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W.S. PATENT AND TRADEMARK OFFICE 9/25/7076/90 TMOG77,

Form PTO 1595	20-2000	U.S. Department of Commer
		a de
To the Honorable Commissioner of Patents 1012	247388	sinal documents on hand thereof.
Name of conveying party(ies)	2. Name a	nd address of receiving party(ies):
Takashi Ota, Masashi Fukuyama and Kazutoshi Tohyama  Additional name(s) of conveying parties attached   ✓ No	Name: Address:	NGK Insulators, Ltd. 2-56, Suda-Cho, Mizuho-Ku, Nagoya-City, Aichi-Prefecture, 467-8530 Japan
3. Nature of Conveyance:   ✓ Assignment Merger Security Agreement Change of Name Other  Execution Date October 22, 1999	Name: Address: Additional na	and  NGK Optoceramics Co., Ltd. 2-56, Suda-Cho, Mizuho-Ku, Nagoya-City, Aichi-Prefecture, 467-8530 Japan  ame(s) attached? ✓ No
Application number(s) or patent number(s)		and of all and a second of the
5. Name and address of party to whom correspondence concerning this document should be mailed:  Name: Stephen P. Burr  Address: WALL MARJAMA BILINSKI & BURR 101 South Salina Street, Suite 400 Syracuse, NY 13202 Telephone: (315) 425-9080  999 PVOLPEFa 00090005 09367729 25-9114  40.00 0P	<ul> <li>7. Total fee</li> <li>Enclosed</li> <li>Authorized</li> <li>Deposit A</li> </ul>	∠ No  aber of application and patents involved: 1  (37 CFR 3.4) \$40.00  d to charge any deficiency or credit any over payment count No. 50-0289.  eposit account
10.00 Ur		
DO NOT U	JSE THIS SPA	CE
9. Statement and Signature:  To the best of my knowledge and belief, the foregoing information theoriginal document.  Stephen P. Burn	mation is true a	nd correct and any attached copy is a true copy of  November 2, 1999  Date  Total Number of Pages Comprising Cover Shee
Reg. No. 32,97  OMB NO 0651-0011(EXP. 4/94)  DO NOT DE  Mail documents to be recorded with required cover sheet information	TACH THIS POF	RTION

WASHINGTON D.C. 20231

REEL: 010490 FRAME: 0749

## ASSIGNMENT

(1-8)	Insert Name(s) of Inventor(s)	(1)	Takashi OTA	(5)			
		(2)	Masashi FUKUYAMA	(6)			
	(3)	Kazutoshi TOHYAMA	(7)				
	(4)		(8)				
		valua	In consideration of the sum of dollar (\$1.00) and other good and valuable consideration paid to each of the undersigned, the undersigned agree(s) to assign, and hereby does assign, transfer and set over to				
(9)	Insert name of Assignee	(9) NGK INSULATORS, LTD. and NGK OPTOCERAMICS CO., LTD.					
(10) Insert address of Assignee		(10)	)) 2-56, SUDA-CHO, MIZUHO-KU, NAGGYA-CITY, AICHI-PREF, 467-8530, JAPAN and				
			2-56, SUDA-CHO, MIZUHO-KU, NAGOYA-CITY, AICHI-PREF. 467-8530, JAPAN, respective)				
(II)	Insert Identification of	Unite	d States, its territories, depe plications for patent and an n as	signee) the entire right, title and interest for the endencies and possessions, in the invention, and y Letters Patent which may be granted therefor,  TACTURE OF THE SAME, GLASS SUBSTRATE AND METHOD			
(,	Invention, such as Title, Case	(11)	OF MANUFACTURE OF THE SAME, AND METHOD OF PATTERN FORMATION ON				
	Number or Foreign Application Number		<del></del>	se No. 789_034 ) (AP-14363-GA)			
			nich the undersigned have of America	executed an application for patent in the United			
(12)	Insert Date of Signing of Application	(12)	onOctober 22, 1999				
(13)	Alternative identification	(13)	U.S. Application(s) Serial for filed application(s) fil	Number(s)			
	continuing or divisional h applications as the Assi	applica ignee m	tions thereof and also to exay deem necessary or expe	essary in connection with the application and ecute separate assignments in connection with dient.			

- may be declared concerning this application or continuation or division thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.
- 3) The undersigned agree(s) to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.
- 4) The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent to the Assignee.
- 5) The undersigned hereby authorize(s) and request(s) the Commissioner of Patents to issue any and all Letters Patents of the United States resulting from said application or any divisions or continuing applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) full right to convey the entire interest herein assigned, and that he has (they have) not executed and will not execute, any agreement in conflict herewith.

PATENT **REEL: 010490 FRAME: 0750**  6) The undersigned hereby grant(s) Stephen P. Burr, of WALL MARJAMA BILINSKI & BURR the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office recordation of this document.

In witness whereof, executed by the undersigned on the date(s) opposite the undersigned name(s).

Date _	October 22, 1999	Signature	Takashi Ota	(SEAL)
_		. 0	Takashi 01	ΓA (327 12)
Date	October 22, 1999	Signature	Farsishi Julinyama Masashi Fl	(SEAL)
Date	October 22, 1999	Signature	Hazvitashi Johyama Kazvitashi	
Date _		Signature		
Date _		Signature		(SEAL)
Date _		Signature		(SEAL)
Date	÷	Signature		(SEAL)
U.S. Co sign he	onsul if outside the U.S.A	preferably be si . If neither, the	gned before: (a) a Notary Public if winning it should be signed before at least to	ithin the U.S.A. or (b) a wo witnesses who also
Date	October 22, 1999	Witness	T. Hiragan	
Date	October 22, 1999	Witness	Lan Como	

**RECORDED: 11/02/1999**