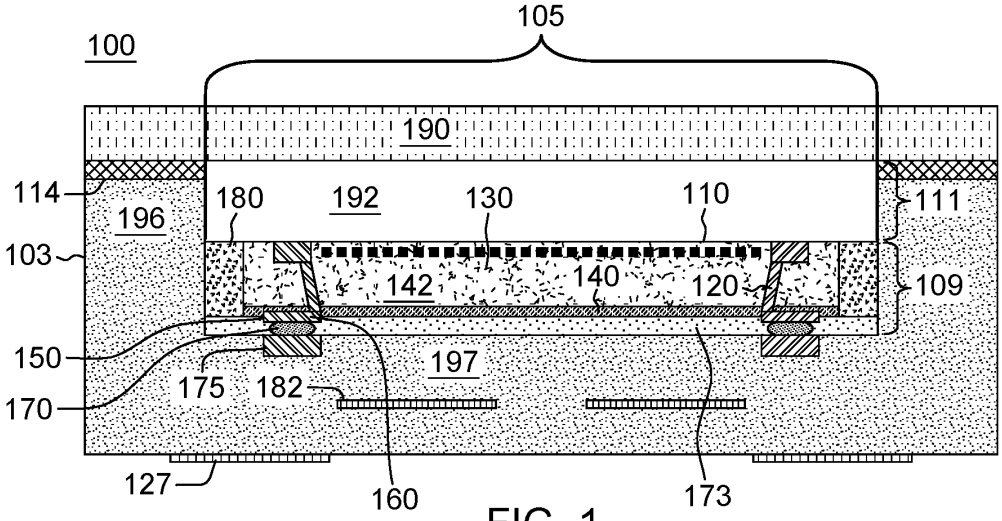

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FIG. 1

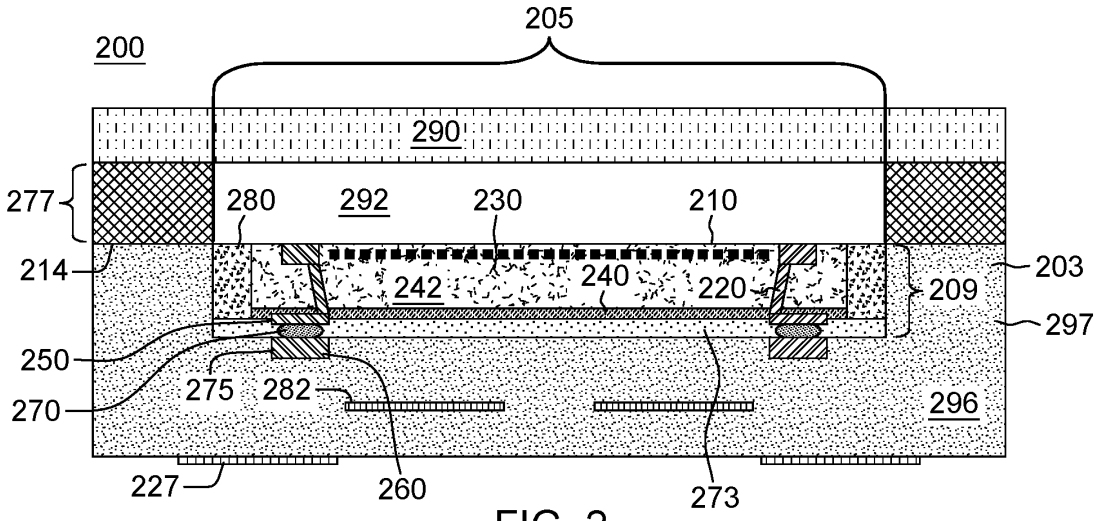

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FIG. 2

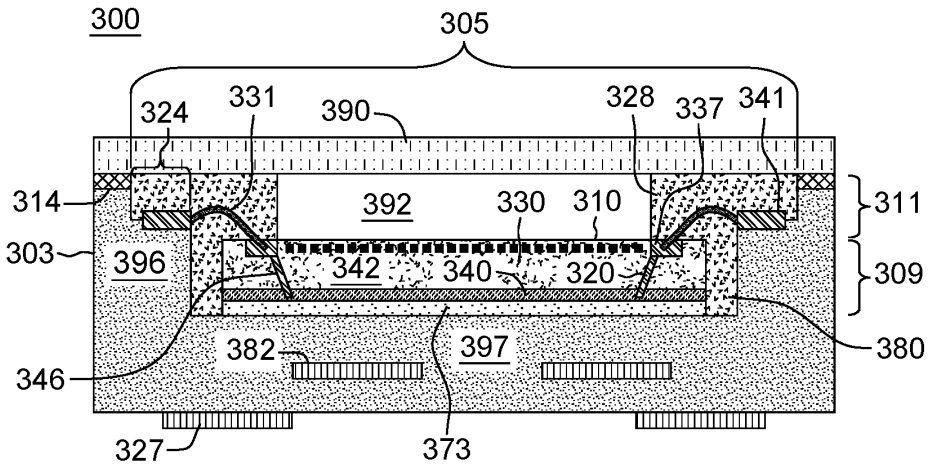

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FIG. 3

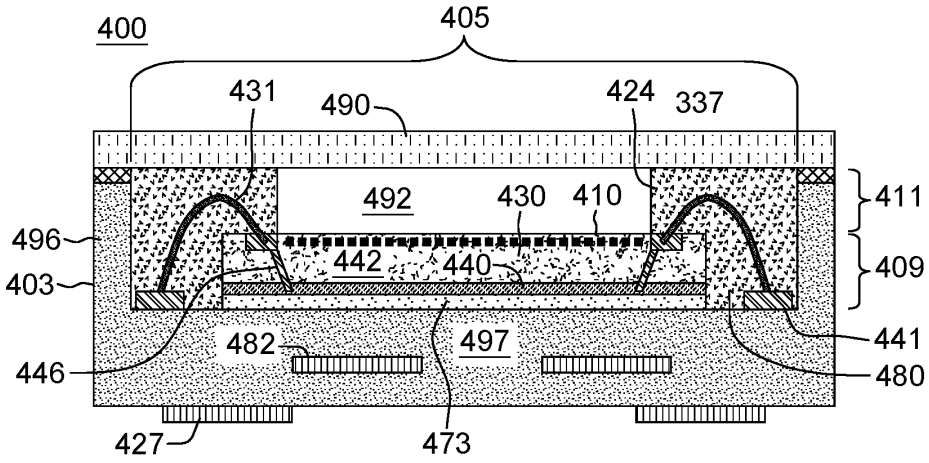

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FIG. 4

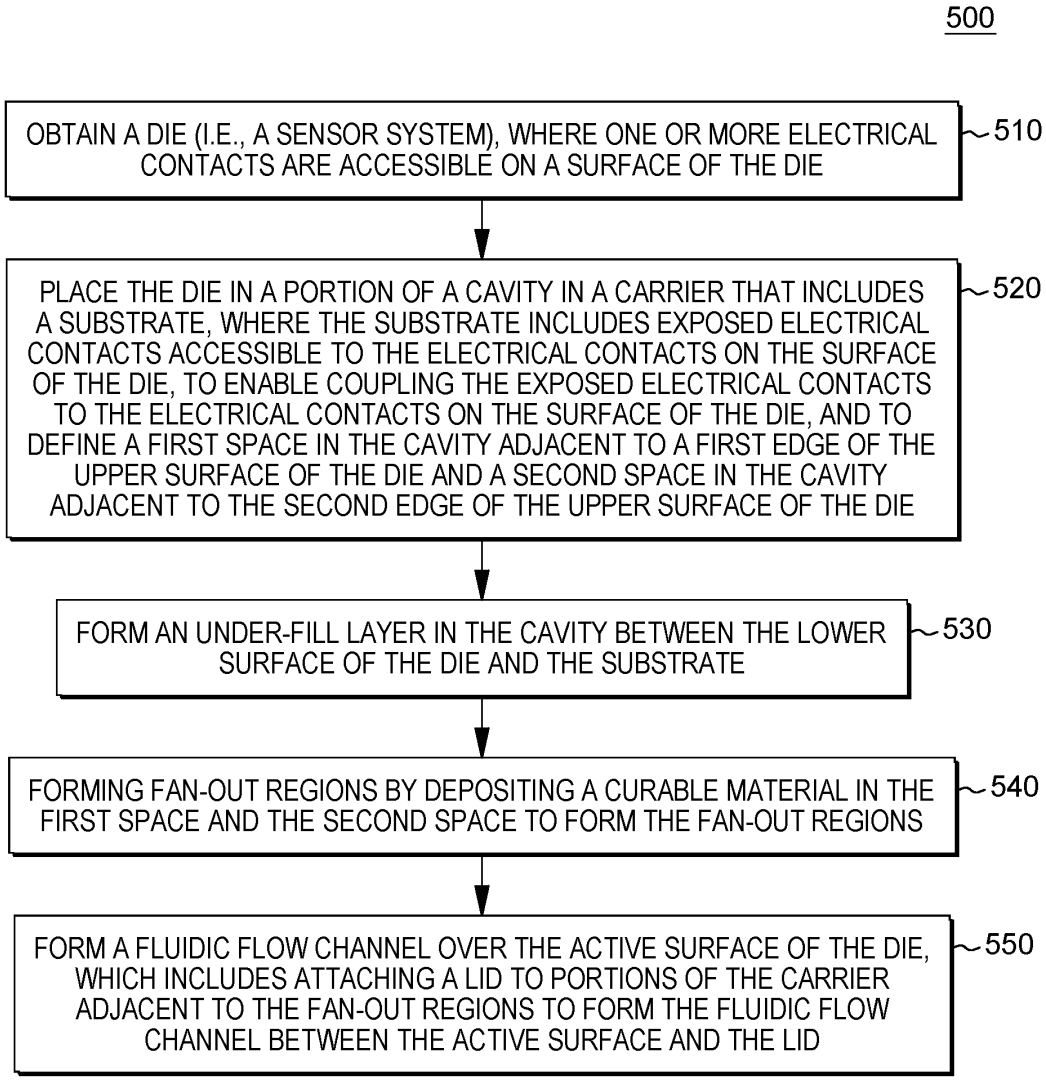

500
