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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

NORTH PLATE SEMICONDUCTOR, LLC,
a Delaware company,

Plaintiff,

v.

ALPHA AND OMEGA SEMICONDUCTOR,
INC., a California corporation,

Defendant.

: Case No.: 5:17-cv-04149

: Hon.

**COMPLAINT FOR PATENT
INFRINGEMENT**

JURY TRIAL DEMANDED

1 Plaintiff North Plate Semiconductor, LLC (“NPS” or Plaintiff”) hereby asserts a claim for patent
2 infringement against Defendant Alpha and Omega Semiconductor, Inc. (“AOS” or “Defendant”), and in
3 support thereof alleges as follows:

4 **NATURE OF CASE**

5 1. This is an action for patent infringement arising under the patent laws of the United States,
6 35 U.S.C. §1, *et seq.*, specifically including 35 U.S.C. §271.

7 2. As set forth below, Plaintiff holds the rights in U.S. Patent Nos. 6,469,398 (“the ‘398
8 patent”), 6,501,129 (“the ‘129 patent”), 6,617,641 (“the ‘641 patent”), 6,667,515 (“the ‘515 patent”),
9 6,620,653 (“the ‘653 patent”), 7,459,751 (“the ‘751 patent”), 7,492,031 (“the ‘031 patent”), and 7,700,998
10 (“the ‘998 patent”) (cumulatively “Patents-in-Suit”). Under 35 U.S.C. § 282(a), the Patents-in-Suit are
11 entitled to a presumption of validity. Plaintiff is suing Defendant for infringing its patents, and doing so
12 willfully. Plaintiff seeks to recover damages from Defendant, including treble damages for willful
13 infringement.

14 **THE PARTIES**

15 3. North Plate Semiconductor, LLC is a company, organized and existing under the laws of
16 the Delaware, with a principal place of business at 39555 Orchard Hill Place, Suite 600, Novi, Michigan,
17 48375.

18 4. Upon information and belief, Defendant Alpha and Omega Semiconductor, Inc. is a
19 corporation organized and existing under the laws of the State of California with its principal place of
20 business at 475 Oakmead Parkway, Sunnyvale, California 94085. Upon information and belief, AOS may
21 be served with process by serving its agent for service of process, Yanbing Hong, at AOS headquarters
22 located at 475 Oakmead Parkway, Sunnyvale, CA 94085.

23 **JURISDICTION**

24 5. This is an action for patent infringement arising under the patent laws of the United States
25 of America, more specifically under 35 U.S.C. § 1, *et seq.*, including 35 U.S.C. §271. This Court has
26 subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

27 6. This Court has personal jurisdiction over AOS at least because AOS is a California
28 corporation, has ongoing and systematic contacts with the State of California, and is headquartered in the

1 Northern District of California. AOS has purposefully and regularly availed itself of the privileges of
2 conducting business in the State of California and in the Northern District of California and expected or
3 reasonably should have expected its acts to have consequence in the State of California and within this
4 judicial District. Plaintiff's causes of action arise directly from Defendant's business contacts and other
5 activities in the State of California and the Northern District of California. Defendant has committed acts
6 of patent infringement in this District, and has harmed and continues to harm Plaintiff in this District, by,
7 among other things, using, selling, offering for sale, and/or importing the Accused Products (as defined
8 below) into this District.

9 **VENUE**

10 7. Venue properly lies within this judicial district and division, pursuant to 28 U.S.C. §§
11 1400(b).

12 8. Upon information and belief, Defendant resides in this District for the purposes of venue
13 and has committed acts of infringement within this judicial District, does business in this District, and
14 maintains a regular and established place of business in this District.

15 **THE PATENTS-IN-SUIT**

16 **U.S. Patent No. 6,469,398**

17 9. The '398 patent, entitled "Semiconductor Package and Manufacture Method Thereof," was
18 duly and lawfully issued by the United States Patent and Trademark Office on October 22, 2002. The
19 '398 patent issued from U.S. Patent Application No. 10/101,730 filed on March 21, 2002 by inventor
20 Tetsuji Hori. A true and correct copy of the '398 Patent is attached hereto as Exhibit A.

21 10. The '398 Patent is valid and enforceable.

22 11. The '398 Patent is generally directed to a semiconductor package with a semiconductor
23 chip disposed therein and method for manufacturing the semiconductor package.

24 12. Plaintiff is the assignee and the owner of all right, title and interest in and to the '398 patent,
25 and has the right to sue and recover damages for infringement thereof.

26 **U.S. Patent No. 6,501,129**

27 13. The '129 patent, entitled "Semiconductor Device," was duly and lawfully issued by the
28 United States Patent and Trademark Office on December 31, 2002. The '129 patent issued from U.S.

1 Patent Application No. 09/820,369 filed on March 29, 2001 by inventor Akihiko Osawa. A true and
2 correct copy of the '129 Patent is attached hereto as Exhibit B.

3 14. The '129 Patent is valid and enforceable.

4 15. The '129 Patent is generally directed to a semiconductor device, such as a Metal Oxide
5 Semiconductor Field Effect Transistor (MOSFET).

6 16. Plaintiff is the assignee and the owner of all right, title and interest in and to the '129 patent,
7 and has the right to sue and recover damages for infringement thereof.

8 **U.S. Patent No. 6,617,641**

9 17. The '641 patent, entitled "High Voltage Semiconductor Device Capable of Increasing a
10 Switching Speed," was duly and lawfully issued by the United States Patent and Trademark Office on
11 September 9, 2003. The '641 patent issued from U.S. Patent Application No. 10/059,186 filed on January
12 31, 2002 by inventors Akio Nakagawa and Tomoko Matsudai. A true and correct copy of the '641 Patent
13 is attached hereto as Exhibit C.

14 18. The '641 Patent is valid and enforceable.

15 19. The '641 Patent is generally directed to a high voltage semiconductor device, such as an
16 Insulated Gate Bipolar Transistor (IGBT).

17 20. Plaintiff is the assignee and the owner of all right, title and interest in and to the '641 patent,
18 and has the right to sue and recover damages for infringement thereof.

19 **U.S. Patent No. 6,667,515**

20 21. The '515 patent, entitled "High Breakdown Voltage Semiconductor Device," was duly and
21 lawfully issued by the United States Patent and Trademark Office on December 23, 2003. The '515 patent
22 issued from U.S. Patent Application No. 10/053,660 filed on January 24, 2002 by inventor Tomoki Inoue.
23 A true and correct copy of the '515 Patent is attached hereto as Exhibit D.

