# UNITED STATES DISTRICT COURT EASTERN DISTRICT OF TEXAS

: Case No.: 4:17-cv-00816 NORTH PLATE SEMICONDUCTOR, LLC, :

a Delaware company, : Hon. Amos L. Mazzant, III

Plaintiff,

v. : PATENT INFRINGEMENT : \_\_\_\_\_

DIODES INCORPORATED, a Delaware corporation,

Defendant.

**JURY TRIAL DEMANDED** 

FIRST AMENDED COMPLAINT FOR

Plaintiff North Plate Semiconductor, LLC ("NPS" or Plaintiff") hereby asserts a claim for patent infringement against Defendant Diodes Incorporated ("Diodes" or "Defendant"), and in support thereof alleges as follows:

## **NATURE OF CASE**

- 1. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §1, et seq., specifically including 35 U.S.C. §271.
- 2. As set forth below, Plaintiff holds the rights in U.S. Patent Nos. 6,469,398 ("the '398 patent"), 6,501,129 ("the '129 patent"), 6,627,499 ("the '499 patent"), 6,667,515 ("the '515 patent), 7,564,097 ("the '097 patent"), 7,700,998 ("the '998 patent") and 8,173,509 ("the '509 patent") (cumulatively "Patents-in-Suit"). Under 35 U.S.C. § 282(a), the Patents-in-Suit are entitled to a presumption of validity. Plaintiff is suing Defendant for infringing its patents, and doing so willfully. Plaintiff seeks to recover damages from Defendant, including treble damages for willful infringement.

#### THE PARTIES

3. North Plate Semiconductor, LLC is a company, organized and existing under the

laws of the State of Delaware, with a principal place of business at 39555 Orchard Hill Place, Suite 600, Novi, Michigan, 48375.

4. Upon information and belief, Defendant Diodes Incorporated is a corporation organized and existing under the laws of the State of Delaware with its principal place of business at 4949 Hedgcoxe Road, Suite 200, Plano, Texas 75024. Upon information and belief, Diodes may be served with process by serving its agent for service of process, The Corporation Trust Company, at 1209 Orange St., Wilmington, Delaware 19801.

#### **JURISDICTION**

- 5. This is an action for patent infringement arising under the patent laws of the United States of America, more specifically under 35 U.S.C. § 1, *et seq.*, including 35 U.S.C. §271. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).
- 6. This Court has personal jurisdiction over Diodes at least because Diodes is headquartered in the Eastern District of Texas, and has ongoing and systematic contacts with the State of Texas. Diodes has purposefully and regularly availed itself of the privileges of conducting business in the State of Texas and in the Eastern District of Texas and expected or reasonably should have expected its acts to have consequence in the State of Texas and within this judicial District. Plaintiff's causes of action arise directly from Defendant's business contacts and other activities in the State of Texas and the Eastern District of Texas. Defendant has committed acts of patent infringement in this District, and has harmed and continues to harm Plaintiff in this District, by, among other things, using, selling, offering for sale, and/or importing the Accused Products (as defined below) into this District.

#### VENUE

- 7. Venue properly lies within this judicial District and division, pursuant to 28 U.S.C. §§ 1400(b).
- 8. Defendant's headquarters are in Plano, Texas, which is within this judicial District. Thus, Defendant resides in this District for the purposes of venue and has committed acts of infringement within this judicial District, does business in this District, and maintains a

regular and established place of business in this District.

#### THE PATENTS-IN-SUIT

## U.S. Patent No. 6,469,398

- 9. The '398 patent, entitled "Semiconductor Package and Manufacturing Method Thereof," was duly and lawfully issued by the United States Patent and Trademark Office on October 22, 2002. The '398 patent issued from U.S. Patent Application No. 10/101,730 filed on March 21, 2002 by inventor Tetsuji Hori. A true and correct copy of the '398 patent is attached hereto as Exhibit A.
  - 10. The '398 patent is valid and enforceable.
- 11. The '398 patent is generally directed to a semiconductor package with a semiconductor chip disposed therein and method for manufacturing the semiconductor package.
- 12. Plaintiff is the assignee and the owner of all right, title and interest in and to the '398 patent, and has the right to sue and recover damages for infringement thereof.

#### U.S. Patent No. 6,501,129

- 13. The '129 patent, entitled "Semiconductor Device," was duly and lawfully issued by the United States Patent and Trademark Office on December 31, 2002. The '129 patent issued from U.S. Patent Application No. 09/820,369 filed on March 29, 2001 by inventor Akihiko Osawa. A true and correct copy of the '129 patent is attached hereto as Exhibit B.
  - 14. The '129 patent is valid and enforceable.
- 15. The '129 patent is generally directed to a semiconductor device, such as a Metal Oxide Semiconductor Field Effect Transistor (MOSFET).
- 16. Plaintiff is the assignee and the owner of all right, title and interest in and to the '129 patent, and has the right to sue and recover damages for infringement thereof.

#### U.S. Patent No. 6,627,499

17. The '499 patent, entitled "Semiconductor Device and Method of Manufacturing the Same," was duly and lawfully issued by the United States Patent and Trademark Office on September 30, 2003. The '499 patent issued from U.S. Patent Application No. 10/305,197 filed

on November 27, 2002 by inventor Arihiko Osawa. A true and correct copy of the '499 patent is attached hereto as Exhibit C.

- 18. The '499 patent is valid and enforceable.
- 19. The '499 patent is generally directed to a semiconductor device, such as a Metal Oxide Semiconductor Field Effect Transistor (MOSFET) and a method of manufacturing the semiconductor device.
- 20. Plaintiff is the assignee and the owner of all right, title and interest in and to the '499 patent, and has the right to sue and recover damages for infringement thereof.

## U.S. Patent No. 6,667,515

- 21. The '515 patent, entitled "High Breakdown Voltage Semiconductor Device," was duly and lawfully issued by the United States Patent and Trademark Office on December 23, 2003. The '515 patent issued from U.S. Patent Application No. 10/053,660 filed on January 24, 2002 by inventor Tomoki Inoue. A true and correct copy of the '515 patent is attached hereto as Exhibit D.
  - 22. The '515 patent is valid and enforceable.
- 23. The '515 patent is generally directed to a high breakdown voltage semiconductor device having an insulated gate structure, such as a Metal Oxide Semiconductor Field Effect Transistor (MOSFET).
- 24. Plaintiff is the assignee and the owner of all right, title and interest in and to the '515 patent, and has the right to sue and recover damages for infringement thereof.

#### U.S. Patent No. 7,564,097

- 25. The '097 patent, entitled "Trench-Gated MOSFET Including Schottky Diode Therein," was duly and lawfully issued by the United States Patent and Trademark Office on July 21, 2009. The '097 patent issued from U.S. Patent Application No. 11/740,045 filed on April 25, 2007 by inventors Syotaro Ono, Akio Nakagawa, Yusuke Kawaguchi, Yoshiro Yamaguchi. A true and correct copy of the '097 Patent is attached hereto as Exhibit E.
  - 26. The '097 patent is valid and enforceable.