OBTAIN A DIE (I.E., A SENSOR SYSTEM), WHERE ONE OR MORE ELECTRICAL CONTACTS ARE ACCESSIBLE ON A SURFACE OF THE DIE
510
PLACE THE DIE IN A PORTION OF A CAVITY IN A CARRIER THAT INCLUDES A SUBSTRATE, WHERE THE SUBSTRATE INCLUDES EXPOSED ELECTRICAL CONTACTS ACCESSIBLE TO THE ELECTRICAL CONTACTS ON THE SURFACE OF THE DIE, TO ENABLE COUPLING THE EXPOSED ELECTRICAL CONTACTS TO THE ELECTRICAL CONTACTS ON THE SURFACE OF THE DIE, AND TO DEFINE A FIRST SPACE IN THE CAVITY ADJACENT TO A FIRST EDGE OF THE UPPER SURFACE OF THE DIE AND A SECOND SPACE IN THE CAVITY ADJACENT TO THE SECOND EDGE OF THE UPPER SURFACE OF THE DIE
520
FORM AN UNDER-FILL LAYER IN THE CAVITY BETWEEN THE LOWER SURFACE OF THE DIE AND THE SUBSTRATE
530
FORMING FAN-OUT REGIONS BY DEPOSITING A CURABLE MATERIAL IN THE FIRST SPACE AND THE SECOND SPACE TO FORM THE FAN-OUT REGIONS
540
FORM A FLUIDIC FLOW CHANNEL OVER THE ACTIVE SURFACE OF THE DIE, WHICH INCLUDES ATTACHING A LID TO PORTIONS OF THE CARRIER ADJACENT TO THE FAN-OUT REGIONS TO FORM THE FLUIDIC FLOW CHANNEL BETWEEN THE ACTIVE SURFACE AND THE LID
550

