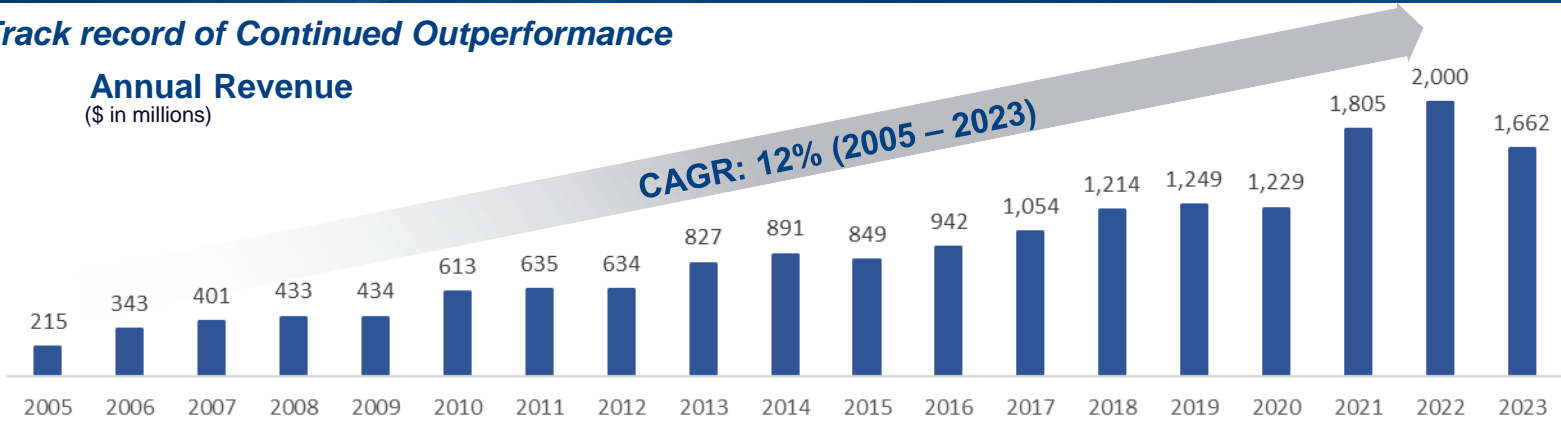
**2025+ Target:  
\$1B Gross profit**

**Gross Margin: 40%**  
**Revenue: \$2.5B**

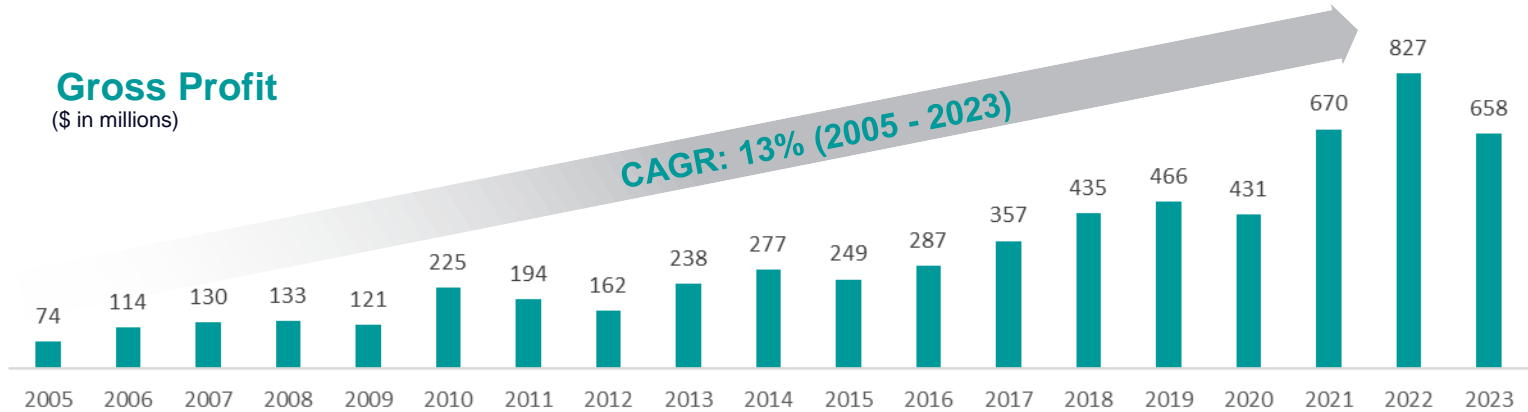


## Track record of Continued Outperformance

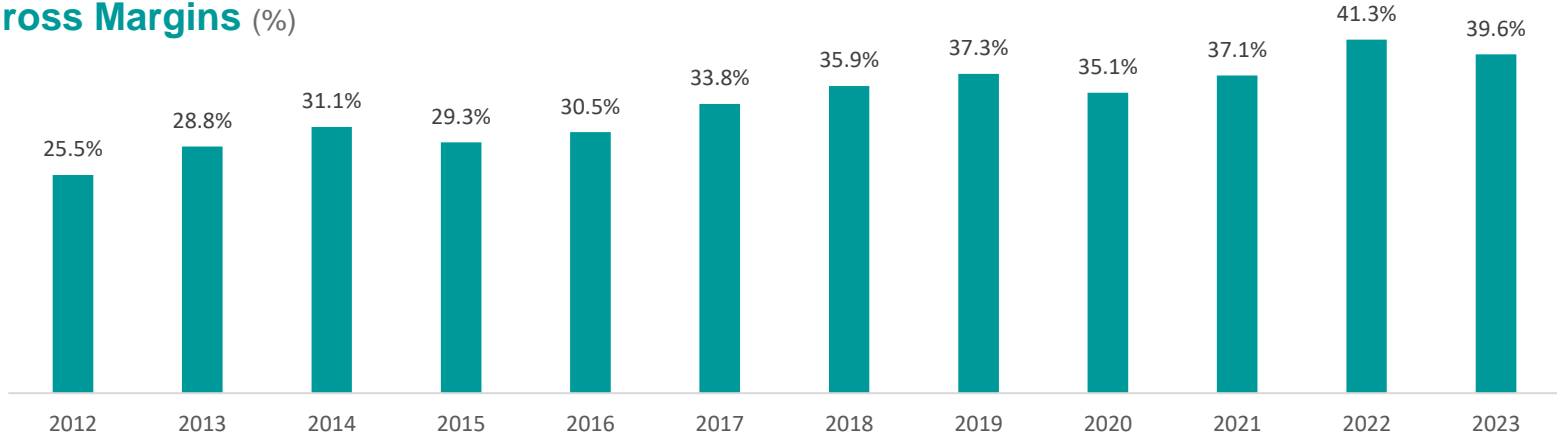
### Annual Revenue (\$ in millions)