24 22. The '515 Patent is valid and enforceable.

25 23. The '515 Patent is generally directed to a high breakdown voltage semiconductor device
26 having an insulated gate structure, such as an IGBT or a Metal Oxide Semiconductor Field Effect
27 Transistor (MOSFET).

28 24. Plaintiff is the assignee and the owner of all right, title and interest in and to the '515 patent,

1 and has the right to sue and recover damages for infringement thereof.

2 **U.S. Patent No. 6,620,653**

3 25. The '653 patent, entitled "Semiconductor Device and Method of Manufacturing the Same,"
4 was duly and lawfully issued by the United States Patent and Trademark Office on September 16, 2003.
5 The '653 patent issued from U.S. Patent Application No. 09/961,361 filed on September 25, 2001 by
6 inventors Tomoko Matsudai, Hidetaka Hattori, Akio Nakagawa. A true and correct copy of the '653
7 Patent is attached hereto as Exhibit E.

8 26. The '653 Patent is valid and enforceable.

9 27. The '653 Patent is generally directed to a high voltage semiconductor device, such as an
10 IGBT and method of manufacturing the semiconductor device.

11 28. Plaintiff is the assignee and the owner of all right, title and interest in and to the '653 patent,
12 and has the right to sue and recover damages for infringement thereof.

13 **U.S. Patent No. 7,459,751**

14 29. The '751 patent, entitled "Insulated Gate Semiconductor Device With Small Feedback
15 Capacitance And Manufacturing Method Thereof," was duly and lawfully issued by the United States
16 Patent and Trademark Office on December 2, 2008. The '751 patent issued from U.S. Patent Application
17 No. 11/216,014 filed on September 1, 2005 by inventor Koichi Sugiyama. A true and correct copy of the
18 '751 Patent is attached hereto as Exhibit F.

19 30. The '751 Patent is valid and enforceable.

20 31. The '751 Patent is generally directed to a semiconductor device such as an IGBT and
21 method for manufacturing the semiconductor device.

22 32. Plaintiff is the assignee and the owner of all right, title and interest in and to the '751 patent,
23 and has the right to sue and recover damages for infringement thereof.

24 **U.S. Patent No. 7,492,031**

25 33. The '031 patent, entitled "Semiconductor Device," was duly and lawfully issued by the
26 United States Patent and Trademark Office on February 17, 2009. The '031 patent issued from U.S. Patent
27 Application No. 11/434,185 filed on May 16, 2006 by inventors Koichi Sugiyama, Tomoki Inoue, Hideaki
28 Ninomiya, Masakazu Yamaguchi. A true and correct copy of the '031 Patent is attached hereto as

1 Exhibit G.

2 34. The '031 Patent is valid and enforceable.

3 35. The '031 Patent is generally directed to a semiconductor device such as an IGBT.

4 36. Plaintiff is the assignee and the owner of all right, title and interest in and to the '031 patent,
5 and has the right to sue and recover damages for infringement thereof.

6 **U.S. Patent No. 7,700,998**

7 37. The '998 patent, entitled "Semiconductor Device And Method For Manufacturing The
8 Same," was duly and lawfully issued by the United States Patent and Trademark Office on April 20, 2010.
9 The '998 patent issued from U.S. Patent Application No. 12/164,389 filed on June 30, 2008 by inventors
10 Hideki Okumura, Takayoshi Nogami, Hiroto Misawa. A true and correct copy of the '998 Patent is
11 attached hereto as Exhibit H.

12 38. The '998 Patent is valid and enforceable.

13 39. The '998 Patent is generally directed to a semiconductor device such as a MOSFET and
14 method for manufacturing the semiconductor device.

15 40. Plaintiff is the assignee and the owner of all right, title and interest in and to the '998 patent,
16 and has the right to sue and recover damages for infringement thereof.

17 **GENERAL ALLEGATIONS**

18 41. Both power MOSFET (metal-oxide-silicon field-effect transistors) and IGBT (insulated-
19 gate bipolar transistors) semiconductor devices are types of power MOS (metal-oxide-silicon) transistors
20 that operate at high-switching speeds allowing the design of smaller and less costly end-products. Such
21 devices are activated by voltage rather than current, thus requiring less external circuitry to operate,
22 making them more compatible with integrated-circuit controls and offering more reliable long-term
23 performance. Generally, a power MOSFET can act as a switch controlled by voltage at the gate, which is
24 used to vary the amperage and frequency of electricity by switching on and off at high frequency. The
25 Accused Products fall into the "Power Discretets" category, as disclosed in the Defendant's 2016 Annual
26 Report, which includes semiconductor devices such as power MOSFETs and IGBTs. An IGBT can also
27 act as a switch and achieves many of the advantages of power MOSFETs and of traditional bipolar
28 technology by combining the voltage-controlled switching features of power MOSFETs with the superior

1 conductivity and energy efficiency of bipolar transistors. Generally, for a given semiconductor die size,
2 IGBTs can operate at higher current and voltages, making them more cost-effective devices for high
3 energy applications than power MOSFETs.

4 42. Upon information and belief, the Accused Products include at least Defendant's Alpha
5 MOS MOSFET, MOSFET DFN, Trench Power MOSFET and IGBT families of power semiconductor
6 devices (collectively defined as the "Accused Products"). As stated in Defendant's 2016 Annual Report,
7 the Accused Products are used to provide DC-AC and AC-DC conversion, load switching, motor control,
8 battery protection and power factor correction for numerous applications, including notebooks,
9 ultrabooks, desktop and tablet PCs, servers, flat panel displays, TVs, graphic cards, game boxes, chargers,
10 battery packs, AC adapters, power supplies, E-bikes, motor control, smart phones and other portable
11 devices, white goods and industrial motor drives, UPS systems, wind turbines, solar inverters and
12 industrial welding. These products are sold and/or offered for sale throughout the United States, including
13 California.

14 43. Defendant manufactures the Accused Products and directly, and/or through its affiliates,
15 makes, uses, imports, sells and offers to sell the same throughout the United States, including California.
16 Defendant also supports and encourages others to import, use, offer for sale and sell throughout the United
17 States, including California, products incorporating the Accused Products as material components.

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

19 44. Plaintiff incorporates by reference the allegations set forth in the preceding paragraphs.

20 45. Defendant has directly infringed and is infringing literally and/or under the doctrine of
21 equivalents, in violation of the §271(a) at least claims 1-4, 8, 9, 14, 16 and 17 of the '398 Patent at least
22 during the period prior to the expiration of the patent by making, using, importing, offering for sale and/or
23 selling the MOSFET DFN family of semiconductor devices, including but not limited to device model
24 numbers listed in Exhibit I ("Accused '398 Devices"), in this judicial district and elsewhere throughout
25 the United States.