- 27. The '097 patent is generally directed to a trench Metal Oxide Semiconductor Field Effect Transistor (MOSFET) including a gate electrode having a trench gate structure.
- 28. Plaintiff is the assignee and the owner of all right, title and interest in and to the '097 patent, and has the right to sue and recover damages for infringement thereof.

## U.S. Patent No. 7,700,998

- 29. The '998 patent, entitled "Semiconductor Device And Method For Manufacturing The Same," was duly and lawfully issued by the United States Patent and Trademark Office on April 20, 2010. The '998 patent issued from U.S. Patent Application No. 12/164,389 filed on June 30, 2008 by inventors Hideki Okumura, Takayoshi Nogami, Hiroto Misawa. A true and correct copy of the '998 patent is attached hereto as Exhibit F.
  - 30. The '998 patent is valid and enforceable.
- 31. The '998 patent is generally directed to a semiconductor device such as a MOSFET and method for manufacturing the semiconductor device.
- 32. Plaintiff is the assignee and the owner of all right, title and interest in and to the '998 patent, and has the right to sue and recover damages for infringement thereof.

## U.S. Patent No. 8,173,509

- 33. The '509 patent, entitled "Semiconductor Device And Method For Manufacturing The Same," was duly and lawfully issued by the United States Patent and Trademark Office on May 8, 2012. The '509 patent issued from U.S. Patent Application No. 12/714,586 filed on March 1, 2010 by inventors Hideki Okumura, Takayoshi Nogami, Hiroto Misawa. A true and correct copy of the '509 patent is attached hereto as Exhibit G.
  - 34. The '509 patent is valid and enforceable.
- 35. The '509 patent is generally directed to a semiconductor device such as a MOSFET and method for manufacturing the semiconductor device.
- 36. Plaintiff is the assignee and the owner of all right, title and interest in and to the '509 patent, and has the right to sue and recover damages for infringement thereof.

## **GENERAL ALLEGATIONS**

- 37. Power MOSFET (metal-oxide-silicon field-effect transistors) semiconductor devices are types of power MOS (metal-oxide-silicon) transistors that operate at high-switching speeds allowing the design of smaller and less costly end-products. Such devices are activated by voltage rather than current, thus requiring less external circuitry to operate, making them more compatible with integrated-circuit controls and offering more reliable long-term performance. Generally, a power MOSFET can act as a switch controlled by voltage at the gate, which is used to vary the amperage and frequency of electricity by switching on and off at high frequency. The Diodes website touts its MOSFET portfolio of products as "ideally suited to meeting the circuit requirements of DC-DC conversion, load switching, motor control, backlighting, battery protection, battery chargers, audio circuits, and automotive applications." The Accused Products fall into the "discrete semiconductor" and "analog" product categories, as disclosed in the Defendant's 2016 Annual Report, which include semiconductor devices such as power MOSFETs, power management devices (e.g., voltage regulators) and LED lighting drivers incorporating power MOSFETs.
- 38. Upon information and belief, the Accused Products include at least Defendant's Trench MOSFETs, DIOFETs (Diodes Schottky Integrated MOSFETs), LED Drivers with Internal MOSFET, and all Discrete Semiconductors with POWERDI packaging families of power semiconductor devices (collectively defined as the "Accused Products"). As stated in Defendant's 2016 Annual Report, the Accused Products are designed for use in high-volume consumer electronic devices such as LCD and LED televisions and LCD panels, set-top boxes, consumer portables such as smartphones, tablets and notebooks, LED lighting devices and automotive devices. Defendant targets and serves end-equipment markets, including consumers electronics, computing, industrial, communications and automotive. These products are sold and/or offered for sale throughout the United States, including Texas.
- 39. Defendant manufactures the Accused Products and directly, and/or through its affiliates, makes, uses, imports, sells and offers to sell the same throughout the United States, including Texas. Defendant also supports and encourages others to import, use, offer for sale

and sell throughout the United States, including Texas, products incorporating the Accused Products as material components.

## COUNT I: INFRINGEMENT OF U.S. PATENT NO. 6,469,398

- 40. Plaintiff incorporates by reference the allegations set forth in the preceding paragraphs.
- 41. Defendant has directly infringed and is infringing literally and/or under the doctrine of equivalents, in violation of the §271(a) at least claims 1-4, 8, 9, 14, 16 and 17 of the '398 Patent at least during the period prior to the expiration of the patent by making, using, importing, offering for sale and/or selling discrete semiconductor devices with POWERDI packaging, including but not limited to device model numbers listed in Exhibit H ("Accused '398 Devices"), in this judicial district and elsewhere throughout the United States.
- 42. As a non-limiting example of Defendant's infringement of the '398 Patent, set forth in Exhibit H-1 is a preliminary claim chart showing Diodes' infringement of exemplary claims 1-4, 8, 9, 14, 16 and 17 of the '398 Patent by a DMP2002UPS device. The device was analyzed using X-ray imaging.
- 43. Upon information and belief, Defendant's infringement of the '398 Patent by the DMP2002UPS device is representative of and proof of Defendant's infringement of the '398 Patent by all of the Accused '398 Devices, including all discrete semiconductor devices utilizing POWERDI packaging. Such devices include, but not limited to MOSFETs. The Accused '398 Devices comprise the same, or substantially similar, structural features pertinent to infringement of the '398 Patent. The Accused '398 Devices are binned under different product numbers based upon different characteristics, including, without limitation, drain-source voltage, drain current, ON resistance, packaging style and thermal resistance.
- 44. Upon information and belief, Defendant has and continues to intentionally induce others to directly infringe in violation of 35 U.S.C. §271(b), and those actions are undertaken with the specific intent that they will, in fact, induce direct infringement and with full knowledge that Defendant's products infringe one or more claims of the '398 Patent both literally and/or

under the doctrine of equivalents. By way of example only, Defendant sells and delivers the infringing Accused '398 Devices to U.S. distributors including Arrow Electronics located in Plymouth, MI, Mouser Electronics located in Mansfield, TX, Digi-Key Electronics located in Thief River Falls, MN and others, and thereafter induces these distributors to sell and offer for sale the infringing products to customers in the United States thereby directly infringing the '398 Patent. Arrow Electronics, Mouser Electronics and Digi-Key maintain websites (arrow.com, mouser.com and digikey.com) available to U.S.-based customers that, as a result of Defendant's inducement, stock, sell, and offer for sale the Accused '398 Devices.

- 45. Defendant further induces third parties to incorporate the Accused '398 Devices as components into additional products for various applications to be used in the United States, by, for example, providing datasheets, application notes, product briefs, and other collateral on their Internet website (http://www.diodes.com) available to U.S. customers. As disclosed in Diodes 2016 Annual Report, Defendant markets the accused products through a combination of direct sales and marketing personnel, sales representatives, and distributors in the United States and abroad. The marketing group works closely with the sales and research and development teams to align the company's product development roadmap. The marketing group coordinates its efforts with product development, operations and sales groups, as well as with customers, sales representatives and distributors. Diodes also markets the Accused Products through advertisements, technical articles and press releases that appear regularly in a variety of trade publications, as well as through the dissemination of brochures, data sheets and technical manuals, knowing or have reason to believe that the products are intended to be sold worldwide, including throughout the United States.
- 46. Upon information and belief, one or more of the Accused Products were imported, used and sold in the United States as components of third-party end products, including, but not limited to, Google Chromecast, Apple Macbook, Apple iPad, Apple iPad Pro, Apple iPhone 6S, Fitbit Surge, Microsoft XBOX One, Samsung Galaxy S7, Samsung Galaxy Note 7, Anki Overdrive, HP Elitebook and/or other electronics products. Additional third party

end products incorporating the Accused Products include LED devices sold by Cree, Everlight, LumiLEDs, Osram, Seoul Semiconductor, Sharp and others in the United States.