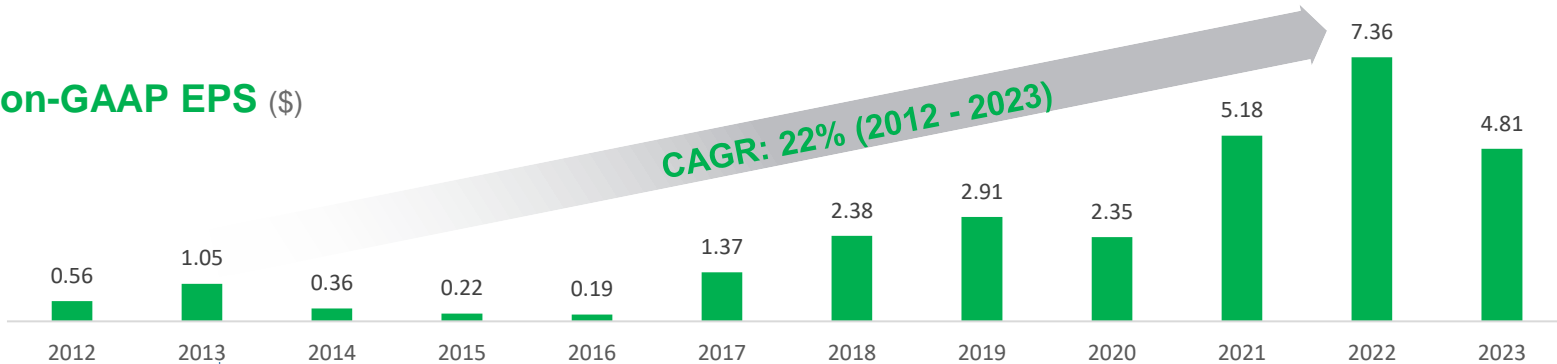
### Gross Profit (\$ in millions)



## Gross Margins (%)



## Non-GAAP EPS (\$)



**~40% of  
revenue**  
(41% for Q2 2024)

## Automotive

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

## Industrial

- Embedded systems, precision controls, medical, clean energy, machine to machine, motor control, and AIoT

**~60% of  
revenue**  
(59% for Q2 2024)

## Consumer

- IoT: wearables, home automation, home appliances, smart infrastructure, and charging solutions

## Communications

- Smart phones, 5G networks, and enterprise networking

## Computing

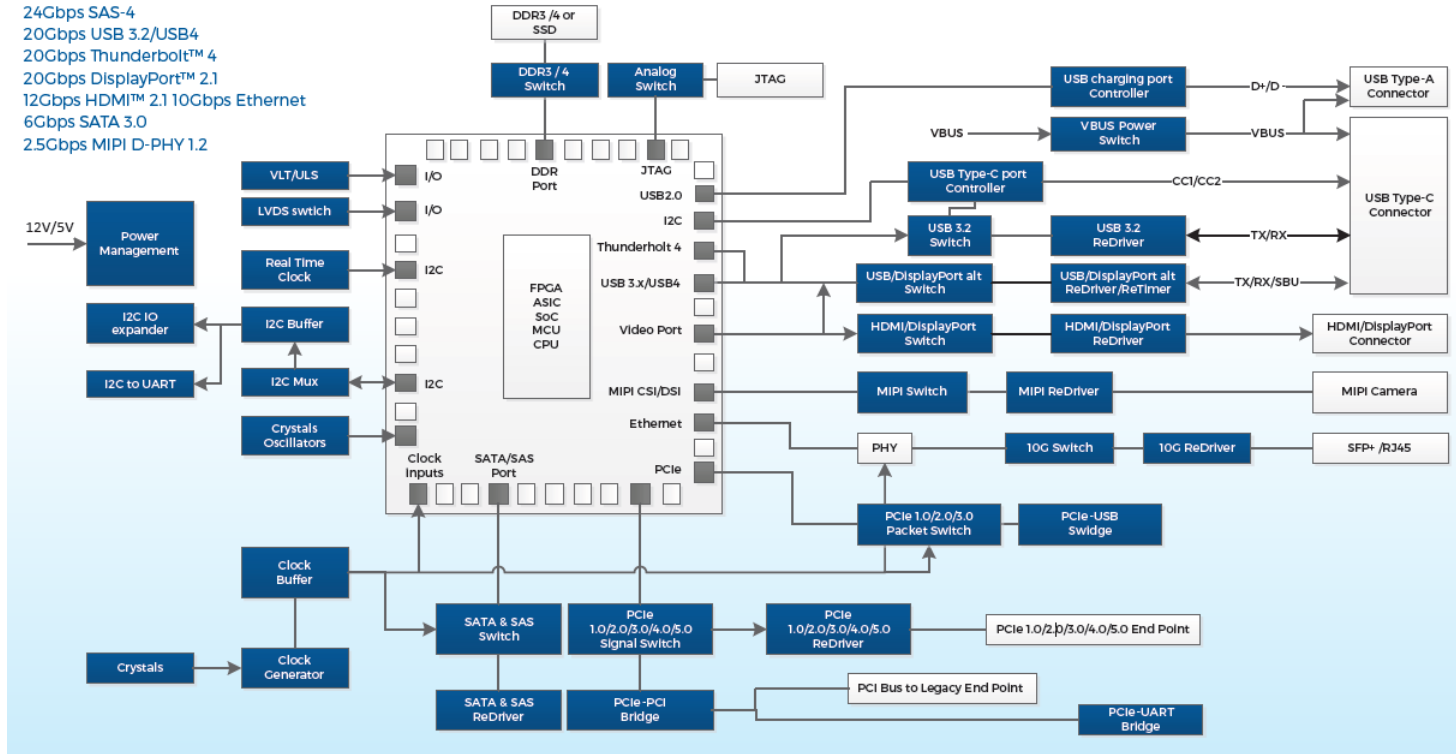
- Cloud computing: server, AI server, storage, data centers