26 46. As a non-limiting example of Defendant's infringement of the '398 Patent, set forth in
27 Exhibit I-1 is a preliminary claim chart showing AOS's infringement of exemplary claims 1-4, 8, 9, 14,
28 16 and 17 of the '398 Patent by AOS AON6450 device. The AON6450 device was analyzed using OM

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

3 47. Upon information and belief, Defendant's infringement of the '398 Patent by the AON6450
4 device is representative of and proof of Defendant's infringement of the '398 Patent by all of the Accused
5 '398 Devices, including the entire MOSFET DFN family utilizing DFN packaging. The Accused '398
6 Devices comprise the same, or substantially similar, structural features pertinent to infringement of the
7 '398 Patent. The Accused '398 Devices are binned under different product numbers within the MOSFET
8 DFN family based upon different characteristics, including, without limitation, drain-source voltage, drain
9 current, ON resistance, packaging style and thermal resistance.

10 48. Upon information and belief, Defendant has and continues to intentionally induce others
11 to directly infringe in violation of 35 U.S.C. §271(b), and those actions are undertaken with the specific
12 intent that they will, in fact, induce direct infringement and with full knowledge that Defendant's products
13 infringe one or more claims of the '398 Patent both literally and/or under the doctrine of equivalents. By
14 way of example only, Defendant sells and delivers the infringing Accused '398 Devices to U.S.
15 distributors including Arrow Electronics located in Plymouth, MI, Mouser Electronics located in
16 Mansfield, TX, Digi-Key Electronics located in Thief River Falls, MN and others, and thereafter induces
17 these distributors to sell and offer for sale the infringing products to customers in the United States thereby
18 directly infringing the '398 Patent. Arrow Electronics, Mouser Electronics and Digi-Key maintain
19 websites (arrow.com, mouser.com and digikey.com) available to U.S.-based customers that, as a result of
20 Defendant's inducement, stock, sell, and offer for sale the Accused '398 Devices, including the AON6450
21 device. Defendant further induces third parties to incorporate the Accused '398 Devices as components
22 into additional products for various applications to be used in the United States, by, for example, providing
23 datasheets, application notes, product briefs, and other collateral on their Internet website
24 (<http://www.aosmd.com>) available to U.S. customers. As disclosed in AOS 2016 Annual Report,
25 Defendant markets the accused products by employing sales persons, field application engineers, customer
26 service representatives and customer quality engineers to work in close proximity with end customers.
27 AOS also markets the Accused Products through advertisements, technical articles and press releases that
28 appear regularly in a variety of trade publications, as well as through the dissemination of brochures, data

1 sheets and technical manuals, knowing or have reason to believe that the products are intended to be sold
2 worldwide, including throughout the United States.

3 49. Defendant has been on notice of the ‘398 Patent and Defendant’s infringement of the ‘398
4 Patent by the Accused ‘398 Devices since, at least, November 14, 2013 via letter received by Mike F.
5 Chang, Chief Executive Officer of AOS.

6 50. In view of Defendant’s prior notice of Plaintiff’s ‘398 Patent and its infringement thereof,
7 upon information and belief, Defendant’s continued infringement of the ‘398 Patent has been and
8 continues to be willful, and warrants the enhancement of damages awarded as a result of its infringement.
9 In particular, despite Defendant’s prior knowledge of its infringement, Defendant has failed to stop
10 infringing the ‘398 Patent.

11 51. Defendant is not licensed or otherwise authorized to make, use, import, sell or offer to sell
12 any semiconductor devices encompassed by the claims in the ‘398 Patent, and Defendant’s conduct is, in
13 every instance, without Plaintiff’s consent.

14 52. Defendant’s willful infringement of the ‘398 Patent renders this an exceptional case within
15 the meaning of 35 U.S.C. §285, justifying an award to Plaintiff of its reasonable attorneys’ fees and costs
16 incurred in connection with this litigation.

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

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

20 54. Plaintiff incorporates by reference the allegations set forth in the preceding paragraphs.

21 55. Defendant has directly infringed and is infringing literally and/or under the doctrine of
22 equivalents, in violation of the §271(a), at least claims 1 and 2 of the ‘129 Patent at least during the period
23 prior to the expiration of the patent by making, using, importing, offering for sale and/or selling the Alpha
24 MOS MOSFET family of semiconductor devices, including but not limited to device model numbers
25 listed in Exhibit J (“Accused ‘129 Devices”), in this judicial district and elsewhere throughout the United
26 States.

27 56. As a non-limiting example of Defendant’s infringement of the ‘129 Patent, set forth in
28 Exhibit J-1 is a preliminary claim chart showing AOS’s infringement of exemplary claims 1 and 2 of the

1 '129 Patent by AOS's AOTF11C60 device. The AOTF11C60 device was analyzed using OM (Optical
2 Microscopy), SEM (Scanning Electron Microscopy), and/or SCM (Scanning Capacitance Microscopy)
3 imaging.

4 57. Upon information and belief, Defendant's infringement of the '129 Patent by the
5 AOTF11C60 device is representative of and proof of Defendant's infringement of the '129 Patent by all
6 of the Accused '129 Devices, including the entire Alpha MOS MOSFET family. The Accused '129
7 Devices comprise the same, or substantially similar, structural features pertinent to infringement of the
8 '129 Patent. The Accused '129 Devices are binned under different product numbers within the Alpha
9 MOS MOSFET family based upon different characteristics, including, without limitation, drain-source
10 voltage, drain current, ON resistance, packaging style and thermal resistance.

