



Analog and Discrete
Power Solutions

Investor Relations

Diodes Incorporated (DIOD)

Plano, TX, USA

November 7, 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 fourth quarter of 2024, we expect revenue to be approximately \$337 million plus or minus 3 percent; we expect GAAP gross margin to be 33.0 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 28.0 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 18.0 percent, plus or minus 3 percent; shares used to calculate diluted EPS for the fourth quarter are anticipated to be approximately 46.7 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 November 7, 2024 titled, “Diodes Incorporated Reports Third 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

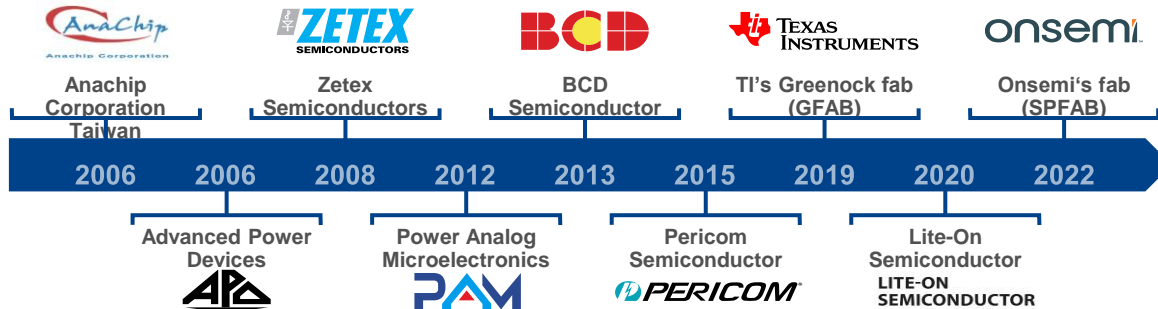
Our Core Values:
Integrity,
Commitment,
Innovation

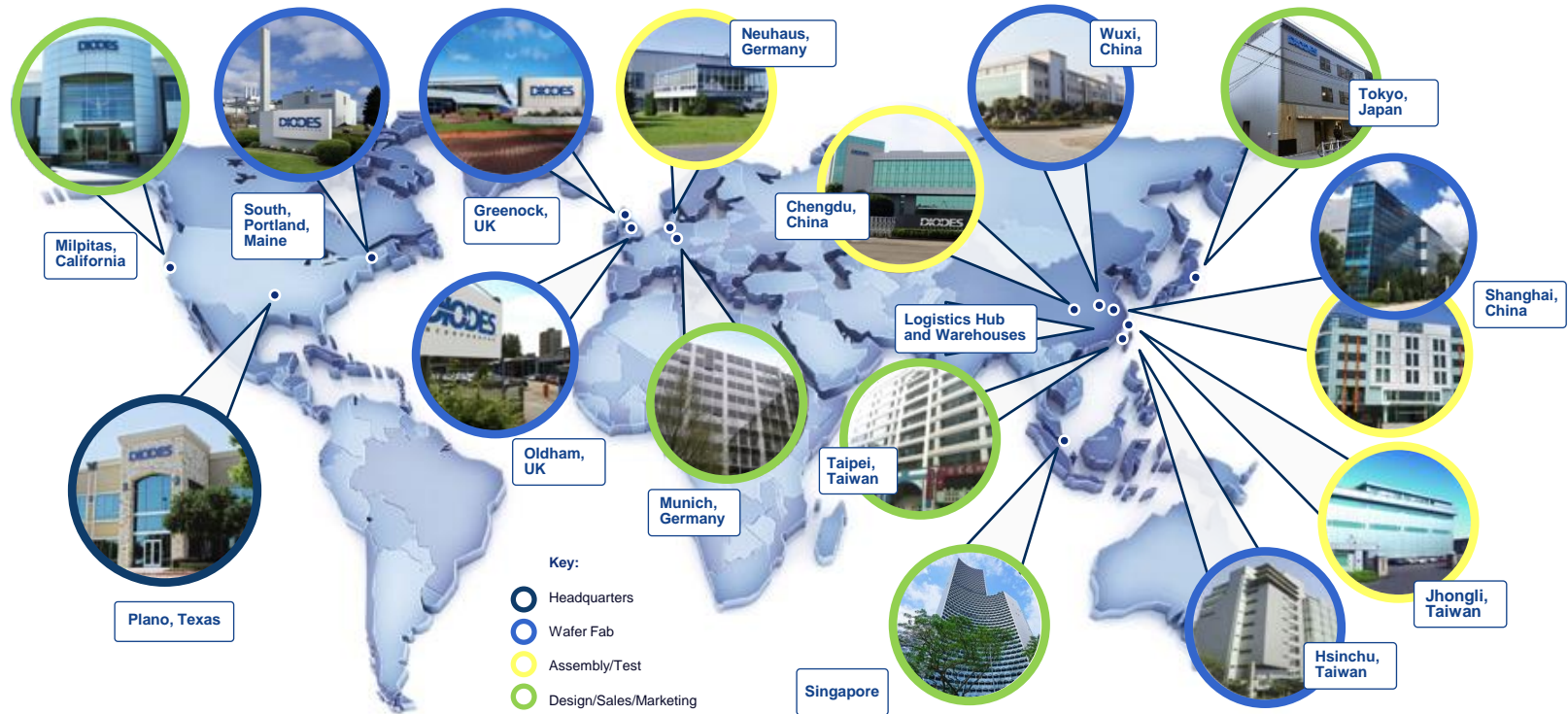
Global Operations and World-class Manufacturing