- 47. Diodes took affirmative acts to induce third parties to import its Accused Products into the United States. For example, Diodes designs its products to meet certain United States standards, including Quality Management System Standard ISO 9001:2008. Diodes competes for business it knows is directed to the United States. Upon information and belief, Diodes works directly with end customers on design, testing and reliability of the Accused Products and thus encourages direct infringement in the United States: "Product development engineers work directly with our semiconductor circuit design and layout engineers to develop and design products that match our customers' requirements. We have the capability to capture the customers' electrical and packaging requirements and translate those requirements into product specifications which can then be designed and manufactured to support customers' end-system applications." See Diodes 2016 Annual Report. Upon information and belief, Diodes also provides demonstration boards containing the Accused Products to customers and potential customers in the United States. Furthermore, Diodes website includes a "Buy Now" button with a link to a U.S. Distributor, thus enabling customers to locate a United States-based distributor that sells the Accused Products. Upon information and belief, Diodes provides technical support out of the United States supporting the Accused Products to customers based in the United States.
- 48. Defendant has been on notice of the '398 Patent and Defendant's infringement of the '398 Patent by the Accused '398 Devices since, at least, the date of the Complaint.
- 49. Upon information and belief, Defendant's continued infringement of the '398 Patent has been and continues to be willful at least as of the date of the Complaint, and warrants the enhancement of damages awarded as a result of its infringement. In particular, despite Defendant's knowledge of its infringement, Defendant has failed to stop infringing the '398 Patent.
  - 50. Defendant is not licensed or otherwise authorized to make, use, import, sell or

offer to sell any semiconductor devices encompassed by the claims in the '398 Patent, and Defendant's conduct is, in every instance, without Plaintiff's consent.

- 51. Defendant's willful infringement of the '398 Patent renders this an exceptional case within the meaning of 35 U.S.C. §285, justifying an award to Plaintiff of its reasonable attorneys' fees and costs incurred in connection with this litigation.
- 52. By reason of Defendant's infringing activities, Plaintiff has suffered, and will continue to suffer, substantial damages in an amount to be proven at trial.

## **COUNT II: INFRINGEMENT OF U.S. PATENT NO. 6,501,129**

- 53. Plaintiff incorporates by reference the allegations set forth in the preceding paragraphs.
- 54. Defendant has directly infringed and is infringing literally and/or under the doctrine of equivalents, in violation of the \$271(a), at least claim 1 of the '129 Patent at least during the period prior to the expiration of the patent by making, using, importing, offering for sale and/or selling the Trench MOSFET and DIOFET families of semiconductor devices, including but not limited to device model numbers listed in Exhibit I ("Accused '129 Devices"), in this judicial district and elsewhere throughout the United States.
- 55. As a non-limiting example of Defendant's infringement of the '129 Patent, set forth in Exhibit I-1 are preliminary claim charts showing Diodes' infringement of exemplary claim 1 of the '129 Patent by Diodes' ZXMN3A03E6 and DMG4812SSS devices. The devices were analyzed using OM (Optical Microscopy), SEM (Scanning Electron Microscopy), and/or SCM (Scanning Capacitance Microscopy) imaging.
- 56. Upon information and belief, Defendant's infringement of the '129 Patent by the ZXMN3A03E6 and DMG4812SSS devices is representative of and proof of Defendant's infringement of the '129 Patent by all of the Accused '129 Devices, including the entire Trench MOSFET and DIOFET families of products. The Accused '129 Devices comprise the same, or substantially similar, structural features pertinent to infringement of the '129 Patent. The Accused '129 Devices are binned under different product numbers based upon different

characteristics, including, without limitation, drain-source voltage, drain current, ON resistance, packaging style and thermal resistance.

- 57. Upon information and belief, Defendant has and continues to intentionally induce others to directly infringe in violation of 35 U.S.C. §271(b), and those actions are undertaken with the specific intent that they will, in fact, induce direct infringement and with full knowledge that Defendant's products infringe one or more claims of the '129 Patent both literally and/or under the doctrine of equivalents. By way of example only, Defendant sells and delivers the infringing Accused '129 Devices to U.S. distributors including Arrow Electronics located in Plymouth, MI, Mouser Electronics located in Mansfield, TX, Digi-Key Electronics located in Thief River Falls, MN and others, and thereafter induces these distributors to sell and offer for sale the infringing products to customers in the United States thereby directly infringing the '129 Patent. Arrow Electronics, Mouser Electronics and Digi-Key maintain websites (arrow.com, mouser.com and digikey.com) available to U.S.-based customers that, as a result of Defendant's inducement, stock, sell, and offer for sale the Accused '129 Devices.
- 58. Defendant further induces third parties to incorporate the Accused '129 Devices as components into additional products for various applications to be used in the United States, by, for example, providing datasheets, application notes, product briefs, and other collateral on their Internet website (http://www.diodes.com) available to U.S. customers. As disclosed in Diodes 2016 Annual Report, Defendant markets the accused products through a combination of direct sales and marketing personnel, sales representatives, and distributors in the United States and abroad. The marketing group works closely with the sales and research and development teams to align the company's product development roadmap. The marketing group coordinates its efforts with product development, operations and sales groups, as well as with customers, sales representatives and distributors. Diodes also markets the Accused Products through advertisements, technical articles and press releases that appear regularly in a variety of trade publications, as well as through the dissemination of brochures, data sheets and technical manuals, knowing or have reason to believe that the products are intended to be sold worldwide,

including throughout the United States.

- 59. Upon information and belief, one or more of the Accused Products were imported, used and sold in the United States as components of third-party end products, including, but not limited to, Google Chromecast, Apple Macbook, Apple iPad, Apple iPad Pro, Apple iPhone 6S, Fitbit Surge, Microsoft XBOX One, Samsung Galaxy S7, Samsung Galaxy Note 7, Anki Overdrive, HP Elitebook and/or other electronics products. Additional third party end products incorporating the Accused Products include LED devices sold by Cree, Everlight, LumiLEDs, Osram, Seoul Semiconductor, Sharp and others in the United States.
- Diodes took affirmative acts to induce third parties to import its Accused Products 60. into the United States. For example, Diodes designs its products to meet certain United States standards, including Quality Management System Standard ISO 9001:2008. Diodes competes for business it knows is directed to the United States. Upon information and belief, Diodes works directly with end customers on design, testing and reliability of the Accused Products and thus encourages direct infringement in the United States: "Product development engineers work directly with our semiconductor circuit design and layout engineers to develop and design products that match our customers' requirements. We have the capability to capture the customers' electrical and packaging requirements and translate those requirements into product specifications which can then be designed and manufactured to support customers' end-system applications." See Diodes 2016 Annual Report. Upon information and belief, Diodes also provides demonstration boards containing the Accused Products to customers and potential customers in the United States. Furthermore, Diodes website includes a "Buy Now" button with a link to a U.S. Distributor, thus enabling customers to locate a United States-based distributor that sells the Accused Products. Upon information and belief, Diodes provides technical support out of the United States supporting the Accused Products to customers based in the United States.
- 61. Upon information and belief, Defendant has been on notice of the '129 Patent and Defendant's infringement of the '129 Patent by the Accused '129 Devices since, at least, March