11 58. Upon information and belief, Defendant has and continues to intentionally induce others
12 to directly infringe in violation of 35 U.S.C. §271(b), and those actions are undertaken with the specific
13 intent that they will, in fact, induce direct infringement and with full knowledge that Defendant's products
14 infringe one or more claims of the '129 Patent both literally and/or under the doctrine of equivalents. By
15 way of example only, Defendant sells and delivers the infringing Accused '129 Devices to U.S.
16 distributors including Arrow Electronics located in Plymouth, MI, Mouser Electronics located in
17 Mansfield, TX, Digi-Key Electronics located in Thief River Falls, MN and others, and thereafter induces
18 these distributors to sell and offer for sale the infringing products to customers in the United States thereby
19 directly infringing the '129 Patent. Arrow Electronics, Mouser Electronics and Digi-Key maintain
20 websites (arrow.com, mouser.com and www.digikey.com) available to U.S.-based customers that, as a
21 result of Defendant's inducement, stock, sell, and offer for sale the Accused '129 Devices, including the
22 AOTF11C60 device. Defendant further induces third parties to incorporate the Accused '129 Devices as
23 components into additional products for various applications to be used in the United States, by, for
24 example, providing datasheets, application notes, product briefs, and other collateral on their Internet
25 website (<http://www.aosmd.com>) available to U.S. customers. As disclosed in AOS 2016 Annual Report,
26 Defendant markets the accused products by employing sales persons, field application engineers, customer
27 service representatives and customer quality engineers to work in close proximity with end customers.
28 AOS also markets the Accused Products through advertisements, technical articles and press releases that

1 appear regularly in a variety of trade publications, as well as through the dissemination of brochures, data
2 sheets and technical manuals, knowing or have reason to believe that the products are intended to be sold
3 worldwide, including the United States.

4 59. Defendant has been on notice of the '129 Patent and Defendant's infringement of the '129
5 Patent by the Accused '129 Devices since, at least, November 14, 2013 via letter received by Mike F.
6 Chang, Chief Executive Officer of AOS.

7 60. In view of Defendant's prior notice of Plaintiff's '129 Patent and its infringement thereof,
8 upon information and belief, Defendant's continued infringement of the '129 Patent has been and
9 continues to be willful, and warrants the enhancement of damages awarded as a result of its infringement.
10 In particular, despite Defendant's prior knowledge of its infringement, Defendant has failed to stop
11 infringing the '129 Patent.

12 61. Defendant is not licensed or otherwise authorized to make, use, import, sell or offer to sell
13 any semiconductor devices encompassed by the claims in the '129 Patent, and Defendant's conduct is, in
14 every instance, without Plaintiff's consent.

15 62. Defendant's willful infringement of the '129 Patent renders this an exceptional case within
16 the meaning of 35 U.S.C. §285, justifying an award to Plaintiff of its reasonable attorneys' fees and costs
17 incurred in connection with this litigation.

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

20 **COUNT III: INFRINGEMENT OF U.S. PATENT NO. 6,617,641**

21 64. Plaintiff incorporates by reference the allegations set forth in the preceding paragraphs.

22 65. Defendant has directly infringed and is infringing literally and/or under the doctrine of
23 equivalents, in violation of the §271(a), at least claims 1, 2, 4, 6, 10, 11, 12, 14, 16, 20, 22, 23, 25, 27 and
24 32 of the '641 Patent at least during the period prior to the expiration of the patent by making, using,
25 importing, offering for sale and/or selling the IGBT family of semiconductor devices, including but not
26 limited to device model numbers listed in Exhibit K ("Accused '641 Devices"), in this judicial district and
27 elsewhere throughout the United States.

1 66. As a non-limiting example of Defendant's infringement of the '641 Patent, set forth in
2 Exhibit K-1 is a preliminary claim chart showing IXYS's infringement of exemplary claims 1, 2, 4, 6, 10,
3 11, 12, 14, 16, 20, 22, 23, 25, 27 and 32 of the '641 Patent by AOS AOT15B60D device. The
4 AOT15B60D device was analyzed using OM (Optical Microscopy), SEM (Scanning Electron
5 Microscopy), and/or SCM (Scanning Capacitance Microscopy) imaging.

6 67. Upon information and belief, Defendant's infringement of the '641 Patent by the
7 AOT15B60D device is representative of and proof of Defendant's infringement of the '641 Patent by all
8 of the Accused '641 Devices, including the entire IGBT family. The Accused '641 Devices comprise the
9 same, or substantially similar, structural features pertinent to infringement of the '641 Patent. The
10 Accused '641 Devices are binned under different product numbers within the IGBT family based upon
11 different characteristics, including, without limitation, number of chips per package, IGBT thermal
12 resistance, and IGBT packaging style.

13 68. Upon information and belief, Defendant has and continues to intentionally induce others
14 to directly infringe in violation of 35 U.S.C. §271(b), and those actions are undertaken with the specific
15 intent that they will, in fact, induce direct infringement and with full knowledge that Defendant's products
16 infringe one or more claims of the '641 Patent both literally and/or under the doctrine of equivalents. By
17 way of example only, Defendant sells and delivers the infringing Accused '641 Devices to U.S.
18 distributors including Arrow Electronics located in Plymouth, MI, Mouser Electronics located in
19 Mansfield, TX, Digi-Key Electronics located in Thief River Falls, MN and others, and thereafter induces
20 these distributors to sell and offer for sale the infringing products to customers in the United States thereby
21 directly infringing the '641 Patent. Arrow Electronics, Mouser Electronics and Digi-Key maintain
22 websites (arrow.com, mouser.com and www.digikey.com) available to U.S.-based customers that, as a
23 result of Defendant's inducement, stock, sell, and offer for sale the Accused '641 Devices, including the
24 AOT15B60D device. Defendant further induces third parties to incorporate the Accused '641 Devices as
25 components into additional products for various applications to be used in the United States, by, for
26 example, providing datasheets, application notes, product briefs, and other collateral on their Internet
27 website (<http://www.aosmd.com>) available to U.S. customers. As disclosed in AOS 2016 Annual Report,
28 Defendant markets the accused products by employing sales persons, field application engineers, customer

1 service representatives and customer quality engineers to work in close proximity with end customers.
2 AOS also markets the Accused Products through advertisements, technical articles and press releases that
3 appear regularly in a variety of trade publications, as well as through the dissemination of brochures, data
4 sheets and technical manuals, knowing or have reason to believe that the products are intended to be sold
5 worldwide, including the United States.

6 69. Defendant has been on notice of the '641 Patent and Defendant's infringement of the '641
7 Patent by the Accused '641 Devices since, at least, November 14, 2013 via letter received by Mike F.
8 Chang, Chief Executive Officer of AOS.

9 70. In view of Defendant's prior notice of Plaintiff's '641 Patent and its infringement thereof,
10 upon information and belief, Defendant's continued infringement of the '641 Patent has been and
11 continues to be willful, and warrants the enhancement of damages awarded as a result of its infringement.
12 In particular, despite Defendant's prior knowledge of its infringement, Defendant has failed to stop
13 infringing the '641 Patent.

14 71. Defendant is not licensed or otherwise authorized to make, use, import, sell or offer to sell
15 any semiconductor devices encompassed by the claims in the '641 Patent, and Defendant's conduct is, in
16 every instance, without Plaintiff's consent.