- 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

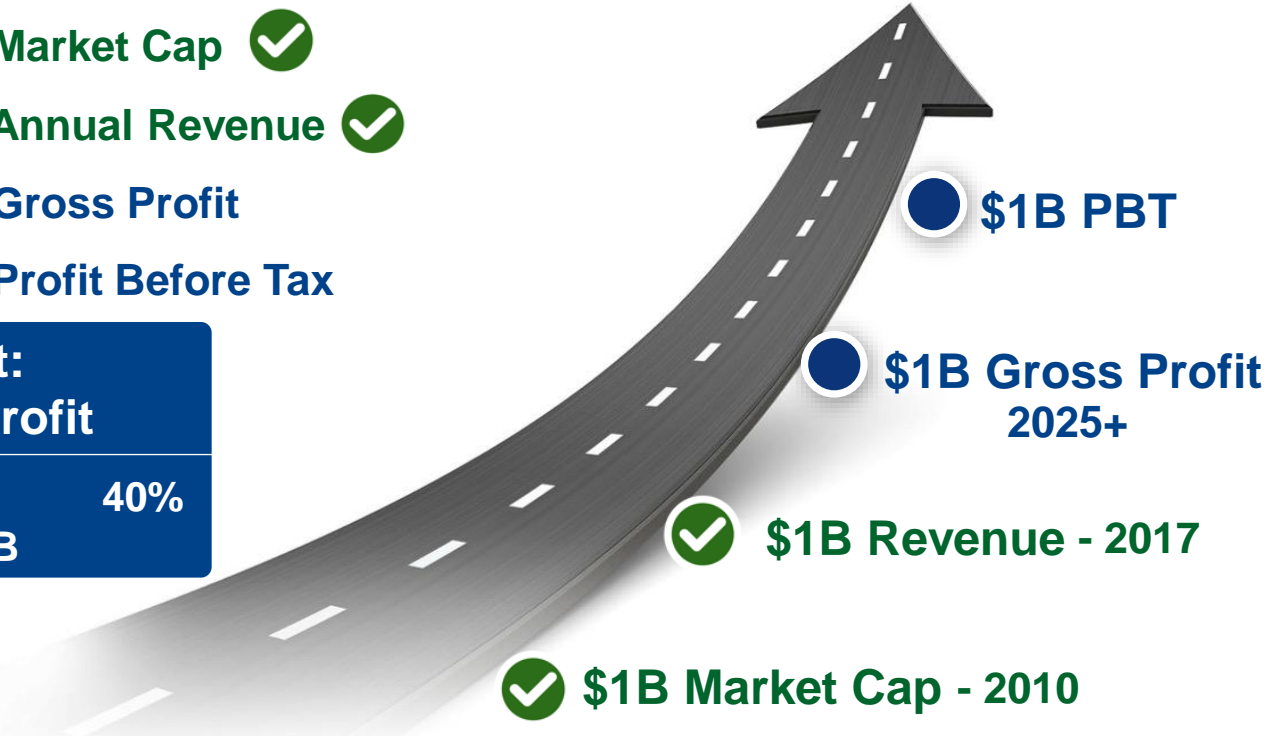


Longer Term \$B Corporate Objectives

- **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

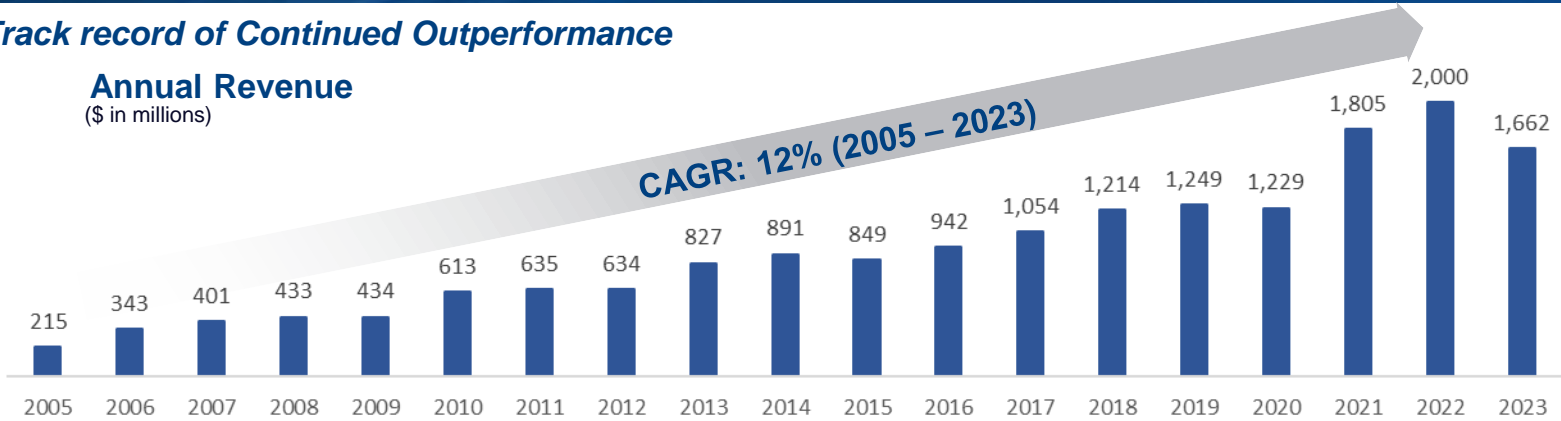
Gross Margin: 40%
Revenue: \$2.5B



