

# PATENT ASSIGNMENT

Electronic Version v1.1

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SUBMISSION TYPE:	NEW ASSIGNMENT								
NATURE OF CONVEYANCE:	ASSIGNMENT								
<b>CONVEYING PARTY DATA</b>									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Name</th> <th style="width: 30%;">Execution Date</th> </tr> </thead> <tbody> <tr> <td>Hiroshi KISHI</td> <td>11/20/2009</td> </tr> <tr> <td>Masanori FUKUI</td> <td>11/20/2009</td> </tr> <tr> <td>Masaki MORIKAWA</td> <td>11/20/2009</td> </tr> </tbody> </table>		Name	Execution Date	Hiroshi KISHI	11/20/2009	Masanori FUKUI	11/20/2009	Masaki MORIKAWA	11/20/2009
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<b>RECEIVING PARTY DATA</b>									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Name:</td> <td>JAPAN SUPER QUARTZ CORPORATION</td> </tr> <tr> <td>Street Address:</td> <td>5-14-3, Barajima, Akita-shi,</td> </tr> <tr> <td>City:</td> <td>Akita-ken</td> </tr> <tr> <td>State/Country:</td> <td>JAPAN</td> </tr> </table>		Name:	JAPAN SUPER QUARTZ CORPORATION	Street Address:	5-14-3, Barajima, Akita-shi,	City:	Akita-ken	State/Country:	JAPAN
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<b>PROPERTY NUMBERS Total: 1</b>									
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<b>CORRESPONDENCE DATA</b>									
<p>Fax Number: (703)716-1191</p> <p><i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i></p> <p>Phone: (703) 716-1191</p> <p>Email: gbpatent@gbpatent.com</p> <p>Correspondent Name: GREENBLUM &amp; BERNSTEIN, PLC</p> <p>Address Line 1: 1950 Roland Clarke Place</p> <p>Address Line 4: Reston, VIRGINIA 20191</p>									
ATTORNEY DOCKET NUMBER:	P37312								
NAME OF SUBMITTER:	Sean Myers-Payne								
<p>Total Attachments: 4</p> <p>source=P37312_ASSIGNMENT#page1.tif</p> <p>source=P37312_ASSIGNMENT#page2.tif</p> <p>source=P37312_ASSIGNMENT#page3.tif</p>									

OP \$40.00 12563374

**501033987**

**PATENT**  
**REEL: 023615 FRAME: 0001**



ASSIGNMENT

WHEREAS, (1) Hiroshi KISHI; (2) Masanori FUKUI and (3) Masaki MORIKAWA a citizen of Japan, whose post office address is (1) to (3) c/o JAPAN SUPER QUARTZ CORPORATION, 5-14-3, Barajima, Akita-shi, Akita-ken, Japan, hereinafter referred to as the ASSIGNORS, have invented a certain improvement relating to

ARC DISCHARGE METHOD, ARC DISCHARGE APPARATUS, AND FUSED SILICA CRUCIBLE MANUFACTURING APPARATUS

for which they have jointly executed, on the same date as this assignment, an application for Letters Patent of the United States to be filed in the United States Patent and Trademark Office.

If this Assignment is filed after the filing date of the above-identified application, the undersigned hereby authorize and request any one of the attorneys of record in this application including Neil F. Greenblum, Reg. No. 28,394, Bruce H. Bernstein, Reg. No. 29,027, Arnold Turk, Reg. No. 33,094, James L. Rowland, Reg. No. 32,674, Stephen M. Roylance, Reg. No. 31,296, Leslie J. Paperner, Reg. No. 33,329, William Pieprz, Reg. No. 33,630, Robert W. Mueller, Reg. No. 35,043, Andrew M. Calderon, Reg. No. 38,093, William E. Lyddane, Reg. No. 41,568 and William S. Boshnick, Reg. No. 44,550, of the firm Greenblum & Bernstein, P.L.C., whose address is 1950 Roland Clarke Place, Reston, Virginia 20191, to insert here in parenthesis (Application No. 12/563,374, filed September 21, 2009) the filing date and application number of said application when known.

AND WHEREAS, (1) JAPAN SUPER QUARTZ CORPORATION; a corporation organized and existing under the laws of the State of Japan, whose post-office address is 5-14-3, Barajima, Akita-shi, Akita-ken, Japan, hereinafter known as the ASSIGNEE, is desirous of acquiring the entire right, title and interest for the United States in and to said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues, and prolongations thereof.

NOW, THIS WITNESSETH that for good and valuable consideration, the receipt whereof is hereby acknowledged, said ASSIGNORS hereby assign, sell and transfer to said ASSIGNEE, its assigns and legal representatives, the entire and exclusive right, title and interest in and to said invention and application, for the United States including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted therefor and all rights to sue for past and future infringement thereunder, said ASSIGNEE and its assigns and legal representatives to have, hold, exercise and enjoy the said invention and application, including any and all divisions and continuations thereof, and any and all Letters Patent which may be granted thereon, including any and all renewals, reissues and prolongations thereof, with all the rights, powers, privileges, and advantages in any ways arising from or pertaining thereto, for and during the term or terms of any and all such Letters Patent when granted, including any and all renewals, reissues, and prolongations thereof, for the use and benefit of said ASSIGNEE and its assigns and legal representatives in as ample and beneficial a manner to all intents and purposes as the said

ASSIGNORS might or could have held and enjoyed the same, if this assignment had not been made.

AND said ASSIGNORS hereby agree to execute all papers necessary to file applications in the United States for said invention and to assign the same to said ASSIGNEE, or any assignee acquiring title to said invention, and to execute any other papers that may be needed in connection with filing said application and securing Letters Patent thereon.

AND said ASSIGNORS authorize and request the Commissioner of Patents to issue Letters Patent on said application, and on any and all divisions and continuations thereof, to said ASSIGNEE, its assigns and legal representatives, in accordance herewith.

IN TESTIMONY WHEREOF, this assignment is executed by Hiroshi KISHI, this 20<sup>th</sup> day of November 2009, at c/o JAPAN SUPER QUARTZ CORPORATION, 5-14-3, Barajima, Akita-shi, Akita-ken, Japan .

First Witness:

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Date)



Hiroshi KISHI

Second Witness:

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Date)

IN TESTIMONY WHEREOF, this assignment is executed by Masanori FUKUI, this 20<sup>th</sup>  
day of November 2009, at c/o JAPAN SUPER QUARTZ CORPORATION,  
5-14-3, Barajima, Akita-shi, Akita-ken, Japan

First Witness:

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Date)

Masanori Fukui  
Masanori FUKUI

Second Witness:

\_\_\_\_\_  
(Name)

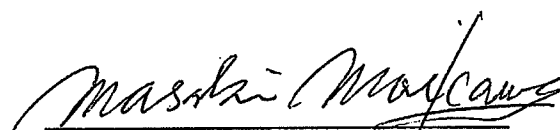
\_\_\_\_\_  
(Date)

IN TESTIMONY WHEREOF, this assignment is executed by Masaki MORIKAWA, this  
20th day of November 2009, at c/o JAPAN SUPER QUARTZ  
CORPORATION, 5-14-3, Barajima, Akita-shi, Akita-ken, Japan

First Witness:

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Date)

  
Masaki MORIKAWA

Second Witness:

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Date)