FIG. 5

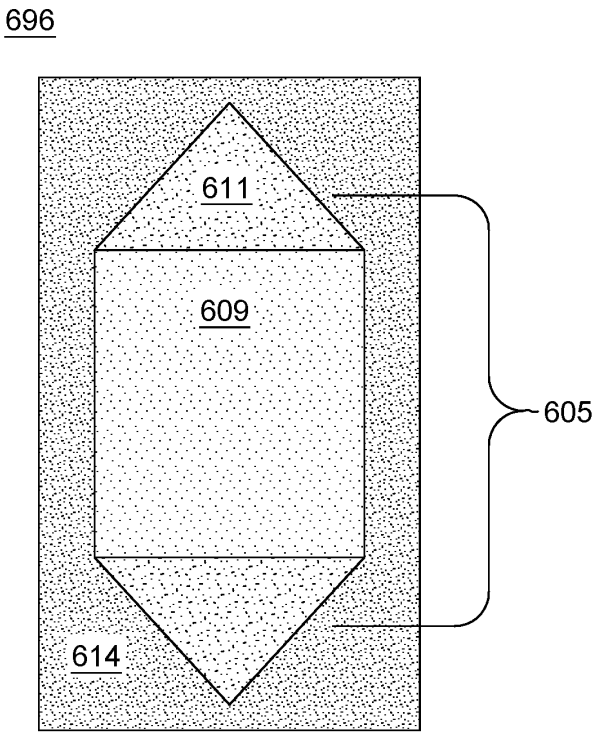


FIG. 6A

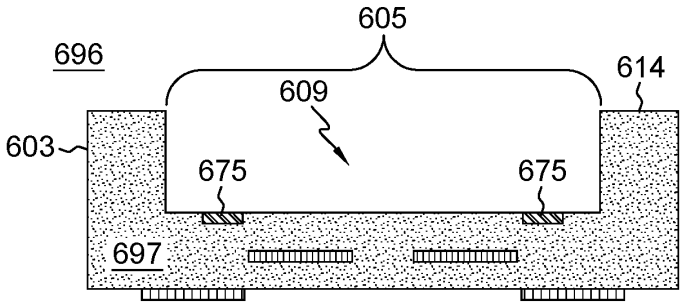


FIG. 6B

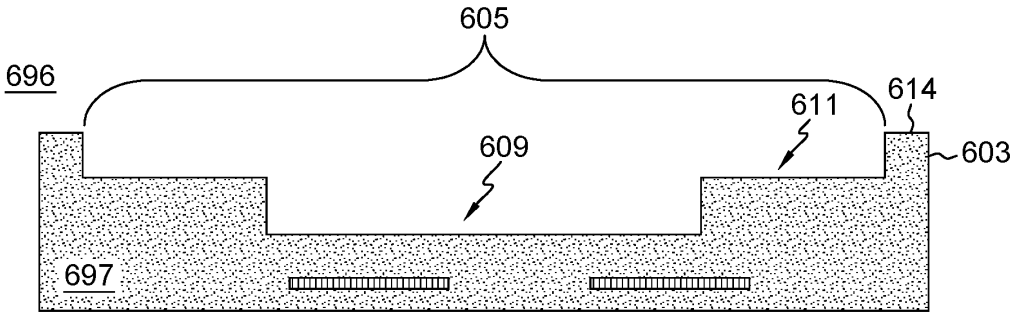


FIG. 6C

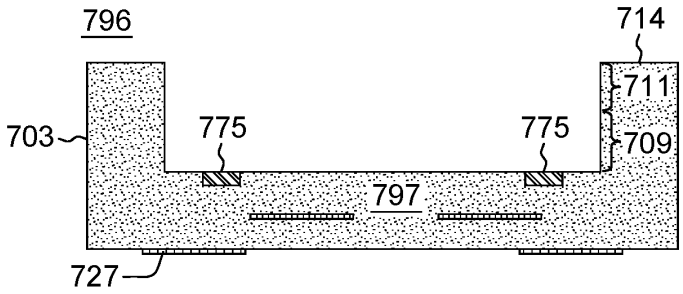


FIG. 7A

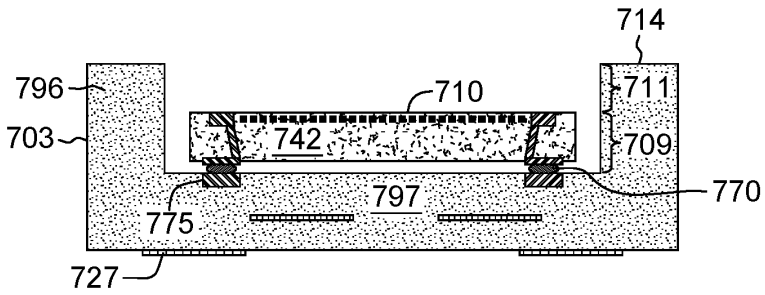


FIG. 7B

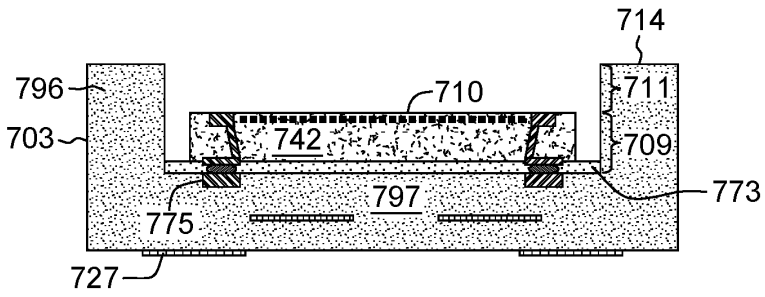