## Automotive and Industrial Driving Growth

- **Automotive** – 28% CAGR (2013 – 2023)
  - Focused on connected driving, comfort, style, safety, and electrification
  - Released 130 new automotive-compliant products in Q2 2024
  - Increased dollar content per car to \$161
- **Industrial** – 11% CAGR (2013 – 2023)
  - Focused on embedded systems, networked systems, automation, motor controls, sensors, power management, and IIoT
  - Building momentum for SiC Schottky diodes and MOSFETs
  - Expanding content in automation, security, medical, clean energy generation and energy storage systems



Capability up to:  
 32Gbps PCIe® 5.0  
 24Gbps SAS-4  
 20Gbps USB 3.2/USB4  
 20Gbps Thunderbolt™ 4  
 20Gbps DisplayPort™ 2.1  
 12Gbps HDMI™ 2.1 10Gbps Ethernet  
 6Gbps SATA 3.0  
 2.5Gbps MIPI D-PHY 1.2



## Focus Applications:

### Connected Driving

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

### Comfort, Style, and Safety

- **Lighting**
  - Migration to LED and intelligent illumination
- **BLDC motor / fan control**
  - Migration from Brushed to Brushless DC Motors

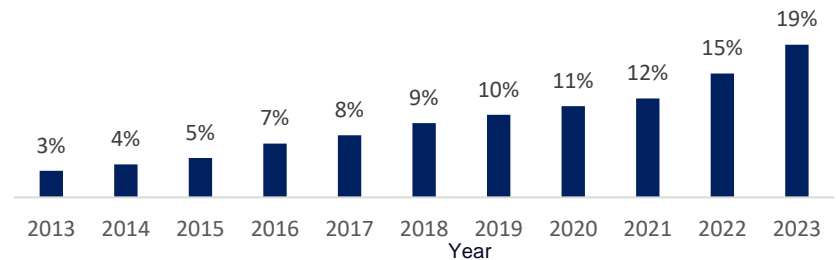
### Electrification/Powertrain

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

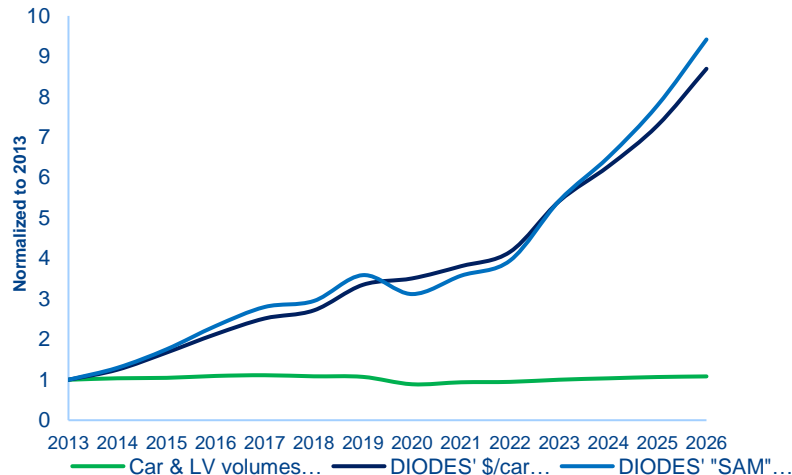
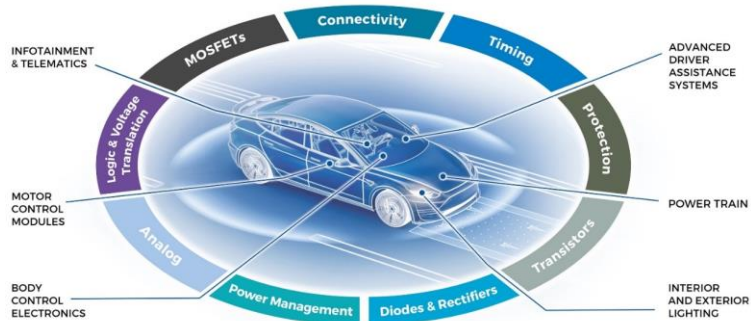
## Automotive Revenue Growth