- 30, 2015 when Defendant filed its own U.S. Patent Application No. 14/672,867 (issued as U.S. Patent No. 9,385,242) which cited to Plaintiff's U.S. Publication US20030075760A1 (issued as the '499 Patent, which is a divisional of the '129 Patent).
- 62. Upon information and belief, Defendant's continued infringement of the '129 Patent has been and continues to be willful at least as of the date of the Complaint, and warrants the enhancement of damages awarded as a result of its infringement. In particular, despite Defendant's knowledge of its infringement, Defendant has failed to stop infringing the '129 Patent.
- 63. Defendant is not licensed or otherwise authorized to make, use, import, sell or offer to sell any semiconductor devices encompassed by the claims in the '129 Patent, and Defendant's conduct is, in every instance, without Plaintiff's consent.
- 64. Defendant's willful infringement of the '129 Patent renders this an exceptional case within the meaning of 35 U.S.C. §285, justifying an award to Plaintiff of its reasonable attorneys' fees and costs incurred in connection with this litigation.
- 65. By reason of Defendant's infringing activities, Plaintiff has suffered, and will continue to suffer, substantial damages in an amount to be proven at trial.

# **COUNT III: INFRINGEMENT OF U.S. PATENT NO. 6,627,499**

- 66. Plaintiff incorporates by reference the allegations set forth in the preceding paragraphs.
- 67. Defendant has directly infringed and is infringing literally and/or under the doctrine of equivalents, in violation of the §271(a), at least claim 1 of the '499 Patent at least during the period prior to the expiration of the patent by making, using, importing, offering for sale and/or selling the Trench MOSFET and DIOFET families of semiconductor devices, including but not limited to device model numbers listed in Exhibit I (to be referred to as "Accused '499 Devices" for the purpose of this Count), in this judicial district and elsewhere throughout the United States.
  - 68. Upon information and belief, as a non-limiting example of Defendant's

infringement of the '499 Patent, set forth in Exhibit I-1 are preliminary claim charts showing Diodes' infringement of exemplary claims 1 and 2 of the '129 Patent by Diodes' ZXMN3A03E6 and DMG4812SSS devices. The devices were analyzed using OM (Optical Microscopy), SEM (Scanning Electron Microscopy), and/or SCM (Scanning Capacitance Microscopy) imaging. The '499 Patent is a divisional of the '129 Patent, and discloses a method of manufacturing the semiconductor device claimed in the '129 Patent.

- 69. Upon information and belief, Defendant's infringement of the '499 Patent by the ZXMN3A03E6 and DMG4812SSS devices is representative of and proof of Defendant's infringement of the '499 Patent by all of the Accused '499 Devices, including the entire Trench MOSFET and DIOFET families of products. The Accused '499 Devices comprise the same, or substantially similar, structural features and methods of manufacture pertinent to infringement of the '499 Patent. The Accused '499 Devices are binned under different product numbers based upon different characteristics, including, without limitation, drain-source voltage, drain current, ON resistance, packaging style and thermal resistance.
- 70. Upon information and belief, Defendant has directly infringed and is infringing literally and/or under the doctrine of equivalents, in violation of \$271(a) and/or \$271(g), at least claim 1 of the '499 Patent at least during the period prior to the expiration of the patent by importing into the United States and/or offering to sell, selling and/or using within the United States the Trench MOSFET and DIOFET families of semiconductor devices, including but not limited to device model numbers listed in Exhibit I ("Accused '499 Devices") which are made by a process claimed by the '499 patent.
- 71. Upon information and belief, Defendant has and continues to intentionally induce others to directly infringe in violation of 35 U.S.C. §271(b), and those actions are undertaken with the specific intent that they will, in fact, induce direct infringement and with full knowledge that Defendant's products infringe one or more claims of the '499 Patent both literally and/or under the doctrine of equivalents. By way of example only, Defendant sells and delivers the infringing Accused '499 Devices to U.S. distributors including Arrow Electronics located in

Plymouth, MI, Mouser Electronics located in Mansfield, TX, Digi-Key Electronics located in Thief River Falls, MN and others, and thereafter induces these distributors to sell and offer for sale the infringing products to customers in the United States thereby directly infringing the '499 Patent. Arrow Electronics, Mouser Electronics and Digi-Key maintain websites (arrow.com, mouser.com and digikey.com) available to U.S.-based customers that, as a result of Defendant's inducement, stock, sell, and offer for sale the Accused '499 Devices.

- 72. Defendant further induces third parties to incorporate the Accused '499 Devices as components into additional products for various applications to be used in the United States, by, for example, providing datasheets, application notes, product briefs, and other collateral on their Internet website (http://www.diodes.com) available to U.S. customers. As disclosed in Diodes 2016 Annual Report, Defendant markets the accused products through a combination of direct sales and marketing personnel, sales representatives, and distributors in the United States and abroad. The marketing group works closely with the sales and research and development teams to align the company's product development roadmap. The marketing group coordinates its efforts with product development, operations and sales groups, as well as with customers, sales representatives and distributors. Diodes also markets the Accused Products through advertisements, technical articles and press releases that appear regularly in a variety of trade publications, as well as through the dissemination of brochures, data sheets and technical manuals, knowing or have reason to believe that the products are intended to be sold worldwide, including throughout the United States.
- 73. Upon information and belief, one or more of the Accused Products were imported, used and sold in the United States as components of third-party end products, including, but not limited to, Google Chromecast, Apple Macbook, Apple iPad, Apple iPad Pro, Apple iPhone 6S, Fitbit Surge, Microsoft XBOX One, Samsung Galaxy S7, Samsung Galaxy Note 7, Anki Overdrive, HP Elitebook and/or other electronics products. Additional third party end products incorporating the Accused Products include LED devices sold by Cree, Everlight, LumiLEDs, Osram, Seoul Semiconductor, Sharp and others in the United States.