FIG. 7C

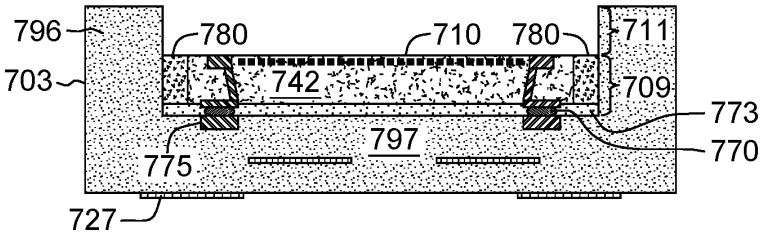

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FIG. 7D

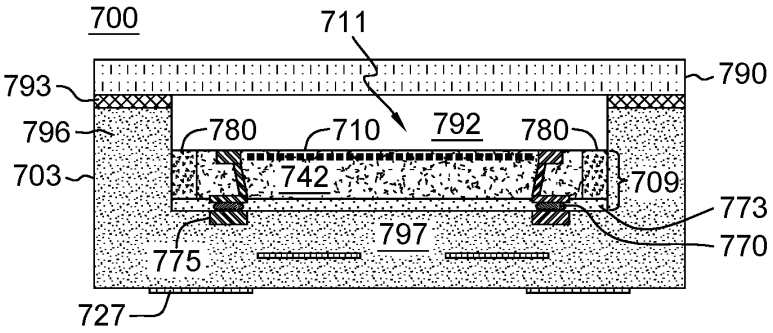

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FIG. 7E

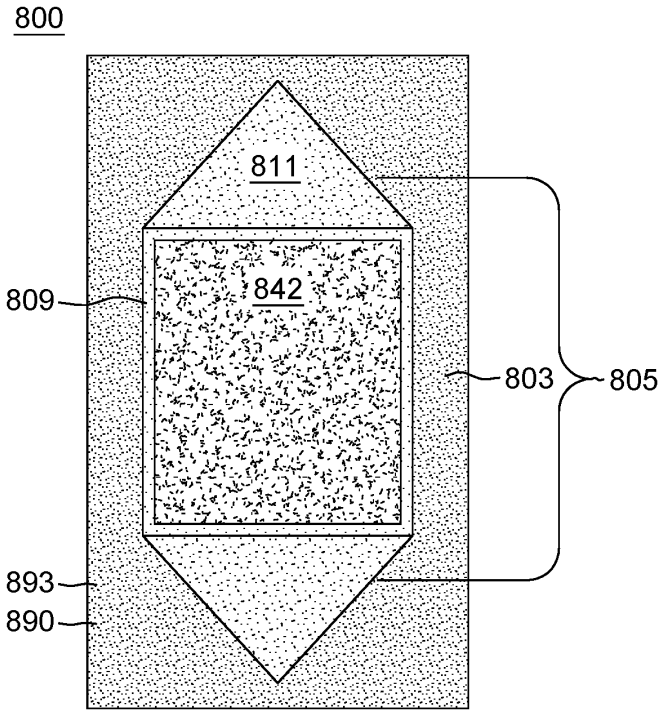


FIG. 8A