## Automotive - % of Total Product Revenue







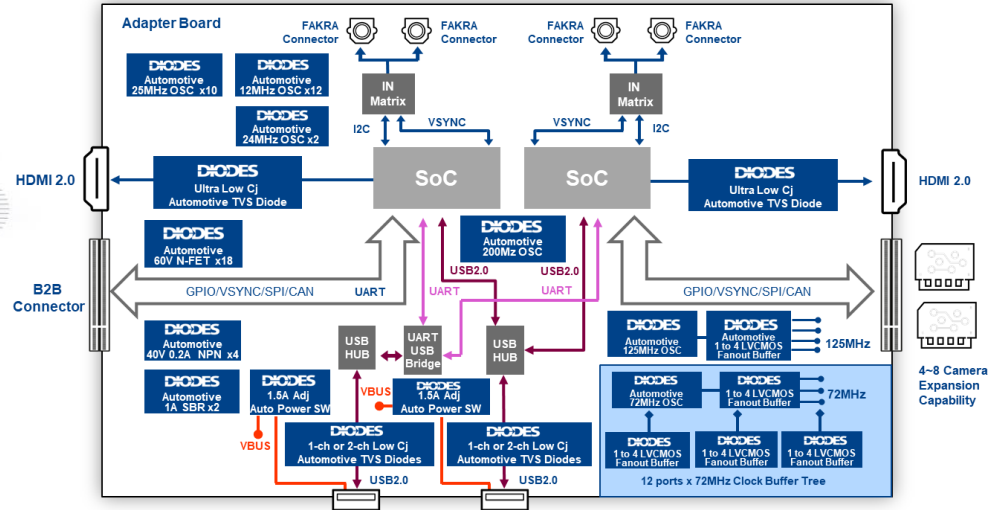
Diodes' Key Products	\$/ Car
Automotive Motor Control	\$50.70
Connected Driving (Infotainment, Telematics & ADAS)	\$71.30
Powertrain, Electrification & Body Control Electronics	\$22.60
Lighting – Moving to LED	\$16.50
<b>Total</b>	<b>\$161.20</b>

## \$ Content/Car

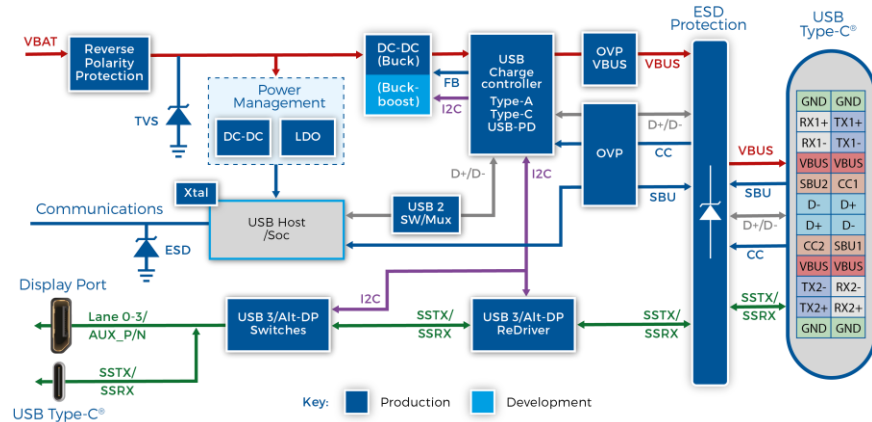




Diodes' Key Products	\$ / Box
Analog	>\$1.20
Power Management	>\$0.70
MOS/BJT	>\$3.50
Diodes and Rectifiers	>\$5.00
Timing and Connectivity	\$14.00
<b>Total</b>	<b>\$24.40</b>



- **Advanced Clock Gen, Clock Buffer, Crystal Oscillator, USB Power Switch, and Protection solutions for mission-critical need**
- **Automotive Compliant\* Products**



Diodes' Key Products	\$ / per car
Power Management	\$6.20
MOS/BJT	\$1.30
Diodes and Rectifiers	\$0.60
Timing and Connectivity	\$3.20
<b>Total</b>	<b>\$11.30</b>

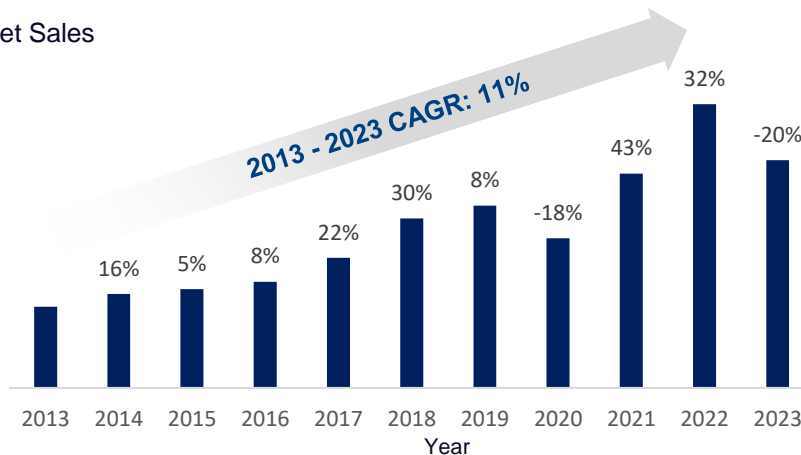
- **USB charging is a high growth application with approximately 2 to 8 ports per vehicle**
  - USB PD is an important expansion capability → up to 100W/port
  - USB-C supports DP over USB and opens up the opportunity to share portable equipment's screen on interior display
- **Diodes provides a system solution for USB charging including Port Controller, USB Muxes, Signal Switches, ReDrivers, Xtals, Power Management, and Protection.**
- **Automotive Compliant\* product portfolio expansion is expanding the SAM further**

- Increasing IC content in embedded systems
- Switching and signal path for networked systems and automation
- Signal conditioning and timing for precision controls
- Industrial / motor controls, sensors, and power management for smart meters
- Green power, Energy storage