- 74. Diodes took affirmative acts to induce third parties to import its Accused Products into the United States. For example, Diodes designs its products to meet certain United States standards, including Quality Management System Standard ISO 9001:2008. Diodes competes for business it knows is directed to the United States. Upon information and belief, Diodes works directly with end customers on design, testing and reliability of the Accused Products and thus encourages direct infringement in the United States: "Product development engineers work directly with our semiconductor circuit design and layout engineers to develop and design products that match our customers' requirements. We have the capability to capture the customers' electrical and packaging requirements and translate those requirements into product specifications which can then be designed and manufactured to support customers' end-system applications." See Diodes 2016 Annual Report. Upon information and belief, Diodes also provides demonstration boards containing the Accused Products to customers and potential customers in the United States. Furthermore, Diodes website includes a "Buy Now" button with a link to a U.S. Distributor, thus enabling customers to locate a United States-based distributor that sells the Accused Products. Upon information and belief, Diodes provides technical support out of the United States supporting the Accused Products to customers based in the United States.
- 75. Upon information and belief, Defendant has been on notice of the '499 Patent and Defendant's infringement of the '499 Patent by the Accused '499 Devices since, at least, March 30, 2015 when Defendant filed its own U.S. Patent Application No. 14/672,867 (issued as U.S. Patent No. 9,385,242) which cited to Plaintiff's U.S. Publication US20030075760A1 (issued as the '499 Patent).
- 76. Upon information and belief, Defendant's continued infringement of the '499 Patent has been and continues to be willful at least as of the date of the Complaint, and warrants the enhancement of damages awarded as a result of its infringement. In particular, despite Defendant's knowledge of its infringement, Defendant has failed to stop infringing the '499 Patent.

- 77. Defendant is not licensed or otherwise authorized to make, use, import, sell or offer to sell any semiconductor devices encompassed by the claims in the '499 Patent, and Defendant's conduct is, in every instance, without Plaintiff's consent.
- 78. Defendant's willful infringement of the '499 Patent renders this an exceptional case within the meaning of 35 U.S.C. §285, justifying an award to Plaintiff of its reasonable attorneys' fees and costs incurred in connection with this litigation.
- 79. By reason of Defendant's infringing activities, Plaintiff has suffered, and will continue to suffer, substantial damages in an amount to be proven at trial.

## COUNT IV: INFRINGEMENT OF U.S. PATENT NO. 6,667,515

- 80. Plaintiff incorporates by reference the allegations set forth in the preceding paragraphs.
- 81. Defendant has directly infringed and is infringing literally and/or under the doctrine of equivalents, in violation of the §271(a) at least claims 1, 4-7, 17-18, 24-27, 42 of the '515 Patent at least during the period prior to the expiration of the patent by making, using, importing, offering for sale and/or selling the Trench MOSFET and LED Driver with Internal MOSFET family of semiconductor devices, including but not limited to device model numbers listed in Exhibit J ("Accused '515 Devices"), in this judicial district and elsewhere throughout the United States.
- 82. As a non-limiting example of Defendant's infringement of the '515 Patent, set forth in Exhibit J-1 is a preliminary claim chart showing Diodes' infringement of exemplary claims 1, 4-7, 17-18, 24-27, 42 of the '515 Patent by a ZXMN3A03E6 and AL1697 devices. The device was analyzed using OM (Optical Microscopy), SEM (Scanning Electron Microscopy), and/or SCM (Scanning Capacitance Microscopy) imaging.
- 83. Upon information and belief, Defendant's infringement of the '515 Patent by the ZXMN3A03E6 and AL1697 devices is representative of and proof of Defendant's infringement of the '515 Patent by all of the Accused '515 Devices, including the entire family of Trench MOSFET and LED Driver with Internal MOSFET semiconductor devices. The Accused '515

Devices comprise the same, or substantially similar, structural features pertinent to infringement of the '515 Patent. The Accused '515 Devices are binned under different product numbers based upon different characteristics, including, without limitation, drain-source voltage, drain current, ON resistance, packaging style and thermal resistance.

- 84. Upon information and belief, Defendant has and continues to intentionally induce others to directly infringe in violation of 35 U.S.C. §271(b), and those actions are undertaken with the specific intent that they will, in fact, induce direct infringement and with full knowledge that Defendant's products infringe one or more claims of the '515 Patent both literally and/or under the doctrine of equivalents. By way of example only, Defendant sells and delivers the infringing Accused '515 Devices to U.S. distributors including Arrow Electronics located in Plymouth, MI, Mouser Electronics located in Mansfield, TX, Digi-Key Electronics located in Thief River Falls, MN and others, and thereafter induces these distributors to sell and offer for sale the infringing products to customers in the United States thereby directly infringing the '515 Patent. Arrow Electronics, Mouser Electronics and Digi-Key maintain websites (arrow.com, mouser.com and digikey.com) available to U.S.-based customers that, as a result of Defendant's inducement, stock, sell, and offer for sale the Accused '515 Devices.
- 85. Defendant further induces third parties to incorporate the Accused '515 Devices as components into additional products for various applications to be used in the United States, by, for example, providing datasheets, application notes, product briefs, and other collateral on their Internet website (http://www.diodes.com) available to U.S. customers. As disclosed in Diodes 2016 Annual Report, Defendant markets the accused products through a combination of direct sales and marketing personnel, sales representatives, and distributors in the United States and abroad. The marketing group works closely with the sales and research and development teams to align the company's product development roadmap. The marketing group coordinates its efforts with product development, operations and sales groups, as well as with customers, sales representatives and distributors. Diodes also markets the Accused Products through advertisements, technical articles and press releases that appear regularly in a variety of trade

publications, as well as through the dissemination of brochures, data sheets and technical manuals, knowing or have reason to believe that the products are intended to be sold worldwide, including throughout the United States.

- 86. Upon information and belief, one or more of the Accused Products were imported, used and sold in the United States as a component of third-party end products, including, but not limited to, Google Chromecast, Apple Macbook, Apple iPad, Apple iPad Pro, Apple iPhone 6S, Fitbit Surge, Microsoft XBOX One, Samsung Galaxy S7, Samsung Galaxy Note 7, Anki Overdrive, HP Elitebook and/or other electronics products. Additional third party end products incorporating the Accused Products include LED devices sold by Cree, Everlight, LumiLEDs, Osram, Seoul Semiconductor, Sharp and others in the United States.
- 87. Diodes took affirmative acts to induce third parties to import its Accused Products into the United States. For example, Diodes designs its products to meet certain United States standards, including Quality Management System Standard ISO 9001:2008. Diodes competes for business it knows is directed to the United States. Upon information and belief, Diodes works directly with end customers on design, testing and reliability of the Accused Products and thus encourages direct infringement in the United States: "Product development engineers work directly with our semiconductor circuit design and layout engineers to develop and design products that match our customers' requirements. We have the capability to capture the customers' electrical and packaging requirements and translate those requirements into product specifications which can then be designed and manufactured to support customers' end-system applications." See Diodes 2016 Annual Report. Upon information and belief, Diodes also provides demonstration boards containing the Accused Products to customers and potential customers in the United States. Furthermore, Diodes website includes a "Buy Now" button with a link to a U.S. Distributor, thus enabling customers to locate a United States-based distributor that sells the Accused Products. Upon information and belief, Diodes provides technical support out of the United States supporting the Accused Products to customers based in the United States.

- 88. Defendant has been on notice of the '515 Patent and Defendant's infringement of the '515 Patent by the Accused '515 Devices since, at least, the date of the Complaint.
- 89. Upon information and belief, Defendant's continued infringement of the '515 Patent has been and continues to be willful at least as of the date of the Complaint, and warrants the enhancement of damages awarded as a result of its infringement. In particular, despite Defendant's knowledge of its infringement, Defendant has failed to stop infringing the '515 Patent.
- 90. Defendant is not licensed or otherwise authorized to make, use, import, sell or offer to sell any semiconductor devices encompassed by the claims in the '515 Patent, and Defendant's conduct is, in every instance, without Plaintiff's consent.
- 91. Defendant's willful infringement of the '515 Patent renders this an exceptional case within the meaning of 35 U.S.C. §285, justifying an award to Plaintiff of its reasonable attorneys' fees and costs incurred in connection with this litigation.
- 92. By reason of Defendant's infringing activities, Plaintiff has suffered, and will continue to suffer, substantial damages in an amount to be proven at trial.