Track record of Continued Outperformance

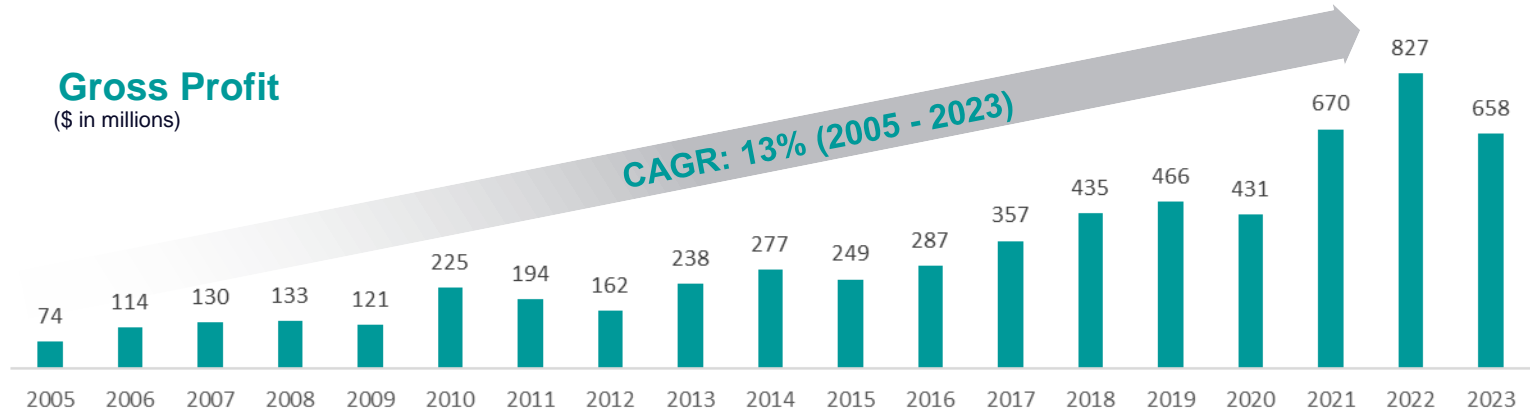
Annual Revenue

(\$ in millions)

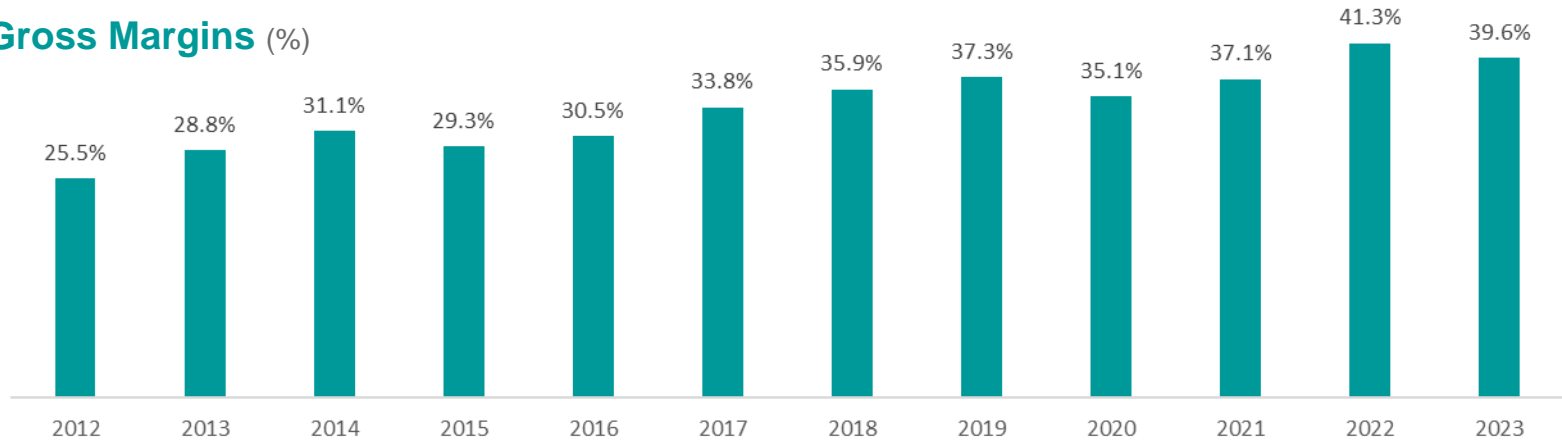


Gross Profit

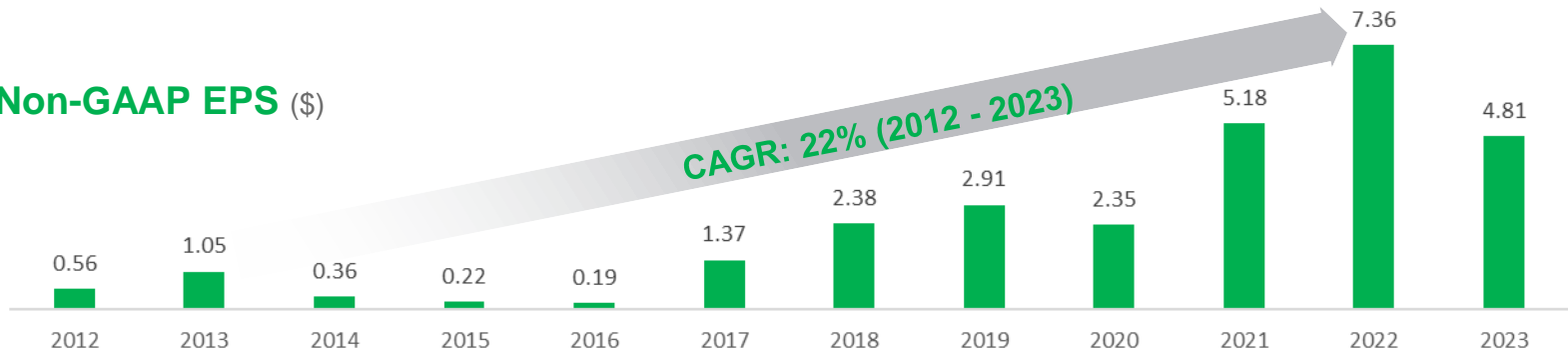
(\$ in millions)



Gross Margins (%)



Non-GAAP EPS (\$)