17 72. Defendant's willful infringement of the '641 Patent renders this an exceptional case within
18 the meaning of 35 U.S.C. §285, justifying an award to Plaintiff of its reasonable attorneys' fees and costs
19 incurred in connection with this litigation.

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

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

23 74. Plaintiff incorporates by reference the allegations set forth in the preceding paragraphs.

24 75. Defendant has directly infringed and is infringing literally and/or under the doctrine of
25 equivalents, in violation of the §271(a) at least claims 1, 3-7, 11, 16-18, 24-29, 42, 44 of the '515 Patent
26 at least during the period prior to the expiration of the patent by making, using, importing, offering for
27 sale and/or selling the Trench Power MOSFET family of semiconductor devices, including but not limited
28 to device model numbers listed in Exhibit L ("Accused '515 Devices"), in this judicial district and

1 elsewhere throughout the United States.

2 76. As a non-limiting example of Defendant's infringement of the '515 Patent, set forth in
3 Exhibits L-1, L-2 and L-3, respectively, are preliminary claim charts showing AOS's infringement of
4 exemplary claims 1, 4-7, 17, 24-29 and 42 of the '515 Patent by AOS's AOTF7S65 device, exemplary
5 claims 1, 3-7, 11, 16-18, 24, 26, 27, 42 and 44 of the '515 Patent by AOS's AON6450 device, and
6 exemplary claims 1, 4-7, 11, 16-18, 24, 26, 27 and 42 of the '515 Patent by AOS's AOC2800 device. The
7 AOTF7S65, AON6450 and AOC2800 devices were analyzed using OM (Optical Microscopy), SEM
8 (Scanning Electron Microscopy), and/or SCM (Scanning Capacitance Microscopy) imaging.

9 77. Upon information and belief, Defendant's infringement of the '515 Patent by the
10 AOTF7S65, AON6450 and AOC2800 devices is representative of and proof of Defendant's infringement
11 of the '515 Patent by all of the Accused '515 Devices, including the entire Trench Power MOSFET family.
12 The Accused '515 Devices comprise the same, or substantially similar, structural features pertinent to
13 infringement of the '515 Patent. The Accused '515 Devices are binned under different product numbers
14 within the Trench Power MOSFET family based upon different characteristics, including, without
15 limitation, drain-source voltage, drain current, ON resistance, packaging style and thermal resistance.

16 78. Upon information and belief, Defendant has and continues to intentionally induce others
17 to directly infringe in violation of 35 U.S.C. §271(b), and those actions are undertaken with the specific
18 intent that they will, in fact, induce direct infringement and with full knowledge that Defendant's products
19 infringe one or more claims of the '515 Patent both literally and/or under the doctrine of equivalents. By
20 way of example only, Defendant sells and delivers the infringing Accused '515 Devices to U.S.
21 distributors including Arrow Electronics located in Plymouth, MI, Mouser Electronics located in
22 Mansfield, TX, Digi-Key Electronics located in Thief River Falls, MN and others, and thereafter induces
23 these distributors to sell and offer for sale the infringing products to customers in the United States thereby
24 directly infringing the '515 Patent. Arrow Electronics, Mouser Electronics and Digi-Key maintain
25 websites (arrow.com, mouser.com and www.digikey.com) available to U.S.-based customers that, as a
26 result of Defendant's inducement, stock, sell, and offer for sale the Accused '515 Devices, including the
27 AOTF7S65, AON6450 and AOC2800 devices. Defendant further induces third parties to incorporate the
28 Accused '515 Devices as components into additional products for various applications to be used in the

1 United States, by, for example, providing datasheets, application notes, product briefs, and other collateral
2 on their Internet website (<http://www.aosmd.com>) available to U.S. customers. As disclosed in AOS 2016
3 Annual Report, Defendant markets the accused products by employing sales persons, field application
4 engineers, customer service representatives and customer quality engineers to work in close proximity
5 with end customers. AOS also markets the Accused Products through advertisements, technical articles
6 and press releases that appear regularly in a variety of trade publications, as well as through the
7 dissemination of brochures, data sheets and technical manuals, knowing or have reason to believe that the
8 products are intended to be sold worldwide, including the United States.

9 79. Defendant has been on notice of the '515 Patent and Defendant's infringement of the '515
10 Patent by the Accused '515 Devices since, at least, November 14, 2013 via letter received by Mike F.
11 Chang, Chief Executive Officer of AOS.

12 80. In view of Defendant's prior notice of Plaintiff's '515 Patent and its infringement thereof,
13 upon information and belief, Defendant's continued infringement of the '515 Patent has been and
14 continues to be willful, and warrants the enhancement of damages awarded as a result of its infringement.
15 In particular, despite Defendant's prior knowledge of its infringement, Defendant has failed to stop
16 infringing the '515 Patent.

17 81. Defendant is not licensed or otherwise authorized to make, use, import, sell or offer to sell
18 any semiconductor devices encompassed by the claims in the '515 Patent, and Defendant's conduct is, in
19 every instance, without Plaintiff's consent.

20 82. Defendant's willful infringement of the '515 Patent renders this an exceptional case within
21 the meaning of 35 U.S.C. §285, justifying an award to Plaintiff of its reasonable attorneys' fees and costs
22 incurred in connection with this litigation.

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

25 **COUNT V: INFRINGEMENT OF U.S. PATENT NO. 6,620,653**

26 84. Plaintiff incorporates by reference the allegations set forth in the preceding paragraphs.

27 85. Defendant has directly infringed and is infringing literally and/or under the doctrine of
28 equivalents, in violation of the §271(a) at least claims 1, 4-6 and 8-12 of the '653 Patent at least during

1 the period prior to the expiration of the patent by making, using, importing, offering for sale and/or selling
2 the IGBT family of semiconductor devices, including but not limited to device model numbers listed in
3 Exhibit M (“Accused ‘653 Devices”), in this judicial district and elsewhere throughout the United States.

4 86. As a non-limiting example of Defendant’s infringement of the ‘653 Patent, set forth in
5 Exhibit M-1 is a preliminary claim chart showing AOS’s infringement of exemplary claims 1, 4-6 and 8-
6 12 of the ‘653 Patent by AOS’s AOT15B60D device. The AOT15B60D device was analyzed using OM
7 (Optical Microscopy), SEM (Scanning Electron Microscopy), and/or SCM (Scanning Capacitance
8 Microscopy) imaging.