## Industrial Revenue Growth

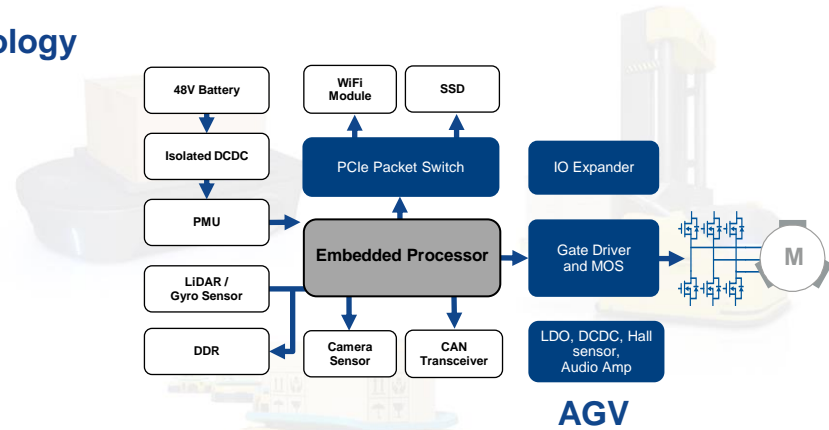
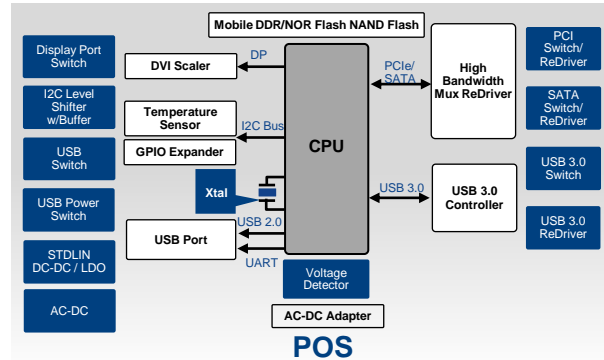
Net Sales



- **M2M – Dominated by short range technology**
  - 73% are short range, mostly Wi-Fi
- **2030: connections @ 29,400 million**

## M2M – By Application

- IoT and M2M Modems
- POS, Routers, Edge Server
- On-Premise Edge Gateway
- AGV (Automated Guided Vehicle)
- AMR (Autonomous Mobile Robots)
- UAV (Unmanned Aerial Vehicle)



## Growth Opportunities:

- Power, Sensor, DC-DC
- Gate Driver, BJT, MOSFET
- XTAL and clock
- Packet switch, ReDriver, IO Expander, MIPI, and USB charging

Diodes' Key Products	\$ / AGV
Discrete	\$3.50
Analog & Power Mgmt.	\$2.20
Timing and Connectivity	\$18.00
<b>Total</b>	<b>\$23.70</b>

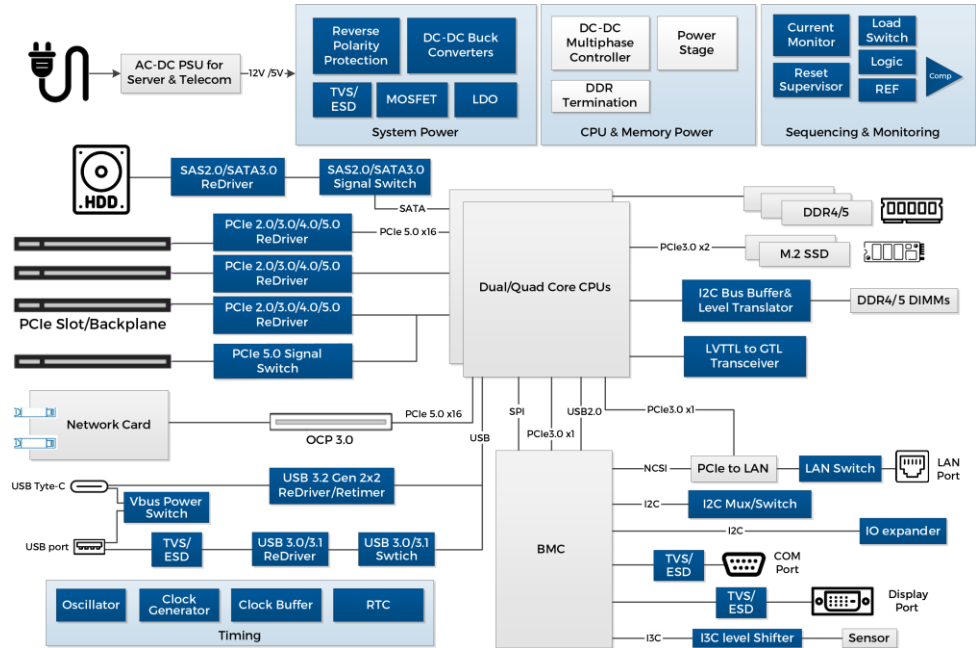
- **ReDriver support for PCIe or USB connectivity**
- **Wide range of signal protocols: PCIe, CXL, SAS, SATA, USB**
- **MUX switch products for high capacity solid state storage**
- **Packet switches for accelerating AI computing**
- **Crystal oscillators for increasing clocking speeds**
- **LDOs, DCDC, SBR, and TVS for power management and protection**



## Server Platform Solution

- Almost all of Server vendors are Diodes' existing customers
- Diodes' products are well positioned in this segment
  - PCIe, USB, & SATA ReDrivers, Clock Buffer, Oscillator, I3C MUX, Level shifter, IO Expander, Bus Switch, QSPI MUX, Logic IC, MOSFET, LDO, TVS, DC-DC