**~40% of
revenue**
(42% for Q3 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**
(58% for Q3 2024)

Consumer

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

Communications

- Smart phones, 5G networks, and enterprise networking

Computing

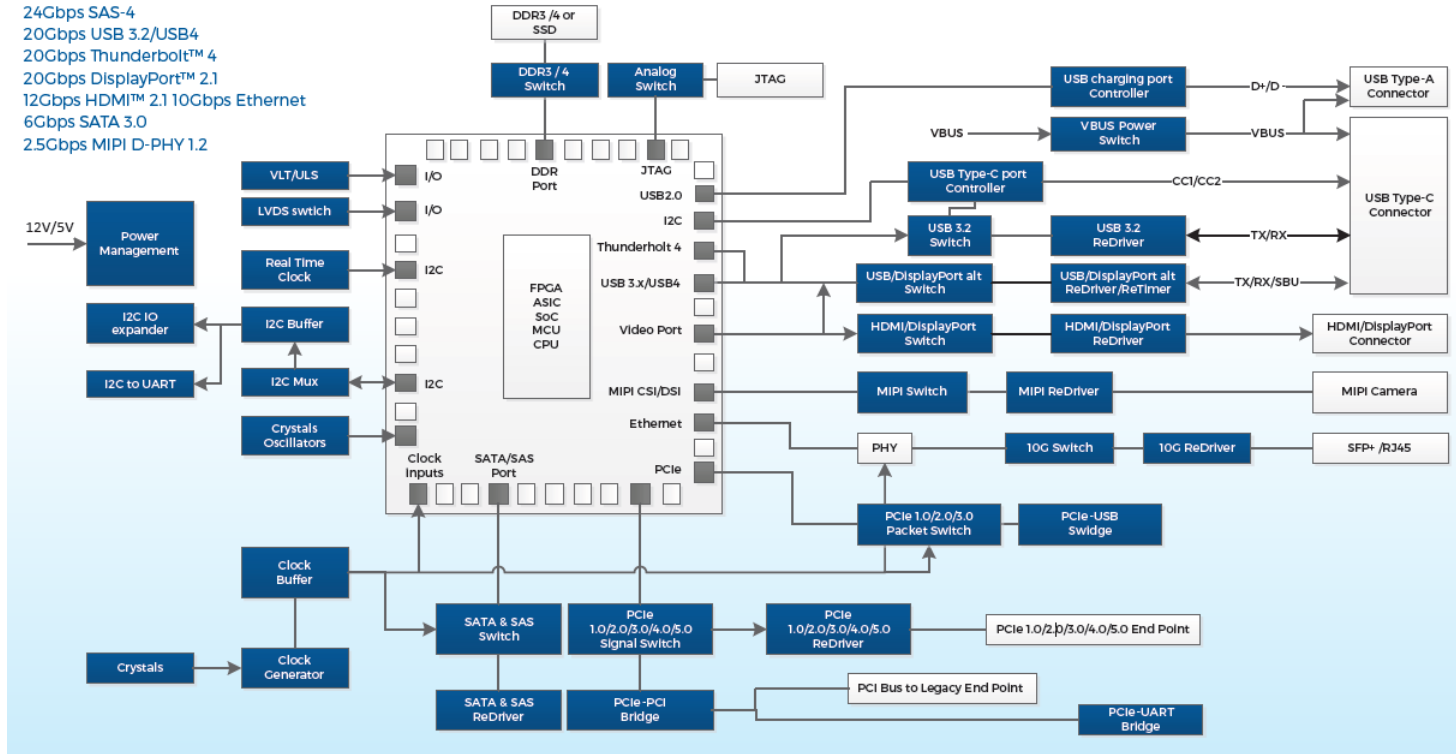
- Cloud computing: server, AI server, storage, data centers

Automotive and Industrial Driving Growth

- **Automotive** – 28% CAGR (2013 – 2023)
 - Focused on connected driving, comfort, style, safety, and electrification
 - Released 115 new automotive-compliant products in Q3 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

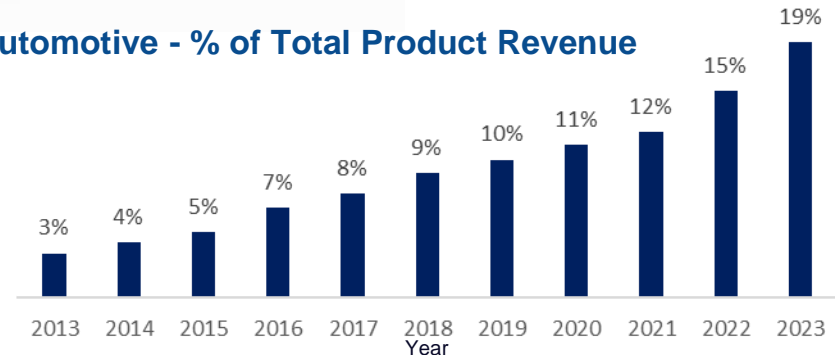
Electrification/Powertrain

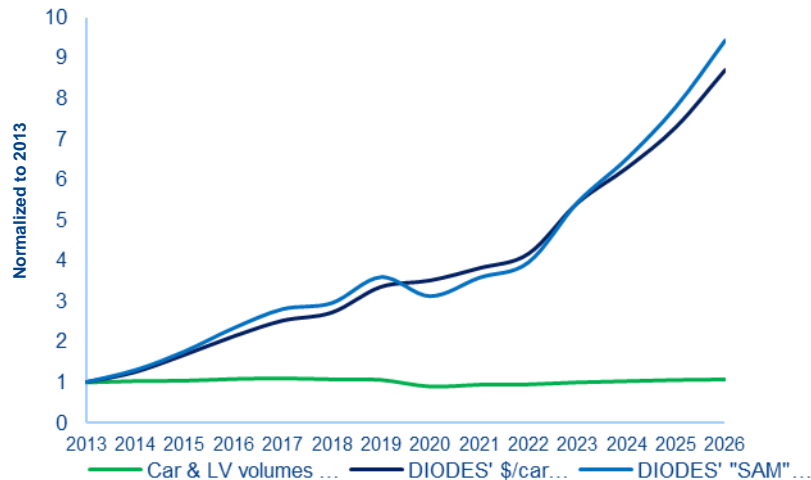
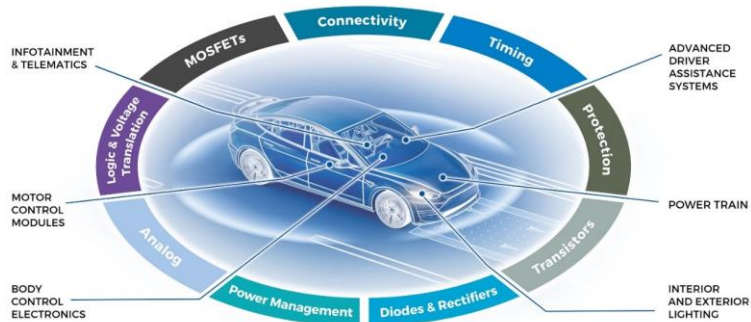
- **Conventional Powertrain → Hybrid → Electrification**
- **Battery management**
 - Move to 48V battery