# COUNT V: INFRINGEMENT OF U.S. PATENT NO. 7,564,097

- 93. Plaintiff incorporates by reference the allegations set forth in the preceding paragraphs.
- 94. Defendant has directly infringed and is infringing literally and/or under the doctrine of equivalents, in violation of the \$271(a) at least claims 1, 3 and 5 of the '097 Patent at least during the period prior to the expiration of the patent by making, using, importing, offering for sale and/or selling the DIOFET family of semiconductor devices, including but not limited to device model numbers listed in Exhibit K ("Accused '097 Devices"), in this judicial district and elsewhere throughout the United States.
- 95. As a non-limiting example of Defendant's infringement of the '097 Patent, set forth in Exhibit K-1 is a preliminary claim chart showing Diodes' infringement of exemplary claims 1, 3 and 5 of the '097 Patent by a DMG4812SSS device. The device was analyzed using

OM (Optical Microscopy), SEM (Scanning Electron Microscopy), and/or SCM (Scanning Capacitance Microscopy) imaging.

- 96. Upon information and belief, Defendant's infringement of the '097 Patent by the DMG4812SSS device is representative of and proof of Defendant's infringement of the '097 Patent by all of the Accused '097 Devices, including the entire family of DIOFET semiconductor devices. The Accused '097 Devices comprise the same, or substantially similar, structural features pertinent to infringement of the '097 Patent. The Accused '097 Devices are binned under different product numbers based upon different characteristics, including, without limitation, drain-source voltage, drain current, ON resistance, packaging style and thermal resistance.
- 97. Upon information and belief, Defendant has and continues to intentionally induce others to directly infringe in violation of 35 U.S.C. §271(b), and those actions are undertaken with the specific intent that they will, in fact, induce direct infringement and with full knowledge that Defendant's products infringe one or more claims of the '097 Patent both literally and/or under the doctrine of equivalents. By way of example only, Defendant sells and delivers the infringing Accused '097 Devices to U.S. distributors including Arrow Electronics located in Plymouth, MI, Mouser Electronics located in Mansfield, TX, Digi-Key Electronics located in Thief River Falls, MN and others, and thereafter induces these distributors to sell and offer for sale the infringing products to customers in the United States thereby directly infringing the '097 Patent. Arrow Electronics, Mouser Electronics and Digi-Key maintain websites (arrow.com, mouser.com and digikey.com) available to U.S.-based customers that, as a result of Defendant's inducement, stock, sell, and offer for sale the Accused '097 Devices.
- 98. Defendant further induces third parties to incorporate the Accused '097 Devices as components into additional products for various applications to be used in the United States, by, for example, providing datasheets, application notes, product briefs, and other collateral on their Internet website (http://www.diodes.com) available to U.S. customers. As disclosed in Diodes 2016 Annual Report, Defendant markets the accused products through a combination of

direct sales and marketing personnel, sales representatives, and distributors in the United States and abroad. The marketing group works closely with the sales and research and development teams to align the company's product development roadmap. The marketing group coordinates its efforts with product development, operations and sales groups, as well as with customers, sales representatives and distributors. Diodes also markets the Accused Products through advertisements, technical articles and press releases that appear regularly in a variety of trade publications, as well as through the dissemination of brochures, data sheets and technical manuals, knowing or have reason to believe that the products are intended to be sold worldwide, including throughout the United States.

- 99. Upon information and belief, one or more of the Accused Products were imported, used and sold in the United States as a component of third-party end products, including, but not limited to, Google Chromecast, Apple Macbook, Apple iPad, Apple iPad Pro, Apple iPhone 6S, Fitbit Surge, Microsoft XBOX One, Samsung Galaxy S7, Samsung Galaxy Note 7, Anki Overdrive, HP Elitebook and/or other electronics products. Additional third party end products incorporating the Accused Products include LED devices sold by Cree, Everlight, LumiLEDs, Osram, Seoul Semiconductor, Sharp and others in the United States.
- 100. Diodes took affirmative acts to induce third parties to import its Accused Products into the United States. For example, Diodes designs its products to meet certain United States standards, including Quality Management System Standard ISO 9001:2008. Diodes competes for business it knows is directed to the United States. Upon information and belief, Diodes works directly with end customers on design, testing and reliability of the Accused Products and thus encourages direct infringement in the United States: "Product development engineers work directly with our semiconductor circuit design and layout engineers to develop and design products that match our customers' requirements. We have the capability to capture the customers' electrical and packaging requirements and translate those requirements into product specifications which can then be designed and manufactured to support customers' end-system applications." See Diodes 2016 Annual Report. Upon information and belief, Diodes also

provides demonstration boards containing the Accused Products to customers and potential customers in the United States. Furthermore, Diodes website includes a "Buy Now" button with a link to a U.S. Distributor, thus enabling customers to locate a United States-based distributor that sells the Accused Products. Upon information and belief, Diodes provides technical support out of the United States supporting the Accused Products to customers based in the United States.

- 101. Defendant has been on notice of the '097 Patent and Defendant's infringement of the '097 Patent by the Accused '097 Devices since, at least, December 3, 2009 when Defendant filed its own U.S. Patent Application No. 12/630,088 (issued as U.S. Patent No. 8,368,140) which cited to Plaintiff's U.S. Patent No. 7,230,297 which is a divisional of the '097 Patent.
- 102. Upon information and belief, Defendant's continued infringement of the '097 Patent has been and continues to be willful at least as of the date of the Complaint, and warrants the enhancement of damages awarded as a result of its infringement. In particular, despite Defendant's knowledge of its infringement, Defendant has failed to stop infringing the '097 Patent.
- 103. Defendant is not licensed or otherwise authorized to make, use, import, sell or offer to sell any semiconductor devices encompassed by the claims in the '097 Patent, and Defendant's conduct is, in every instance, without Plaintiff's consent.
- 104. Defendant's willful infringement of the '097 Patent renders this an exceptional case within the meaning of 35 U.S.C. §285, justifying an award to Plaintiff of its reasonable attorneys' fees and costs incurred in connection with this litigation.
- 105. By reason of Defendant's infringing activities, Plaintiff has suffered, and will continue to suffer, substantial damages in an amount to be proven at trial.

## COUNT VI: INFRINGEMENT OF U.S. PATENT NO. 7,700,998

- 106. Plaintiff incorporates by reference the allegations set forth in the preceding paragraphs.
  - 107. Defendant has directly infringed and is infringing literally and/or under the

doctrine of equivalents, in violation of the §271(a) at least claim 1 of the '998 Patent at least during the period prior to the expiration of the patent by making, using, importing, offering for sale and/or selling the LED Driver with Internal MOSFET family of semiconductor devices, including but not limited to device model numbers listed in Exhibit L ("Accused '998 Devices"), in this judicial district and elsewhere throughout the United States.

