

By: Michael J. Fink ([mfink@gbpatent.com](mailto:mfink@gbpatent.com))  
Greenblum & Bernstein, P.L.C.  
1950 Roland Clarke Place  
Reston, Virginia 20191  
Tel: (703) 716-1191  
Fax: (703) 716-1180

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED,  
and GLOBALFOUNDRIES U.S. INC.,  
Petitioners,

v.

GODO KAISHA IP BRIDGE 1,  
Patent Owner.

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Case No. IPR2016-01264<sup>1</sup>  
U.S. Patent No. 6,538,324

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**PATENT OWNER'S CURRENT EXHIBIT LIST**  
**(As of August 3, 2017)**

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<sup>1</sup> GlobalFoundries U.S. Inc.'s motion for joinder in Case IPR2017-00920 was granted.

**PATENT OWNER'S CURRENT EXHIBIT LIST**  
(As of August 3, 2017)

Exhibit No.	Description	Newly Submitted
2001	Chang, C.C., Chen, J.S. and Hsu, W.S., "Failure Mechanism of Amorphous and Crystalline Ta-N Films in the Cu/Ta N/Ta/SiO <sub>2</sub> Structure." <i>Journal of The Electrochemical Society</i> , <b>151</b> (11), pp.G746-G750 (2004).	
2002	U.S. Patent Application No. 08/995,108, Amendment "A" Under 37 C.F.R. §1.111, dated February 1, 2000.	
2003	"Amorphous." Merriam-Webster.com. Accessed September 30, 2016. <a href="http://www.merriam-webster.com/dictionary/amorphous">http://www.merriam-webster.com/dictionary/amorphous</a> .	
2004	"Nitride." Merriam-Webster.com. Accessed September 30, 2016. <a href="http://www.merriam-webster.com/dictionary/nitride">http://www.merriam-webster.com/dictionary/nitride</a> .	
2005	Expunged	
2006	Expunged	
2007	Expunged	
2008	Guralnik, D. B., ed. "Amorphous." Def. 4. <i>Webster's New World Dictionary of the American Language</i> . Modern desk ed. Prentice Hall Press, 1979. Print.	
2009	Grant, J., ed. "Nitride." <i>Hackh's Chemical Dictionary</i> . 4th ed. McGraw-Hill, 1969. Print.	
2010	Sienko, M.J., Plane, R.A. <i>Chemistry</i> . 2d ed. New York, McGraw-Hill, 1961, pp. 193-195. Print.	

Exhibit No.	Description	Newly Submitted
2011	Declaration of Harlan Rusty Harris, Ph.D.	
2012	MPEP, 2111.03 Transitional Phrases [R-08.2012].	
2013	Claim Construction Memorandum And Order, November 9, 2016, pp. 31-32 ( <i>Godo Kaisha IP Bridge I v. Broadcom Limited et al.</i> , USDC EDTEX 2:16-cv-00134-JRG-RSP).	
2014	JP H08-139092A.	
2015	English translation of JP H08-139092A.	
2016	JP H08-250596A.	
2017	English translation of JP H08-250596A.	
2018	JP H08-274098A.	
2019	English translation of JP H08-274098A.	
2020	JP H09-64044A.	
2021	English translation of JP H09-64044A.	
2022	JP H09-293690A.	
2023	English translation of JP H09-293690A.	
2024	JP H10-125627A.	
2025	English translation of JP H10-125627A.	
2026	JP H10-256256A.	
2027	English translation of JP H10-256256A.	
2028	JP H10-330938A.	

Exhibit No.	Description	Newly Submitted
2029	English translation of JP H10-330938A.	
2030	JP H11-67686A.	
2031	English translation of JP H11-67686A.	
2032	D. Denning, et al., "An Inlaid CVD Cu Based Integration for Sub 0.25mum Technology." 1998 Symposium on VLSI Technology Digest of Technical Papers, 1998, pp. 22-23.	
2033	K. Kwon, et al., "Characteristics of Ta As An Underlayer for Cu Interconnects." Advanced Metallization and Interconnect Systems for ULSI Applications in 1997, 1998, pp. 711-716.	
2034	N. Awaya, "Semiconductor World." Feb. 1998, pp. 91-96 ("Awaya").	
2035	English translation of Awaya.	
2036	Grant, J., ed. "Solid Solution." <i>Hackh's Chemical Dictionary</i> . 4th ed. McGraw-Hill, 1969. Print.	
2037	Declaration of Harlan Rusty Harris, Ph.D. In Support Of Patent Owner's Motion To Amend.	
2038	Declaration of Rumiko Whitehead.	
2039	U.S. Patent No. 6,346,745 to Nogami et al.	
2040	U.S. Patent No. 6,156,647 to Hogan.	
2041	U.S. Patent No. 6,139,699 to Chiang et al.	

Exhibit No.	Description	Newly Submitted
2042	Min, K. H. et al., "Comparative study of tantalum and tantalum nitrides (Ta <sub>2</sub> N and TaN) as a diffusion barrier for Cu metallization." <i>Journal of Vacuum Science &amp; Technology B: Microelectronics and Nanometer Structures Processing, Measurement, and Phenomena</i> , 14(5), pp. 3263-3269 (1996).	
2043	Grant, J., ed. "Sosoloid." <i>Hackh's Chemical Dictionary</i> . 4th ed. McGraw-Hill, 1969. Print.	
2044	Transcript of Deposition of Sanjay K. Banerjee, Ph.D., conducted June 13, 2017.	
2045	Redacted version of Invalidity Expert Report of Chris Mack (without attachments), dated January 30, 2017.	
2046	Declaration of Rumiko Whitehead	
2047	Unredacted version of Invalidity Expert Report of Chris Mack (without attachments), dated January 30, 2017. <i>(served but not filed)</i>	
2048	Declaration of Christopher M. Bonny <i>(served but not filed)</i>	
2049	Order Granting Joint Motion To Dismiss All Claims And Counterclaims With Prejudice, <i>Godo Kaisha IP Bridge 1 v. Broadcom Limited et al.</i> , USDC EDTEX 2:16-cv-00134-JRG-RSP, Document 337, July 5, 2017.	
2050	Patent Owner's Demonstrative Exhibit	x

Dated: August 3, 2017

Respectfully submitted by:

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