Automotive Revenue Growth



Automotive - % of Total Product Revenue





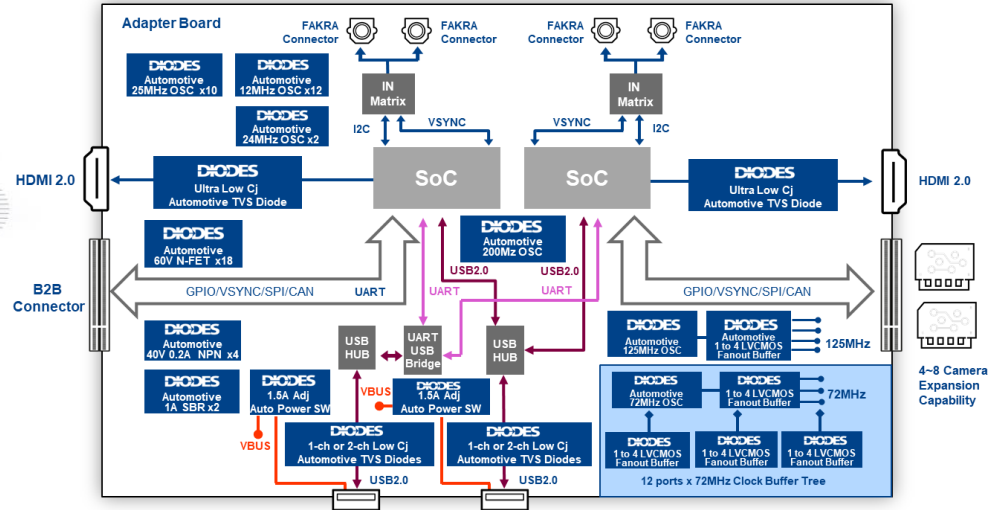
Diodes' Key Products	\$ / Car
Automotive Motor Control	\$50.70
Connected Driving (Infotainment, Telematics & ADAS)	\$71.30
Powertrain, Electrification & Body Control Electronics	\$22.60
Lighting – Moving to LED	\$16.50
Total	\$161.20

\$ Content/Car

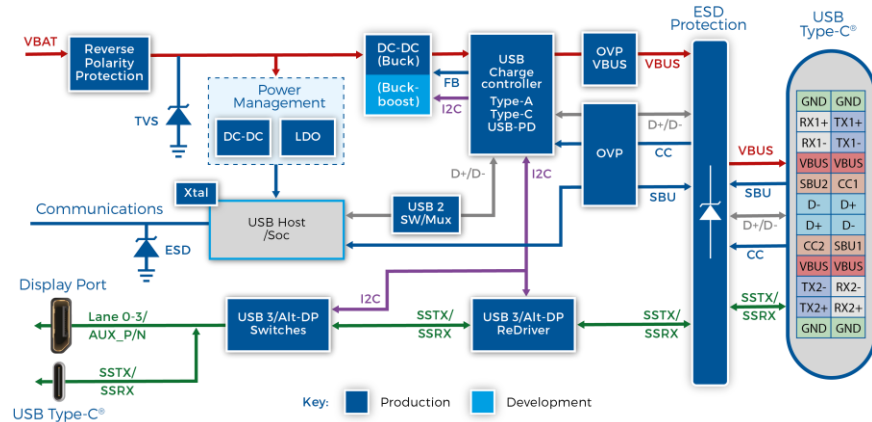




Diodes' Key Products	\$ / Box
Analog	>\$1.20
Power Management	>\$0.70
MOS/BJT	>\$3.50
Diodes and Rectifiers	>\$5.00
Timing and Connectivity	\$14.00
Total	\$24.40



- **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
Total	\$11.30

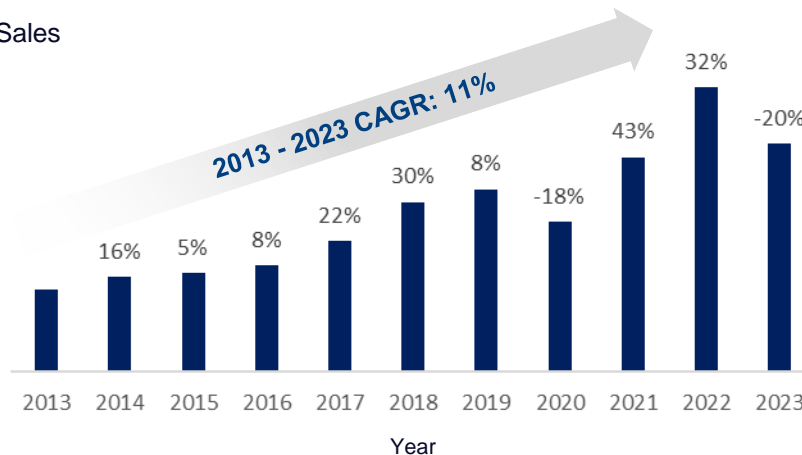
- **USB charging is a high growth application with approximately 2 to 8 ports per vehicle**
 - USB PD is an important expansion capability → up to 100W/port
 - USB-C supports DP over USB and opens up the opportunity to share portable equipment's screen on interior display
- **Diodes provides a system 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