Diodes' Key Products	\$ / Box
Analog	\$6.90
Power Management	\$2.20
MOS/BJT	\$0.70
Timing and Connectivity	\$43.20
<b>Total</b>	<b>\$53.00</b>





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

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

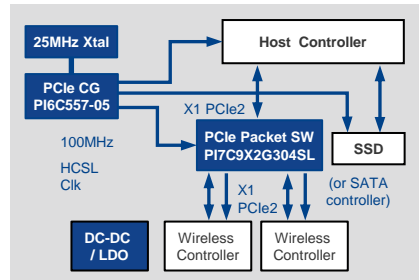
## Growth Opportunities

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

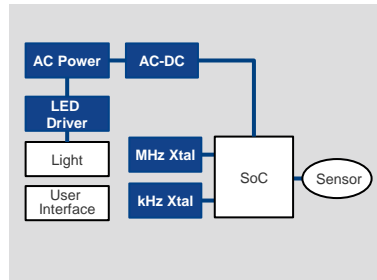


Diodes' Key Products	\$/ Box
Analog	\$0.55 ~ \$0.80
Power Management	\$1.80
MOS/BJT	\$1.10
Diodes and Rectifiers	\$0.50
Timing and Connectivity	\$3.50
<b>Total</b>	<b>\$7.70</b>

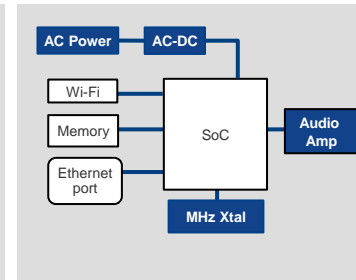
### Smart Home Gateway



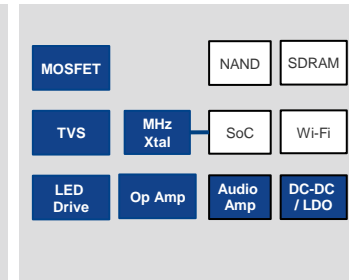
### Smart Lighting



### Smart Speaker



### Digital Assistant



## Focus Applications:

### Cloud Computing

- AI / Data Center Server

### Gateway

- Internet Gateway
- Fiber network

### Core Network, Cell Stations

- Small Cells
- Base Station
- Edge Computing Server
- Smart antenna
- Fiber network

### End Products

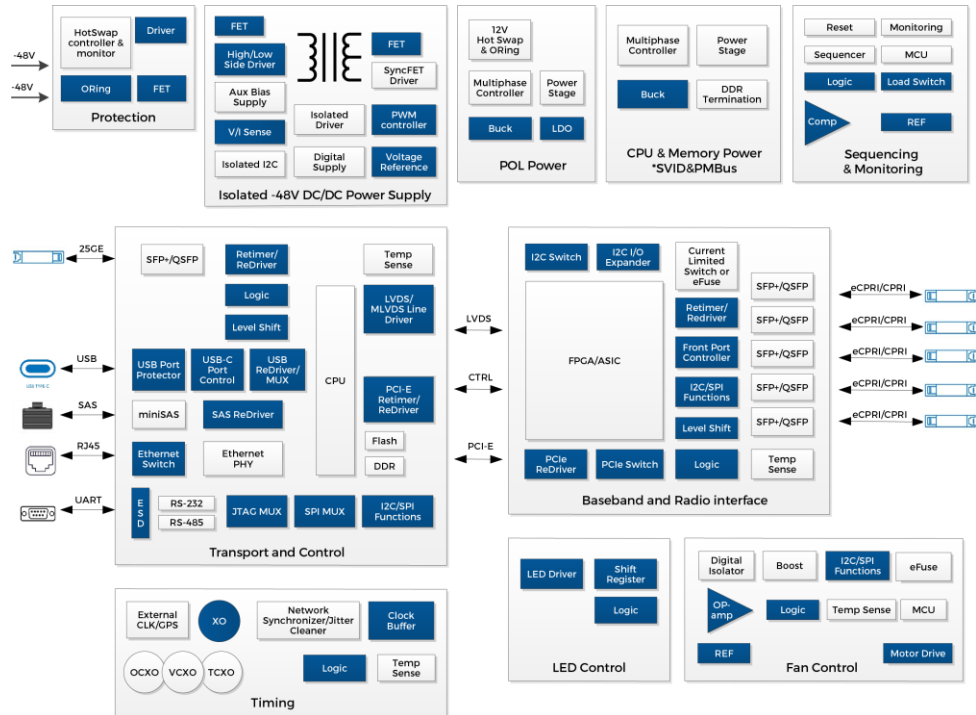
- Portables: Smartphone, Tablet
- Smart Car
- Consumer: VR/AR, Drone, IoT
- Telecom: 5G CPEs
- Embedded/Industrial