9 87. Upon information and belief, Defendant’s infringement of the ‘653 Patent by the
10 AOT15B60D device is representative of and proof of Defendant’s infringement of the ‘653 Patent by all
11 of the Accused ‘653 Devices, including the entire IGBT family. The Accused ‘653 Devices comprise the
12 same, or substantially similar, structural features pertinent to infringement of the ‘653 Patent. The
13 Accused ‘653 Devices are binned under different product numbers within the IGBT family based upon
14 different characteristics, including, without limitation, number of chips per package, IGBT thermal
15 resistance, and IGBT packaging style.

16 88. Upon information and belief, Defendant has and continues to intentionally induce others
17 to directly infringe in violation of 35 U.S.C. §271(b), and those actions are undertaken with the specific
18 intent that they will, in fact, induce direct infringement and with full knowledge that Defendant’s products
19 infringe one or more claims of the ‘653 Patent both literally and/or under the doctrine of equivalents. By
20 way of example only, Defendant sells and delivers the infringing Accused ‘653 Devices to U.S.
21 distributors including Arrow Electronics located in Plymouth, MI, Mouser Electronics located in
22 Mansfield, TX, Digi-Key Electronics located in Thief River Falls, MN and others, and thereafter induces
23 these distributors to sell and offer for sale the infringing products to customers in the United States thereby
24 directly infringing the ‘653 Patent. Arrow Electronics, Mouser Electronics and Digi-Key maintain
25 websites (arrow.com, mouser.com and www.digikey.com) available to U.S.-based customers that, as a
26 result of Defendant’s inducement, stock, sell, and offer for sale the Accused ‘653 Devices, including the
27 AOT15B60D device. Defendant further induces third parties to incorporate the Accused ‘653 Devices as
28 components into additional products for various applications to be used in the United States, by, for

1 example, providing datasheets, application notes, product briefs, and other collateral on their Internet
2 website (<http://www.aosmd.com>) available to U.S. customers. As disclosed in AOS 2016 Annual Report,
3 Defendant markets the accused products by employing sales persons, field application engineers, customer
4 service representatives and customer quality engineers to work in close proximity with end customers.
5 AOS also markets the Accused Products through advertisements, technical articles and press releases that
6 appear regularly in a variety of trade publications, as well as through the dissemination of brochures, data
7 sheets and technical manuals, knowing or have reason to believe that the products are intended to be sold
8 worldwide, including the United States.

9 89. Defendant has been on notice of the ‘653 Patent and Defendant’s infringement of the ‘653
10 Patent by the Accused ‘653 Devices since, at least, November 14, 2013 via letter received by Mike F.
11 Chang, Chief Executive Officer of AOS.

12 90. In view of Defendant’s prior notice of Plaintiff’s ‘653 Patent and its infringement thereof,
13 upon information and belief, Defendant’s continued infringement of the ‘653 Patent has been and
14 continues to be willful, and warrants the enhancement of damages awarded as a result of its infringement.
15 In particular, despite Defendant’s prior knowledge of its infringement, Defendant has failed to stop
16 infringing the ‘653 Patent.

17 91. Defendant is not licensed or otherwise authorized to make, use, import, sell or offer to sell
18 any semiconductor devices encompassed by the claims in the ‘653 Patent, and Defendant’s conduct is, in
19 every instance, without Plaintiff’s consent.

20 92. Defendant’s willful infringement of the ‘653 Patent renders this an exceptional case within
21 the meaning of 35 U.S.C. §285, justifying an award to Plaintiff of its reasonable attorneys’ fees and costs
22 incurred in connection with this litigation.

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

25 **COUNT VI: INFRINGEMENT OF U.S. PATENT NO. 7,459,751**

26 94. Plaintiff incorporates by reference the allegations set forth in the preceding paragraphs.

27 95. Defendant has directly infringed and is infringing literally and/or under the doctrine of
28 equivalents, in violation of the §271(a) at least claims 4, 7, 8 and 10 of the ‘751 Patent at least during the

1 period prior to the expiration of the patent by making, using, importing, offering for sale and/or selling
2 the IGBT family of semiconductor devices, including but not limited to device model numbers listed in
3 Exhibit N (“Accused ‘751 Devices”), in this judicial district and elsewhere throughout the United States.

4 96. As a non-limiting example of Defendant’s infringement of the ‘751 Patent, set forth in
5 Exhibit N-1 is a preliminary claim chart showing AOS’s infringement of exemplary claims 4, 7, 8 and 10
6 of the ‘751 Patent by AOS’s AOT15B60D device. The AOT15B60D device was analyzed using OM
7 (Optical Microscopy), SEM (Scanning Electron Microscopy), and/or SCM (Scanning Capacitance
8 Microscopy) imaging.

9 97. Upon information and belief, Defendant’s infringement of the ‘751 Patent by the
10 AOT15B60D device is representative of and proof of Defendant’s infringement of the ‘751 Patent by all
11 of the Accused ‘751 Devices, including the entire IGBT family. The Accused ‘751 Devices comprise the
12 same, or substantially similar, structural features pertinent to infringement of the ‘751 Patent. The
13 Accused ‘751 Devices are binned under different product numbers within the IGBT family based upon
14 different characteristics, including, without limitation, number of chips per package, IGBT thermal
15 resistance, and IGBT packaging style.

16 98. Upon information and belief, Defendant has and continues to intentionally induce others
17 to directly infringe in violation of 35 U.S.C. §271(b), and those actions are undertaken with the specific
18 intent that they will, in fact, induce direct infringement and with full knowledge that Defendant’s products
19 infringe one or more claims of the ‘751 Patent both literally and/or under the doctrine of equivalents. By
20 way of example only, Defendant sells and delivers the infringing Accused ‘751 Devices to U.S.
21 distributors including Arrow Electronics located in Plymouth, MI, Mouser Electronics located in
22 Mansfield, TX, Digi-Key Electronics located in Thief River Falls, MN and others, and thereafter induces
23 these distributors to sell and offer for sale the infringing products to customers in the United States thereby
24 directly infringing the ‘751 Patent. Arrow Electronics, Mouser Electronics and Digi-Key maintain
25 websites (arrow.com, mouser.com and www.digikey.com) available to U.S.-based customers that, as a
26 result of Defendant’s inducement, stock, sell, and offer for sale the Accused ‘751 Devices, including the
27 AOT15B60D device. Defendant further induces third parties to incorporate the Accused ‘751 Devices as
28 components into additional products for various applications to be used in the United States, by, for

1 example, providing datasheets, application notes, product briefs, and other collateral on their Internet
2 website (<http://www.aosmd.com>) available to U.S. customers. As disclosed in AOS 2016 Annual Report,
3 Defendant markets the accused products by employing sales persons, field application engineers, customer
4 service representatives and customer quality engineers to work in close proximity with end customers.
5 AOS also markets the Accused Products through advertisements, technical articles and press releases that
6 appear regularly in a variety of trade publications, as well as through the dissemination of brochures, data
7 sheets and technical manuals, knowing or have reason to believe that the products are intended to be sold
8 worldwide, including the United States.