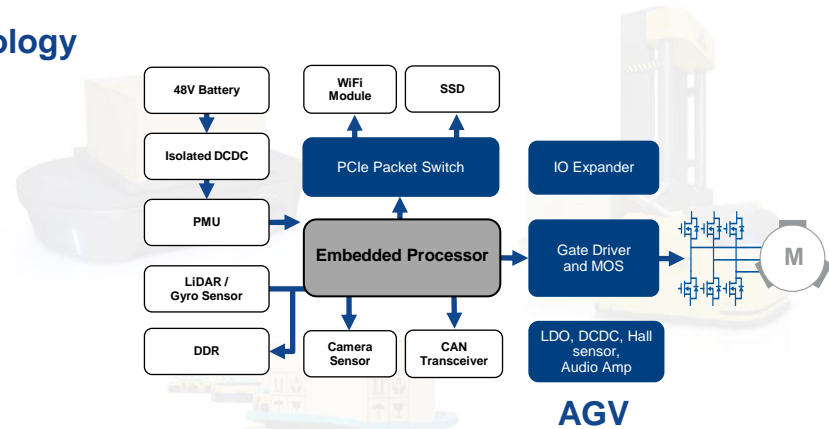
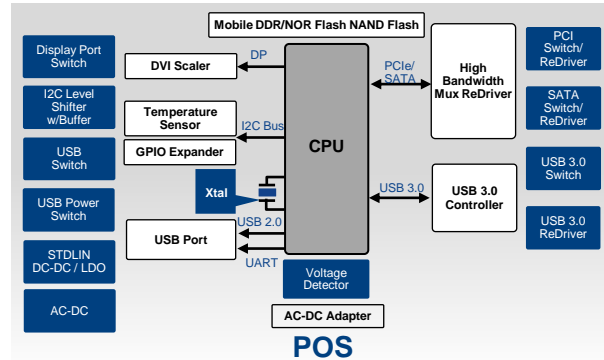
Net Sales



- **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
Total	\$23.70

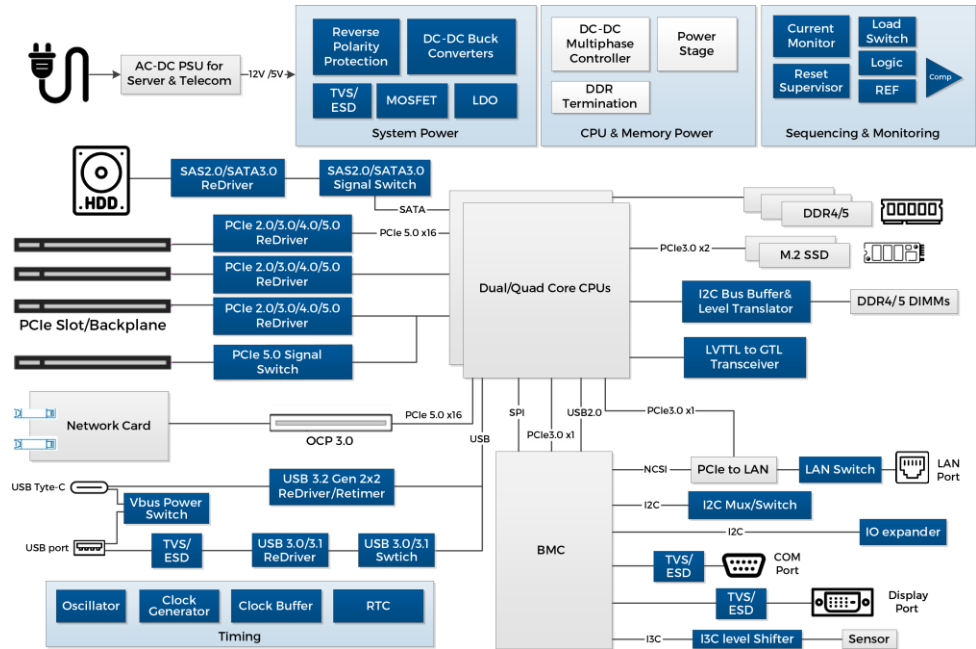
- **ReDriver support for PCIe or USB connectivity**
- **Wide range of signal protocols: PCIe, CXL, SAS, SATA, USB**
- **MUX switch products for high capacity solid state storage**
- **Packet switches for accelerating AI computing**
- **Crystal oscillators for increasing clocking speeds**
- **LDOs, DCDC, 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
Total	\$53.00





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
Total	\$20.00

Smart Home

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

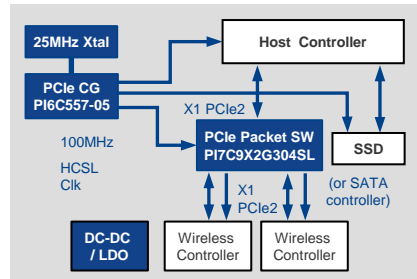
Growth Opportunities

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

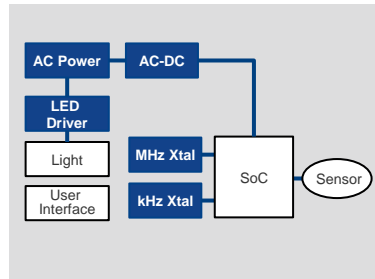


Diodes' Key Products	\$ / Box
Analog	\$0.55 ~ \$0.80
Power Management	\$1.80
MOS/BJT	\$1.10
Diodes and Rectifiers	\$0.50
Timing and Connectivity	\$3.50
Total	\$7.70