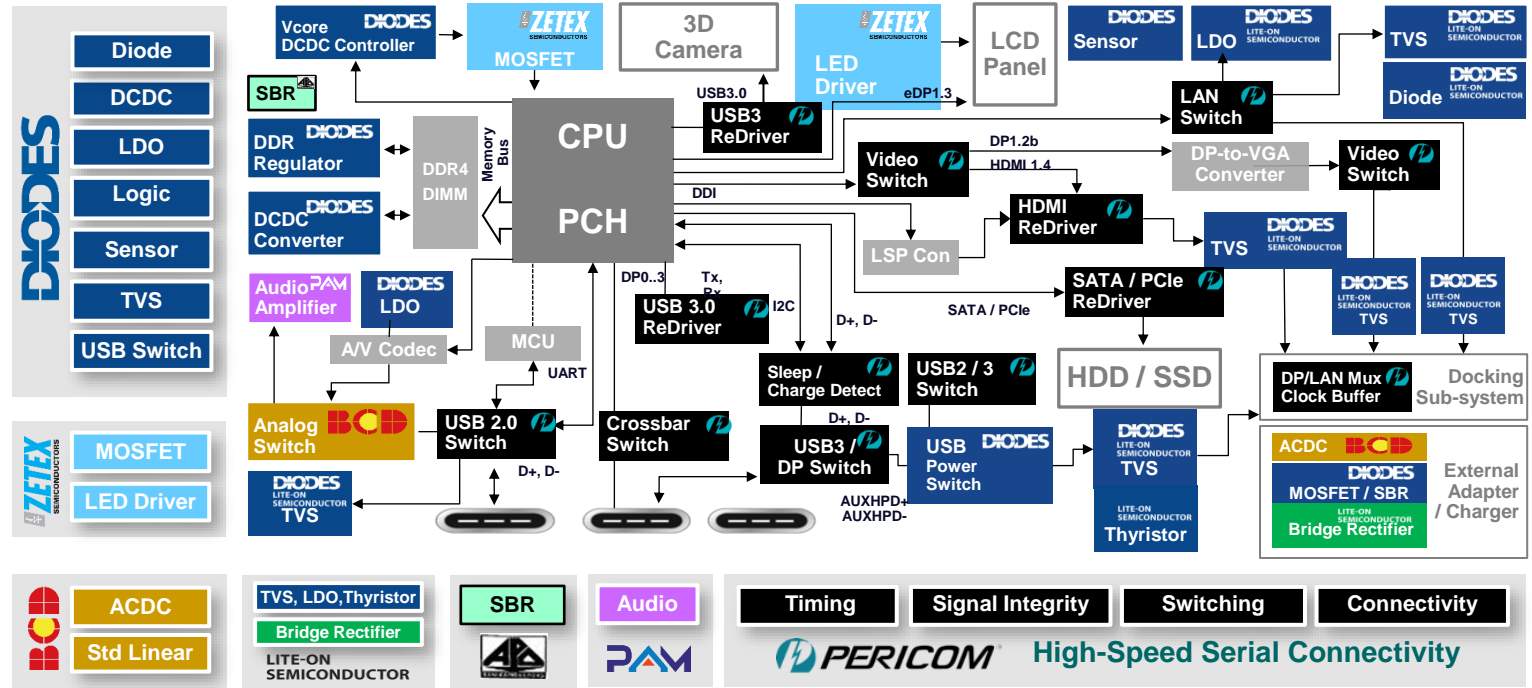
- Advanced Solution in Signal Integrity, Signal/Bus/Power Switches and IO Expanders for diversified networking applications
- Global Logistics provide cost-competitive solution with industry standard pin-outs and flexible package options



Diodes' Key Products	\$ / Box
Analog	\$12.00
Power Management & Discrete	\$3.00
Timing and Connectivity	\$23.00
<b>Total</b>	<b>\$38.00</b>



# Complete Platform Solution: Notebook



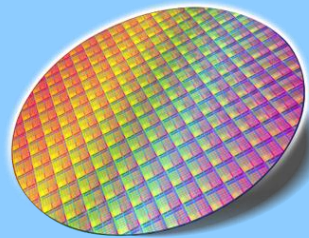
## Products



- eUSB/USB repeater and Ultra Low Cj TVS for signal integrity
- Automotive Packet Switch for Telematics / ADAS, high voltage LDO and DCDC products
- Complete USB-C / Power Delivery Solutions
- Low jitter timing solution for cloud computing
- High precision high bandwidth standard analog
- Ultra low power and low noise LDOs for IoT
- Lowest RDS(ON) LDMOS for battery efficiency
- IntellifET - self-protected power switches
- Comprehensive MOSFETs (8V to 800V)
- SiC Schottky Diodes and SiC MOSFET for industrial and automotive applications

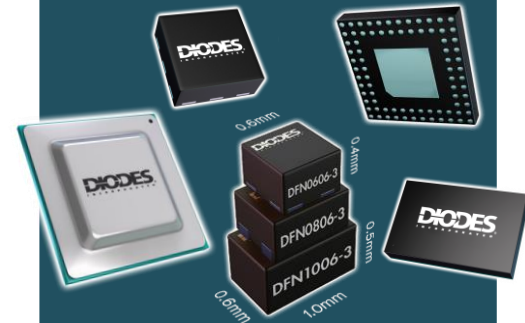
## Wafer Fab

- High performance 8" MOSFET trench technology
- Advanced Epi bipolar transistor processes
- Proprietary rectifier technology
- Rugged automotive grade NMOS and PMOS
- Low power low noise SiGe BiCMOS process
- High voltage high power BCD process



## Assembly/Test

- Cu Pillar with flip chip on lead frame
- High pin count BGA, LGA, and AQFN packages
- Chip scale packaging with highest current density
- Compact QFN and DFN
- Power density PowerDI



## Wafer Fabs

- US: South Portland, Maine
- China: Shanghai and Wuxi
- Taiwan: Hsinchu
- UK: Greenock and Oldham
- Bipolar, BiCMOS, CMOS and BCD process
- Global footprint with strong engineering capabilities