9 99. Defendant has been on notice of the ‘751 Patent and Defendant’s infringement of the ‘751
10 Patent by the Accused ‘751 Devices since, at least, November 14, 2013 via letter received by Mike F.
11 Chang, Chief Executive Officer of AOS.

12 100. In view of Defendant’s prior notice of Plaintiff’s ‘751 Patent and its infringement thereof,
13 upon information and belief, Defendant’s continued infringement of the ‘751 Patent has been and
14 continues to be willful, and warrants the enhancement of damages awarded as a result of its infringement.
15 In particular, despite Defendant’s prior knowledge of its infringement, Defendant has failed to stop
16 infringing the ‘751 Patent.

17 101. Defendant is not licensed or otherwise authorized to make, use, import, sell or offer to sell
18 any semiconductor devices encompassed by the claims in the ‘751 Patent, and Defendant’s conduct is, in
19 every instance, without Plaintiff’s consent.

20 102. Defendant’s willful infringement of the ‘751 Patent renders this an exceptional case within
21 the meaning of 35 U.S.C. §285, justifying an award to Plaintiff of its reasonable attorneys’ fees and costs
22 incurred in connection with this litigation.

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

25 **COUNT VII: INFRINGEMENT OF U.S. PATENT NO. 7,492,031**

26 104. Plaintiff incorporates by reference the allegations set forth in the preceding paragraphs.

27 105. Defendant has directly infringed and is infringing literally and/or under the doctrine of
28 equivalents, in violation of the §271(a) at least claims 1, 10 and 11 of the ‘031 Patent at least during the

1 period prior to the expiration of the patent by making, using, importing, offering for sale and/or selling
2 the IGBT family of semiconductor devices, including but not limited to device model numbers listed in
3 Exhibit O (“Accused ‘031 Devices”), in this judicial district and elsewhere throughout the United States.

4 106. As a non-limiting example of Defendant’s infringement of the ‘031 Patent, set forth in
5 Exhibit O-1 is a preliminary claim chart showing AOS’s infringement of exemplary claims 1, 10 and 11
6 of the ‘031 Patent by AOS’s AOK20B120E1 device. The AOK20B120E1 device was analyzed using
7 OM (Optical Microscopy), SEM (Scanning Electron Microscopy), and/or SCM (Scanning Capacitance
8 Microscopy) imaging.

9 107. Upon information and belief, Defendant’s infringement of the ‘751 Patent by the
10 AOK20B120E1 device is representative of and proof of Defendant’s infringement of the ‘031 Patent by
11 all of the Accused ‘031 Devices, including the entire IGBT family. The Accused ‘031 Devices comprise
12 the same, or substantially similar, structural features pertinent to infringement of the ‘031 Patent. The
13 Accused ‘031 Devices are binned under different product numbers within the IGBT family based upon
14 different characteristics, including, without limitation, number of chips per package, IGBT thermal
15 resistance, and IGBT packaging style.

16 108. Upon information and belief, Defendant has and continues to intentionally induce others
17 to directly infringe in violation of 35 U.S.C. §271(b), and those actions are undertaken with the specific
18 intent that they will, in fact, induce direct infringement and with full knowledge that Defendant’s products
19 infringe one or more claims of the ‘031 Patent both literally and/or under the doctrine of equivalents. By
20 way of example only, Defendant sells and delivers the infringing Accused ‘031 Devices to U.S.
21 distributors including Arrow Electronics located in Plymouth, MI, Mouser Electronics located in
22 Mansfield, TX, Digi-Key Electronics located in Thief River Falls, MN and others, and thereafter induces
23 these distributors to sell and offer for sale the infringing products to customers in the United States thereby
24 directly infringing the ‘031 Patent. Arrow Electronics, Mouser Electronics and Digi-Key maintain
25 websites (arrow.com, mouser.com and www.digikey.com) available to U.S.-based customers that, as a
26 result of Defendant’s inducement, stock, sell, and offer for sale the Accused ‘031 Devices, including the
27 AOK20B120E1 device. Defendant further induces third parties to incorporate the Accused ‘031 Devices
28 as components into additional products for various applications to be used in the United States, by, for

1 example, providing datasheets, application notes, product briefs, and other collateral on their Internet
2 website (<http://www.aosmd.com>) available to U.S. customers. As disclosed in AOS 2016 Annual Report,
3 Defendant markets the accused products by employing sales persons, field application engineers, customer
4 service representatives and customer quality engineers to work in close proximity with end customers.
5 AOS also markets the Accused Products through advertisements, technical articles and press releases that
6 appear regularly in a variety of trade publications, as well as through the dissemination of brochures, data
7 sheets and technical manuals, knowing or have reason to believe that the products are intended to be sold
8 worldwide, including the United States.

9 109. Defendant has been on notice of the '031 Patent and Defendant's infringement of the '031
10 Patent by the Accused '031 Devices since, at least, November 14, 2013 via letter received by Mike F.
11 Chang, Chief Executive Officer of AOS.

12 110. In view of Defendant's prior notice of Plaintiff's '031 Patent and its infringement thereof,
13 upon information and belief, Defendant's continued infringement of the '031 Patent has been and
14 continues to be willful, and warrants the enhancement of damages awarded as a result of its infringement.
15 In particular, despite Defendant's prior knowledge of its infringement, Defendant has failed to stop
16 infringing the '031 Patent.

17 111. Defendant is not licensed or otherwise authorized to make, use, import, sell or offer to sell
18 any semiconductor devices encompassed by the claims in the '031 Patent, and Defendant's conduct is, in
19 every instance, without Plaintiff's consent.

20 112. Defendant's willful infringement of the '031 Patent renders this an exceptional case within
21 the meaning of 35 U.S.C. §285, justifying an award to Plaintiff of its reasonable attorneys' fees and costs
22 incurred in connection with this litigation.

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

25 **COUNT VIII: INFRINGEMENT OF U.S. PATENT NO. 7,700,998**

26 114. Plaintiff incorporates by reference the allegations set forth in the preceding paragraphs.