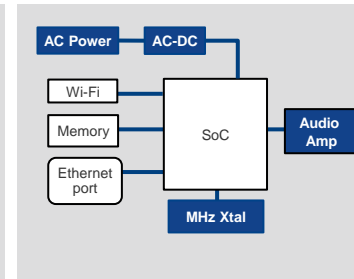
Smart Home Gateway



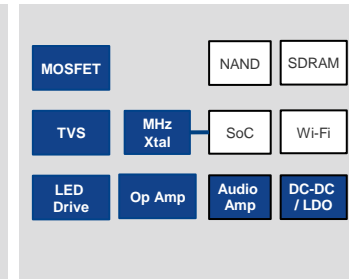
Smart Lighting



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

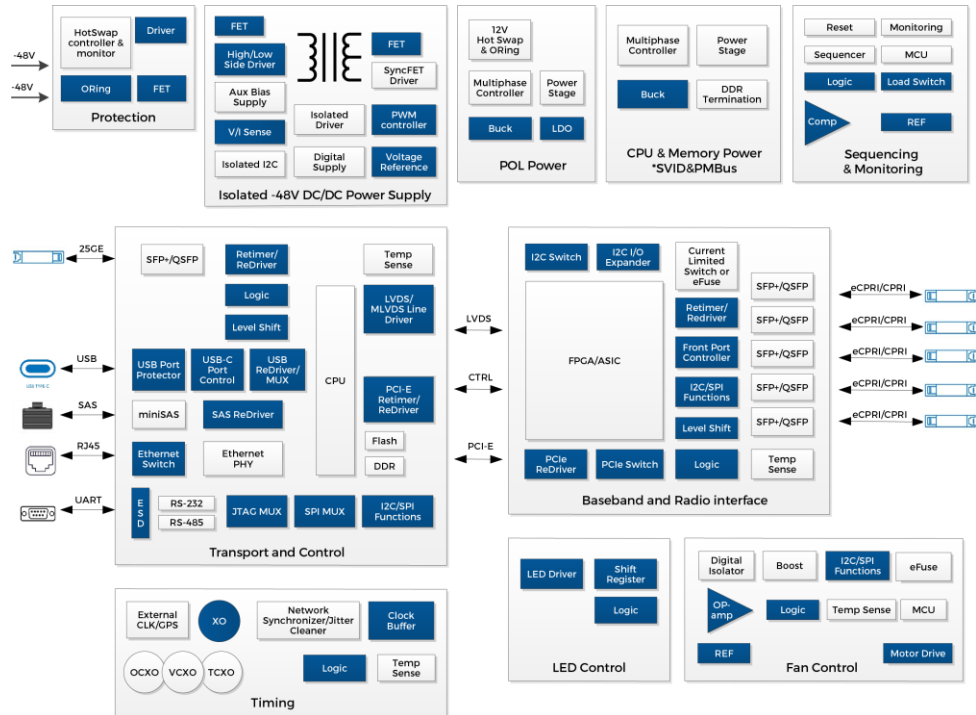
- Portables: Smartphone, Tablet
- Smart Car
- Consumer: VR/AR, Drone, IoT
- Telecom: 5G CPEs
- Embedded/Industrial



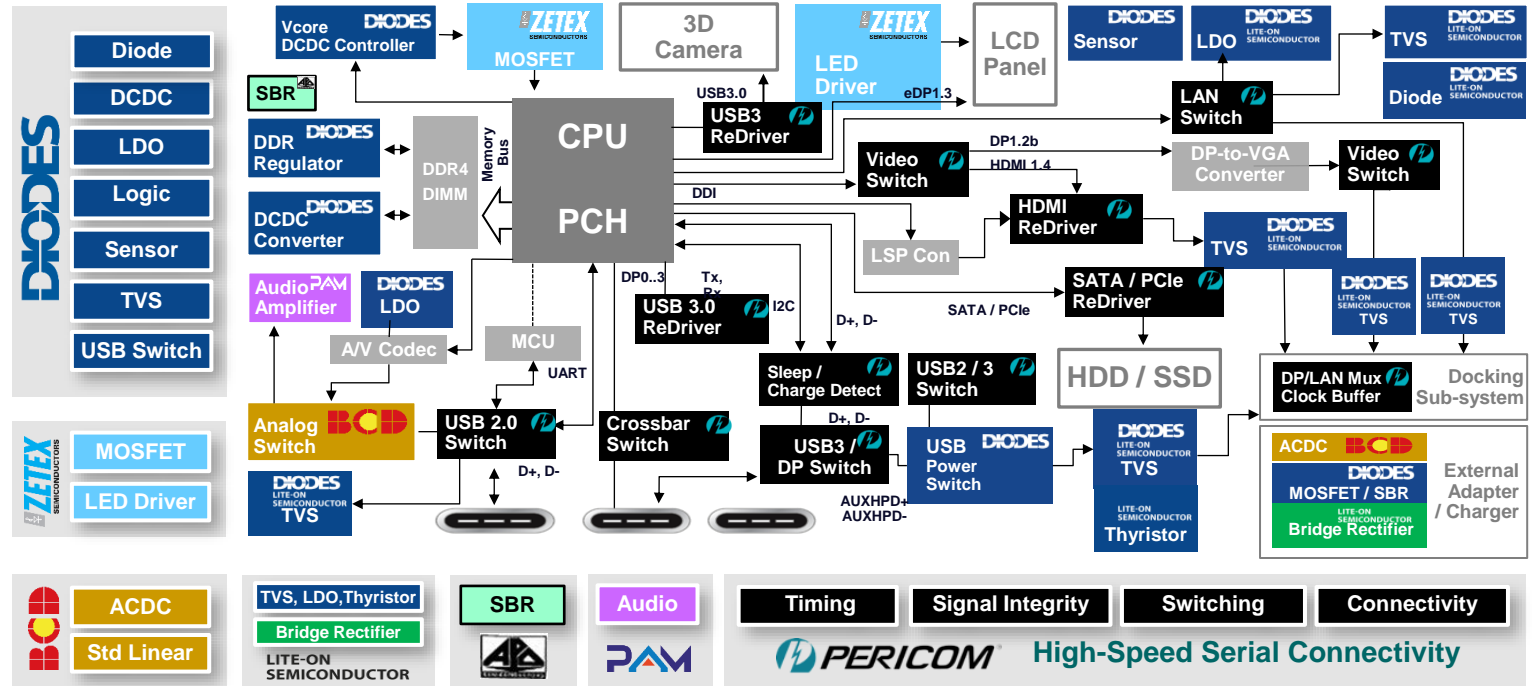
- Advanced Solution in Signal Integrity, Signal/Bus/Power Switches and IO Expanders for diversified networking applications
- Global Logistics provide cost-competitive solution with industry standard pin-outs and flexible package options