- 108. As a non-limiting example of Defendant's infringement of the '998 Patent, set forth in Exhibit L-1 is a preliminary claim chart showing Diodes' infringement of exemplary claims 1 of the '998 Patent by a AL1697 device. The device was analyzed using OM (Optical Microscopy), SEM (Scanning Electron Microscopy), and/or SCM (Scanning Capacitance Microscopy) imaging.
- 109. Upon information and belief, Defendant's infringement of the '998 Patent by the AL1697 device is representative of and proof of Defendant's infringement of the '998 Patent by all of the Accused '998 Devices, including the entire family of LED Driver with Internal MOSFET semiconductor devices. The Accused '998 Devices comprise the same, or substantially similar, structural features pertinent to infringement of the '998 Patent. The Accused '998 Devices are binned under different product numbers based upon different characteristics, including, without limitation, drain-source voltage, drain current, ON resistance, packaging style and thermal resistance.
- others to directly infringe in violation of 35 U.S.C. §271(b), and those actions are undertaken with the specific intent that they will, in fact, induce direct infringement and with full knowledge that Defendant's products infringe one or more claims of the '998 Patent both literally and/or under the doctrine of equivalents. By way of example only, Defendant sells and delivers the infringing Accused '998 Devices to U.S. distributors including Arrow Electronics located in Plymouth, MI, Mouser Electronics located in Mansfield, TX, Digi-Key Electronics located in Thief River Falls, MN and others, and thereafter induces these distributors to sell and offer for sale the infringing products to customers in the United States thereby directly infringing the '998

Patent. Arrow Electronics, Mouser Electronics and Digi-Key maintain websites (arrow.com, mouser.com and digikey.com) available to U.S.-based customers that, as a result of Defendant's inducement, stock, sell, and offer for sale the Accused '998 Devices.

- as components into additional products for various applications to be used in the United States, by, for example, providing datasheets, application notes, product briefs, and other collateral on their Internet website (http://www.diodes.com) available to U.S. customers. As disclosed in Diodes 2016 Annual Report, Defendant markets the accused products through a combination of direct sales and marketing personnel, sales representatives, and distributors in the United States and abroad. The marketing group works closely with the sales and research and development teams to align the company's product development roadmap. The marketing group coordinates its efforts with product development, operations and sales groups, as well as with customers, sales representatives and distributors. Diodes also markets the Accused Products through advertisements, technical articles and press releases that appear regularly in a variety of trade publications, as well as through the dissemination of brochures, data sheets and technical manuals, knowing or have reason to believe that the products are intended to be sold worldwide, including throughout the United States.
- 112. Upon information and belief, one or more of the Accused Products were imported, used and sold in the United States as component of third-party end products, including, but not limited to, Google Chromecast, Apple Macbook, Apple iPad, Apple iPad Pro, Apple iPhone 6S, Fitbit Surge, Microsoft XBOX One, Samsung Galaxy S7, Samsung Galaxy Note 7, Anki Overdrive, HP Elitebook and/or other electronics products. Additional third party end products incorporating the Accused Products include LED devices sold by Cree, Everlight, LumiLEDs, Osram, Seoul Semiconductor, Sharp and others in the United States.
- 113. Diodes took affirmative acts to induce third parties to import its Accused Products into the United States. For example, Diodes designs its products to meet certain United States standards, including Quality Management System Standard ISO 9001:2008. Diodes competes

for business it knows is directed to the United States. Upon information and belief, Diodes works directly with end customers on design, testing and reliability of the Accused Products and thus encourages direct infringement in the United States: "Product development engineers work directly with our semiconductor circuit design and layout engineers to develop and design products that match our customers' requirements. We have the capability to capture the customers' electrical and packaging requirements and translate those requirements into product specifications which can then be designed and manufactured to support customers' end-system applications." See Diodes 2016 Annual Report. Upon information and belief, Diodes also provides demonstration boards containing the Accused Products to customers and potential customers in the United States. Furthermore, Diodes website includes a "Buy Now" button with a link to a U.S. Distributor, thus enabling customers to locate a United States-based distributor that sells the Accused Products. Upon information and belief, Diodes provides technical support out of the United States supporting the Accused Products to customers based in the United States.

- 114. Defendant has been on notice of the '998 Patent and Defendant's infringement of the '998 Patent by the Accused '998 Devices since, at least, the date of the Complaint.
- 115. Upon information and belief, Defendant's continued infringement of the '998 Patent has been and continues to be willful at least as of the date of the Complaint, and warrants the enhancement of damages awarded as a result of its infringement. In particular, despite Defendant's knowledge of its infringement, Defendant has failed to stop infringing the '998 Patent.
- 116. Defendant is not licensed or otherwise authorized to make, use, import, sell or offer to sell any semiconductor devices encompassed by the claims in the '998 Patent, and Defendant's conduct is, in every instance, without Plaintiff's consent.
- 117. Defendant's willful infringement of the '998 Patent renders this an exceptional case within the meaning of 35 U.S.C. §285, justifying an award to Plaintiff of its reasonable attorneys' fees and costs incurred in connection with this litigation.

118. By reason of Defendant's infringing activities, Plaintiff has suffered, and will continue to suffer, substantial damages in an amount to be proven at trial.

#### COUNT VII: INFRINGEMENT OF U.S. PATENT NO. 8,173,509

- 119. Plaintiff incorporates by reference the allegations set forth in the preceding paragraphs.
- 120. Defendant has directly infringed and is infringing literally and/or under the doctrine of equivalents, in violation of the §271(a), at least claim 1 of the '509 Patent at least during the period prior to the expiration of the patent by making, using, importing, offering for sale and/or selling the LED Driver with Internal MOSFET family of semiconductor devices, including but not limited to device model numbers listed in Exhibit L (to be referred to as "Accused '509 Devices" for the purpose of this Count), in this judicial district and elsewhere throughout the United States.
- 121. Upon information and belief, as a non-limiting example of Defendant's infringement of the '509 Patent, set forth in Exhibit L-1 is a preliminary claim chart showing Diodes' infringement of exemplary claim 1 of the '998 Patent by Diodes' AL1697 device. The devices were analyzed using OM (Optical Microscopy), SEM (Scanning Electron Microscopy), and/or SCM (Scanning Capacitance Microscopy) imaging. The '509 Patent is a divisional of the '998 Patent, and discloses a method of manufacturing the semiconductor device claimed in the '998 Patent.
- 122. Upon information and belief, Defendant's infringement of the '509 Patent by the AL1697 device is representative of and proof of Defendant's infringement of the '509 Patent by all of the Accused '509 Devices, including the LED Driver with Internal MOSFET family of semiconductor devices. The Accused '509 Devices comprise the same, or substantially similar, structural features and methods of manufacture pertinent to infringement of the '509 Patent. The Accused '509 Devices are binned under different product numbers within the LED Driver family based upon different characteristics, including, without limitation, drain-source voltage, drain current, ON resistance, packaging style and thermal resistance.

