

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 December 2001 (27.12.2001)

PCT

(10) International Publication Number
WO 01/99239 A3

(51) International Patent Classification⁷: **H01R 43/18**,
43/24, A61N 1/375

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(21) International Application Number: PCT/US01/19606

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(22) International Filing Date: 20 June 2001 (20.06.2001)

(25) Filing Language: English

(81) Designated States (*national*): CA, JP.

(26) Publication Language: English

(84) Designated States (*regional*): European patent (AT, BE,
CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,
NL, PT, SE, TR).

(30) Priority Data:
60/212,746 20 June 2000 (20.06.2000) US

Published:
— with international search report

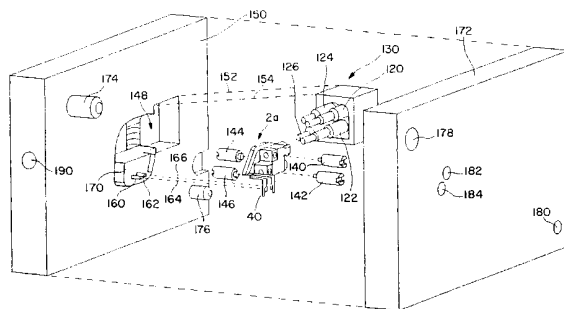
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(88) Date of publication of the international search report:
27 June 2002

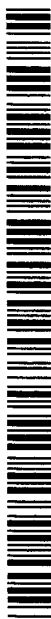
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SYSTEM AND METHOD FOR TWO-SHOT MOLDING OF THERMOPLASTIC MATERIALS



(57) Abstract: An improved circuit assembly for use in an implantable medical device, and a method of making the assembly is disclosed. The circuit assembly includes a core portion formed of a thermoplastic material using either an injection molding process or a machining process. This core portion is adapted to be fitted with at least one electrically-conductive circuit component such as a connector member, a set-screw block, or a conductive jumper member. In one embodiment of the invention, the core portion includes multiple receptacles or other spaces that are adapted to be loaded with the various circuit components. Core portion may further be provided with groove and ridge members designed to position and retain the circuit components at predetermined locations around the various surfaces of the core portion. One or more of the circuit components may be welded or soldered together to form electrical contacts. Next, this loaded core assembly is prepared for an overmolding process by loading bushings into apertures of the various conductive circuit components to prevent these apertures from receiving thermoplastic material during the overmold process. The prepared and loaded core assembly is positioned into a second-shot mold assembly, and a second-shot of thermoplastic material is injected into the mold. This thermoplastic material is heated to a temperature at, or above, the melting point of the material to create a bond between the core portion and the overmold material. To achieve this, the ratio of the mass of the core element as compared to that of the overmold material is made as small as possible so that the heat energy from the mold is able to adequately heat the core portion. Bonding may further be enhanced by providing ridges on the surface of the core portion that are melted during the overmold process, and/or by pre-heating the core portion prior to injecting the second shot of thermoplastic material into the mold.



WO 01/99239 A3

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/19606

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 H01R43/18 H01R43/24 A61N1/375

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 7 H01R A61N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 884 980 A (BENSING GREGORY L ET AL) 5 December 1989 (1989-12-05) abstract column 2, line 55 -column 4, line 21 ---	1,3,10, 14,30,38
A	US 5 679 026 A (FAIN ERIC S ET AL) 21 October 1997 (1997-10-21) abstract; figures 1-4 column 6, line 52 -column 8, line 39 ---	1,14,30
A	US 5 453 029 A (MOLDENHAUER DAVID W ET AL) 26 September 1995 (1995-09-26) abstract; figures 1-5 column 2, line 16 -column 3, line 17 --- -/--	1,3,10, 14,30,38

Further documents are listed in the continuation of box C

Patent family members are listed in annex.

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Date of the actual completion of the international search

5 February 2002

Date of mailing of the international search report

13/02/2002

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 01/19606

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 983 344 A (BROWN THOMAS E) 8 January 1991 (1991-01-08) abstract; figures 1-5 column 3, line 10 -column 6, line 7 -----	1,14,30

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/19606

Patent document cited in search report	A	Publication date	Patent family member(s)	Publication date
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US 5679026	A	21-10-1997	NONE	
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US 4983344	A	08-01-1991	PT 92586 A WO 9007204 A1	29-06-1990 28-06-1990