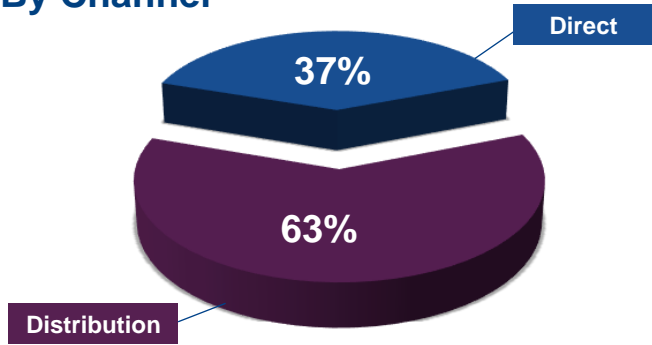
## Assembly and Test

- China: Shanghai, Chengdu, and Wuxi
- Taiwan: Jhongli
- Germany: Neuhaus

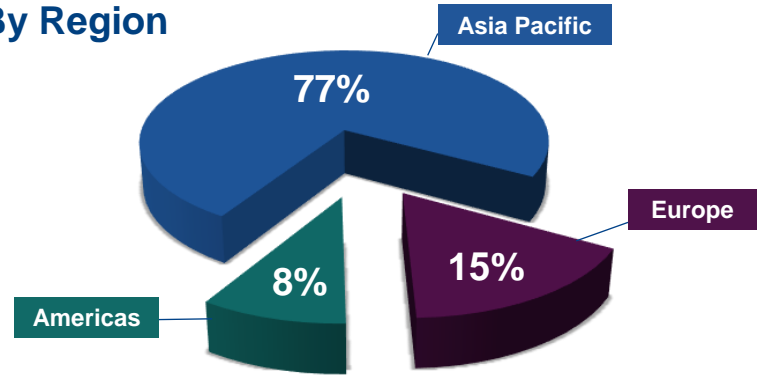


# Revenue Profile for Second Quarter 2024

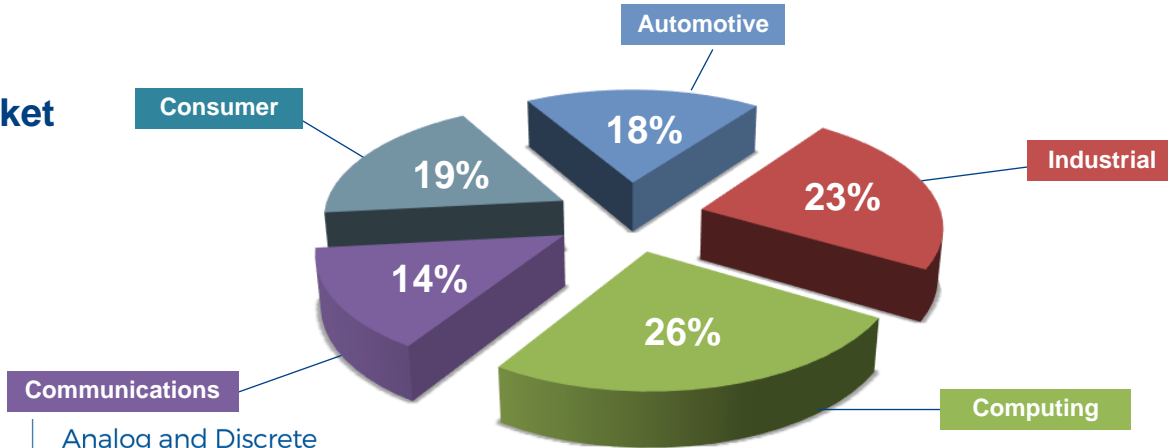
### By Channel



### By Region



### By End Market



# Income Statement – Second Quarter 2024

(\$ in millions, except EPS)	2Q23	1Q24	2Q24
Net sales	467.2	302.0	319.8
Gross profit (GAAP)	195.4	99.6	107.4
Gross profit margin % (GAAP)	41.8%	33.0%	33.6%
Net income (GAAP)	82	14.0	8.0
Net income (non-GAAP)	73.3	13.0	15.4
Diluted EPS (non-GAAP)	1.59	0.28	0.33
Cash flow from operations	92.6	(31.1)	14.4
EBITDA (non-GAAP)	133.5	48.3	41.1



(\$ in millions)	Dec 31, 2022	Dec 31, 2023	June 30, 2024
<b>Cash*</b>	<b>348</b>	<b>329</b>	<b>277</b>
<b>Inventory</b>	<b>360</b>	<b>390</b>	<b>462</b>
<b>Current Assets</b>	<b>1,162</b>	<b>1,187</b>	<b>1,220</b>
<b>Total Assets</b>	<b>2,288</b>	<b>2,368</b>	<b>2,361</b>
<b>Total Debt</b>	<b>185</b>	<b>62</b>	<b>47</b>
<b>Total Liabilities</b>	<b>705</b>	<b>558</b>	<b>509</b>
<b>Total Equity</b>	<b>1,583</b>	<b>1,810</b>	<b>1,852</b>

\* Cash and cash equivalents, restricted cash and short-term investments

- **Revenue to be ~\$346 million, +/- 3.0%** represents 8.2% sequential increase at the mid-point
- **GAAP gross margin of 34%, +/- 1%**
- **Non-GAAP operating expenses 27.5% of revenue, +/- 1%**, which are GAAP operating expenses adjusted for amortization of acquisition-related intangible assets
- **Net Interest income of ~\$2.5 million**
- **Income tax rate to be 18.5%, +/- 3%**
- Shares used to calculate diluted EPS approximately **46.6 million**
- Amortization of **\$3.1 million**, after tax, for previous acquisitions is not included in these non-GAAP estimates

- **Vision: Expand shareholder value**
- **Mission: Profitability growth to drive 20%+ operating profit**
- **Next Strategic Goal: \$1B gross profit**
- **Tactics:**
  - Total system solutions sales approach and content expansion driving growth
  - Focus on key accounts
  - Increased focus on high-margin automotive, industrial, analog, and power discrete products
  - Investment for technology leadership in target products, fab processes, and advanced packaging
  - Accelerate fab process and product qualifications



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**Thank you**