- 123. Upon information and belief, Defendant has directly infringed and is infringing literally and/or under the doctrine of equivalents, in violation of §271(a) and/or §271(g), at least claim 1 of the '509 Patent at least during the period prior to the expiration of the patent by importing into the United States and/or offering to sell, selling and/or using within the United States the LED Driver with internal MOSFET family of semiconductor devices, including but not limited to device model numbers listed in Exhibit L ("Accused '509 Devices") which are made by a process claimed by the '509 patent.
- 124. Upon information and belief, Defendant has and continues to intentionally induce others to directly infringe in violation of 35 U.S.C. §271(b), and those actions are undertaken with the specific intent that they will, in fact, induce direct infringement and with full knowledge that Defendant's products infringe one or more claims of the '509 Patent both literally and/or under the doctrine of equivalents. By way of example only, Defendant sells and delivers the infringing Accused '509 Devices to U.S. distributors including Arrow Electronics located in Plymouth, MI, Mouser Electronics located in Mansfield, TX, Digi-Key Electronics located in Thief River Falls, MN and others, and thereafter induces these distributors to sell and offer for sale the infringing products to customers in the United States thereby directly infringing the '509 Patent. Arrow Electronics, Mouser Electronics and Digi-Key maintain websites (arrow.com, mouser.com and digikey.com) available to U.S.-based customers that, as a result of Defendant's inducement, stock, sell, and offer for sale the Accused '509 Devices.
- as components into additional products for various applications to be used in the United States, by, for example, providing datasheets, application notes, product briefs, and other collateral on their Internet website (http://www.diodes.com) available to U.S. customers. As disclosed in Diodes 2016 Annual Report, Defendant markets the accused products through a combination of direct sales and marketing personnel, sales representatives, and distributors in the United States and abroad. The marketing group works closely with the sales and research and development teams to align the company's product development roadmap. The marketing group coordinates

its efforts with product development, operations and sales groups, as well as with customers, sales representatives and distributors. Diodes also markets the Accused Products through advertisements, technical articles and press releases that appear regularly in a variety of trade publications, as well as through the dissemination of brochures, data sheets and technical manuals, knowing or have reason to believe that the products are intended to be sold worldwide, including throughout the United States.

- 126. Upon information and belief, one or more of the Accused Products were imported, used and sold in the United States as a component of third-party end products, including, but not limited to, Google Chromecast, Apple Macbook, Apple iPad, Apple iPad Pro, Apple iPhone 6S, Fitbit Surge, Microsoft XBOX One, Samsung Galaxy S7, Samsung Galaxy Note 7, Anki Overdrive, HP Elitebook and/or other electronics products. Additional third party end products incorporating the Accused Products include LED devices sold by Cree, Everlight, LumiLEDs, Osram, Seoul Semiconductor, Sharp and others in the United States.
- 127. Diodes took affirmative acts to induce third parties to import its Accused Products into the United States. For example, Diodes designs its products to meet certain United States standards, including Quality Management System Standard ISO 9001:2008. Diodes competes for business it knows is directed to the United States. Upon information and belief, Diodes works directly with end customers on design, testing and reliability of the Accused Products and thus encourages direct infringement in the United States: "Product development engineers work directly with our semiconductor circuit design and layout engineers to develop and design products that match our customers' requirements. We have the capability to capture the customers' electrical and packaging requirements and translate those requirements into product specifications which can then be designed and manufactured to support customers' end-system applications." See Diodes 2016 Annual Report. Upon information and belief, Diodes also provides demonstration boards containing the Accused Products to customers and potential customers in the United States. Furthermore, Diodes website includes a "Buy Now" button with a link to a U.S. Distributor, thus enabling customers to locate a United States-based distributor

that sells the Accused Products. Upon information and belief, Diodes provides technical support out of the United States supporting the Accused Products to customers based in the United States.

- 128. Defendant has been on notice of the '509 Patent and Defendant's infringement of the '509 Patent by the Accused '509 Devices since, at least, the date of the Complaint.
- 129. Upon information and belief, Defendant's continued infringement of the '509 Patent has been and continues to be willful at least as of the date of the Complaint, and warrants the enhancement of damages awarded as a result of its infringement. In particular, despite Defendant's knowledge of its infringement, Defendant has failed to stop infringing the '509 Patent.
- 130. Defendant is not licensed or otherwise authorized to make, use, import, sell or offer to sell any semiconductor devices encompassed by the claims in the '509 Patent, and Defendant's conduct is, in every instance, without Plaintiff's consent.
- 131. Defendant's willful infringement of the '509 Patent renders this an exceptional case within the meaning of 35 U.S.C. §285, justifying an award to Plaintiff of its reasonable attorneys' fees and costs incurred in connection with this litigation.
- 132. By reason of Defendant's infringing activities, Plaintiff has suffered, and will continue to suffer, substantial damages in an amount to be proven at trial.

## **PRAYER FOR RELIEF**

Wherefore, Plaintiff requests this Court enter judgment as follows:

- A. That the '398, '129, '499, '515, '097, '998 and '509 patents are valid and enforceable;
- B. That Defendant has directly and indirectly infringed at least claims 1-4, 8, 9, 14, 16 and 17 of the '398 patent, at least claim 1 of the '129 patent, at least claim 1 of the '499 patent, at least claims 1, 4-7, 17-18, 24-27 and 42 of the '515 patent, at least claims 1, 3 and 5 of the '097 patent, at least claim 1 of the '998 patent and at least claim 1 of the '509 patent;
  - C. That such infringement is willful;

D. That Defendant account for and pay to Plaintiff all damages pursuant to 35 U.S.C.

§ 284 to adequately compensate Plaintiff for Defendant's infringement of the Patents-in-Suit, but

in no event less than a reasonable royalty for the use made by Defendant of the invention set

forth in the Patents-in-Suit;

E. That Plaintiff receives enhanced damages, in the form of treble damages, pursuant

to 35 U.S.C. § 284;

F. That this is an exceptional case under 35 U.S.C. § 285;

G. That Defendant pay Plaintiff all of Plaintiff's reasonable attorneys' fees and

expenses pursuant to 35 U.S.C. § 285;

H. That Plaintiff be granted pre-judgment and post-judgment interest in accordance

with 35 U.S.C. § 284 on the damages caused to it by reason of Defendant's infringement of the

Patents-in-Suit, including pre-judgment and post-judgment interest on any enhanced damages or

attorneys' fees award;

I. That costs be awarded in accordance with 35 U.S.C. § 284 to Plaintiff; and

J. That Plaintiff be granted such other and further relief as the Court may deem just

and proper under the circumstances.

**DEMAND FOR JURY TRIAL** 

Plaintiff hereby demands a trial by jury on all issues so triable in this action.

DATED: January 22, 2017

Respectfully submitted,

Kroub, Silbersher & Kolmykov PLLC

By: s/ James A. Glenn

Sergey Kolmykov (Pro Hac Vice To Be Filed)

skolmykov@kskiplaw.com

**Zachary Silbersher (Pro Hac Vice To Be Filed)** 

zsilbersher@kskiplaw.com 305 Broadway, 7<sup>th</sup> Floor

303 Bloadway, 7 11001

New York, NY 10007

Telephone: (212) 323-7442

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James A. Glenn TX State Bar No. 24032357 JAGLawLLC@gmail.com 5535 Memorial Dr. Ste. F#1154 Houston, TX 77007

Attorneys for Plaintiff