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



Complete Platform Solution: Notebook



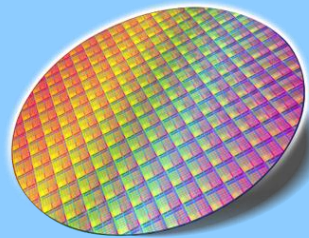
Products



- 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

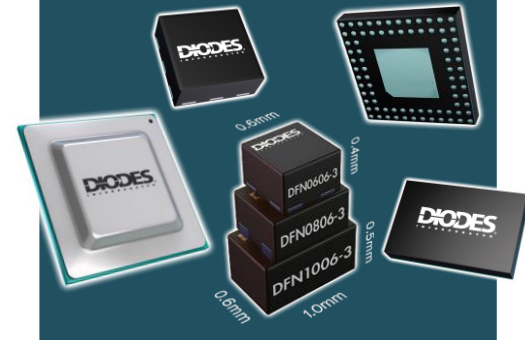
Wafer Fab

- 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



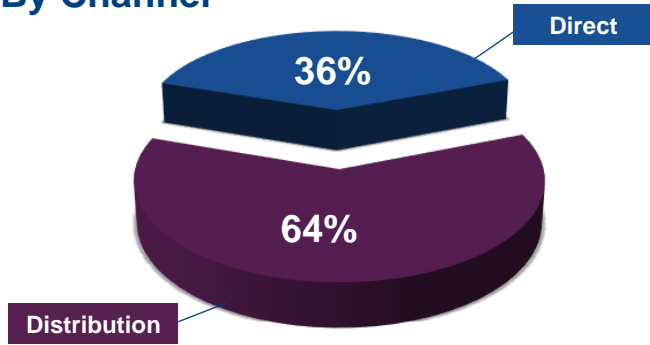
Assembly and Test

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

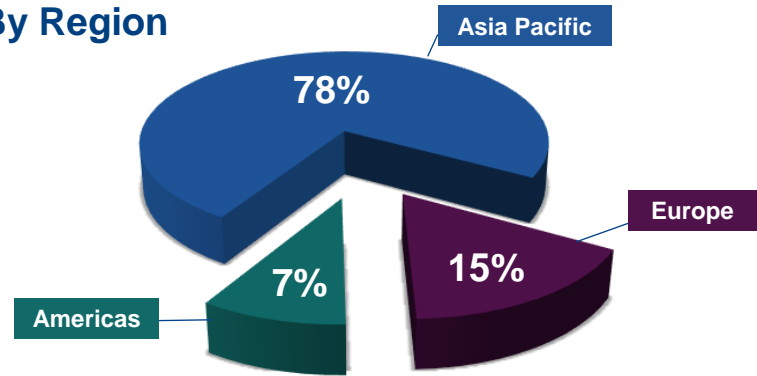


Revenue Profile for Third Quarter 2024

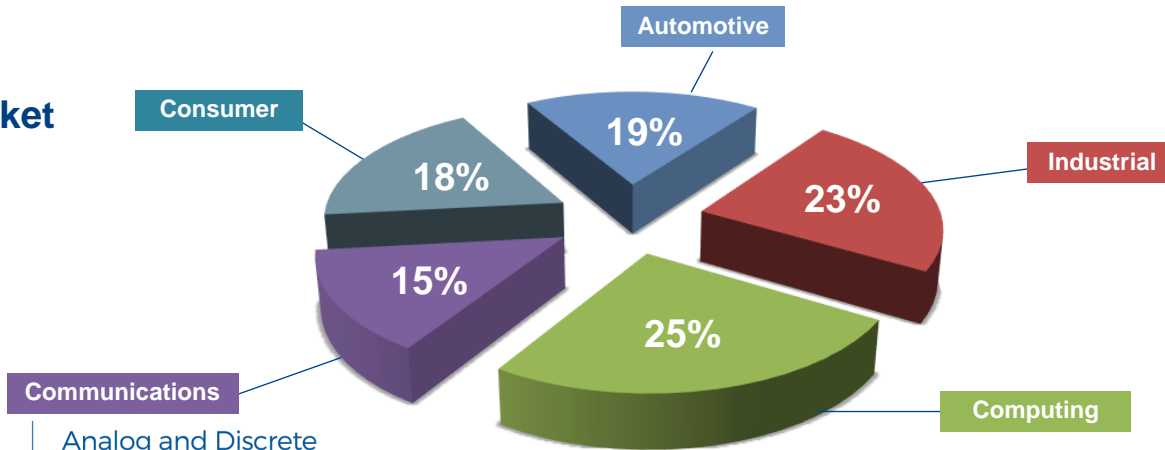
By Channel



By Region



By End Market



Income Statement – Third Quarter 2024

(\$ in millions, except EPS)	3Q23	2Q24	3Q24
Net sales	404.6	319.8	350.1
Gross profit (GAAP)	155.9	107.4	118.0
Gross profit margin % (GAAP)	38.5%	33.6%	33.7%
Net income (GAAP)	48.7	8.0	13.7
Net income (non-GAAP)	52.5	15.4	20.1
Diluted EPS (non-GAAP)	1.13	0.33	0.43
Cash flow from operations	50.1	14.4	54.4
EBITDA (non-GAAP)	90.6	41.1	46.9

(\$ in millions)	Dec 31, 2022	Dec 31, 2023	Sept 30, 2024
Cash*	348	329	325
Inventory	360	390	482
Current Assets	1,162	1,187	1,262
Total Assets	2,288	2,368	2,389
Total Debt	185	62	58
Total Liabilities	705	558	506
Total Equity	1,583	1,810	1,883

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

- **Revenue to be ~\$337 million, +/- 3.0%** better than typical seasonality
- **GAAP gross margin of 33%, +/- 1%**
- **Non-GAAP operating expenses 28.0% 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 18.0%, +/- 3%**
- Shares used to calculate diluted EPS approximately **46.7 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



Analog and Discrete
Power Solutions

Thank you