27 115. Defendant has directly infringed and is infringing literally and/or under the doctrine of
28 equivalents, in violation of the §271(a) at least claims 1-3 and 5 of the '998 Patent at least during the

1 period prior to the expiration of the patent by making, using, importing, offering for sale and/or selling
2 the Trench Power MOSFET family of semiconductor devices, including but not limited to device model
3 numbers listed in Exhibit P (“Accused ‘998 Devices”), in this judicial district and elsewhere throughout
4 the United States.

5 116. As a non-limiting example of Defendant’s infringement of the ‘998 Patent, set forth in
6 Exhibit P-1 is a preliminary claim chart showing AOS’s infringement of exemplary claims 1-3 and 5 of
7 the ‘998 Patent by AOS’s AON6450 device. The AON6450 device was analyzed using OM (Optical
8 Microscopy), SEM (Scanning Electron Microscopy), and/or SCM (Scanning Capacitance Microscopy)
9 imaging.

10 117. Upon information and belief, Defendant’s infringement of the ‘998 Patent by the AON6450
11 device is representative of and proof of Defendant’s infringement of the ‘998 Patent by all of the Accused
12 ‘998 Devices, including the entire Trench Power MOSFET family. The Accused ‘998 Devices comprise
13 the same, or substantially similar, structural features pertinent to infringement of the ‘998 Patent. The
14 Accused ‘998 Devices are binned under different product numbers within the Trench type MOSFET
15 family based upon different characteristics, including, without limitation, drain-source voltage, drain
16 current, ON resistance, packaging style and thermal resistance.

17 118. Upon information and belief, Defendant has and continues to intentionally induce others
18 to directly infringe in violation of 35 U.S.C. §271(b), and those actions are undertaken with the specific
19 intent that they will, in fact, induce direct infringement and with full knowledge that Defendant’s products
20 infringe one or more claims of the ‘998 Patent both literally and/or under the doctrine of equivalents. By
21 way of example only, Defendant sells and delivers the infringing Accused ‘998 Devices to U.S.
22 distributors including Arrow Electronics located in Plymouth, MI, Mouser Electronics located in
23 Mansfield, TX, Digi-Key Electronics located in Thief River Falls, MN and others, and thereafter induces
24 these distributors to sell and offer for sale the infringing products to customers in the United States thereby
25 directly infringing the ‘998 Patent. Arrow Electronics, Mouser Electronics and Digi-Key maintain
26 websites (arrow.com, mouser.com and www.digikey.com) available to U.S.-based customers that, as a
27 result of Defendant’s inducement, stock, sell, and offer for sale the Accused ‘998 Devices, including the
28 AON6450 device. Defendant further induces third parties to incorporate the Accused ‘998 Devices as

1 components into additional products for various applications to be used in the United States, by, for
2 example, providing datasheets, application notes, product briefs, and other collateral on their Internet
3 website (<http://www.aosmd.com>) available to U.S. customers. As disclosed in AOS 2016 Annual Report,
4 Defendant markets the accused products by employing sales persons, field application engineers, customer
5 service representatives and customer quality engineers to work in close proximity with end customers.
6 AOS also markets the Accused Products through advertisements, technical articles and press releases that
7 appear regularly in a variety of trade publications, as well as through the dissemination of brochures, data
8 sheets and technical manuals, knowing or have reason to believe that the products are intended to be sold
9 worldwide, including the United States.

10 119. Defendant has been on notice of the '998 Patent and Defendant's infringement of the '998
11 Patent by the Accused '998 Devices since, at least, November 14, 2013 via letter received by Mike F.
12 Chang, Chief Executive Officer of AOS.

13 120. In view of Defendant's prior notice of Plaintiff's '998 Patent and its infringement thereof,
14 upon information and belief, Defendant's continued infringement of the '998 Patent has been and
15 continues to be willful, and warrants the enhancement of damages awarded as a result of its infringement.
16 In particular, despite Defendant's prior knowledge of its infringement, Defendant has failed to stop
17 infringing the '998 Patent.

18 121. Defendant is not licensed or otherwise authorized to make, use, import, sell or offer to sell
19 any semiconductor devices encompassed by the claims in the '998 Patent, and Defendant's conduct is, in
20 every instance, without Plaintiff's consent.

21 122. Defendant's willful infringement of the '998 Patent renders this an exceptional case within
22 the meaning of 35 U.S.C. §285, justifying an award to Plaintiff of its reasonable attorneys' fees and costs
23 incurred in connection with this litigation.

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

26 **PRAYER FOR RELIEF**

27 Wherefore, Plaintiff requests this Court enter judgment as follows:

28 A. That the '398, '129, '641, '515, '653, '751, '031, and '998 patents are valid and

1 enforceable;

2 B. That Defendant has directly and indirectly infringed at least claims 1-4, 8, 9, 14, 16 and 17
3 of the '398 Patent, claims 1 and 2 of the '129 Patent, claims 1, 2, 4, 6, 10, 11, 12, 14, 16, 20, 22, 23, 25,
4 27 and 32 of the '641 Patent, claims 1, 3-7, 11, 16-18, 24-29, 42, 44 of the '515 Patent, claims 1, 4-6 and
5 8-12 of the '653 Patent, claims 4, 7, 8 and 10 of the '751 Patent, claims 1, 10 and 11 of the '031 Patent,
6 and claims 1-3 and 5 of the '998 Patent;

7 C. That such infringement is willful;

8 D. That Defendant account for and pay to Plaintiff all damages pursuant to 35 U.S.C. § 284
9 to adequately compensate Plaintiff for Defendant's infringement of the Patents-in-Suit, but in no event
10 less than a reasonable royalty for the use made by Defendant of the invention set forth in the Patents-in-
11 Suit;

12 E. That Plaintiff receives enhanced damages, in the form of treble damages, pursuant to 35
13 U.S.C. § 284;

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

15 G. That Defendant pay Plaintiff all of Plaintiff's reasonable attorneys' fees and expenses
16 pursuant to 35 U.S.C. § 285;

17 H. That Plaintiff be granted pre-judgment and post-judgment interest in accordance with 35
18 U.S.C. § 284 on the damages caused to it by reason of Defendant's infringement of the Patents-in-Suit,
19 including pre-judgment and post-judgment interest on any enhanced damages or attorneys' fees award;

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

21 J. That Plaintiff be granted such other and further relief as the Court may deem just and proper
22 under the circumstances.

23 **DEMAND FOR JURY TRIAL**

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

25
26
27 DATED: July 21, 2017

Respectfully submitted,
Young Basile Hanlon & MacFarlane, P.C.

28 By: /s/ Andrew R. Basile
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