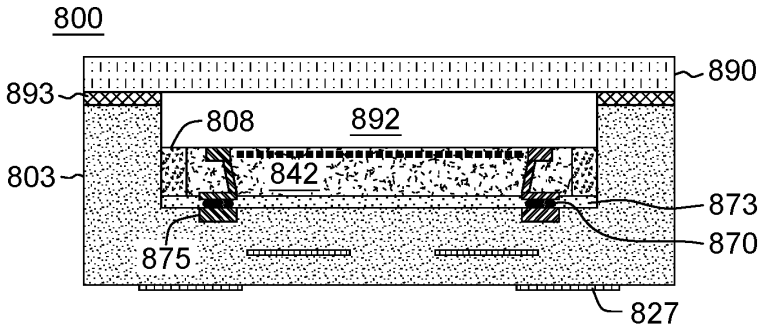


FIG. 8B

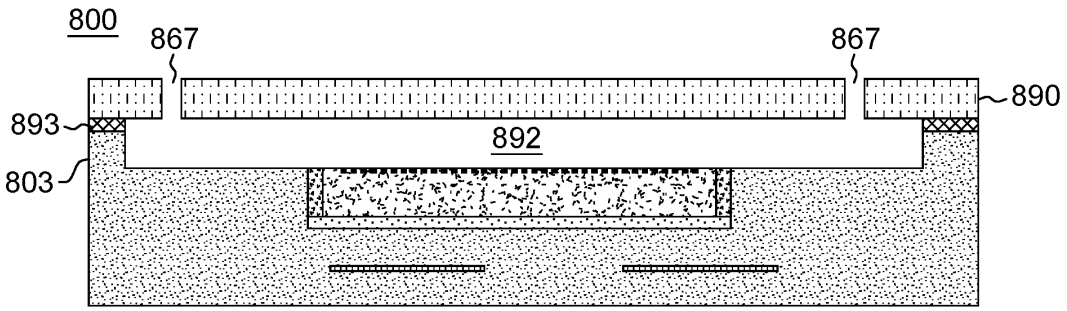


FIG. 8C

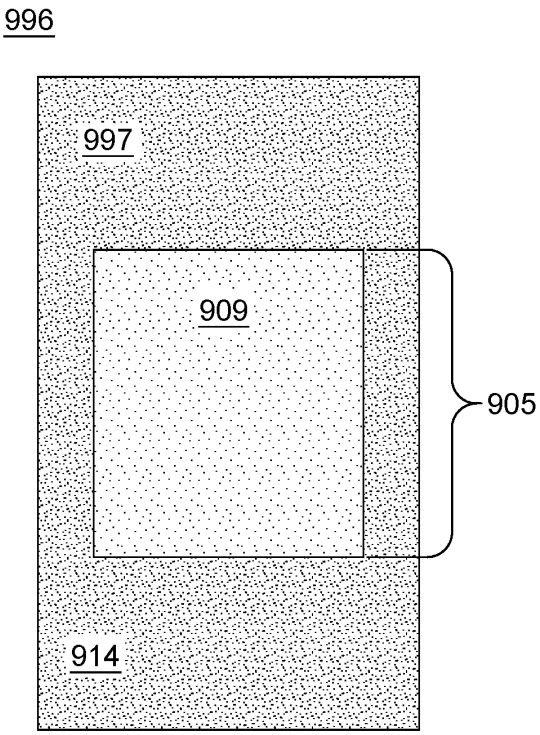


FIG. 9A

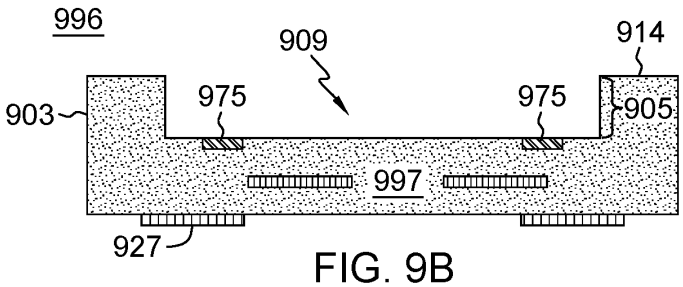


FIG. 9B

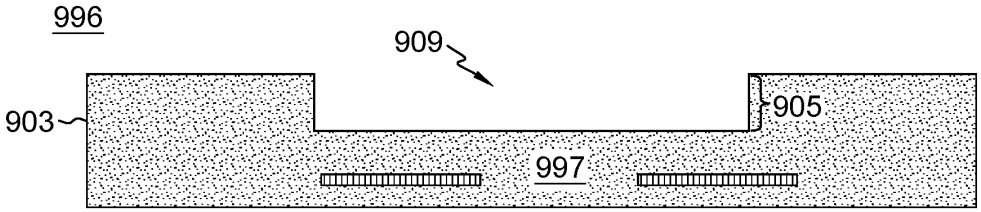


FIG. 9C

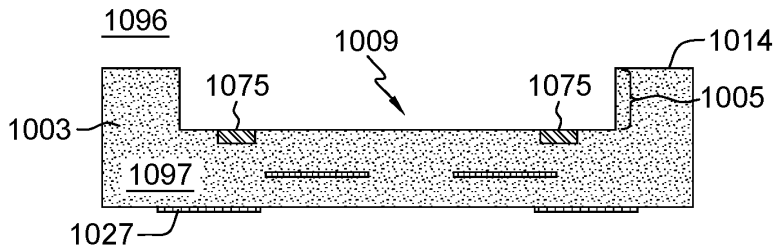


FIG. 10A

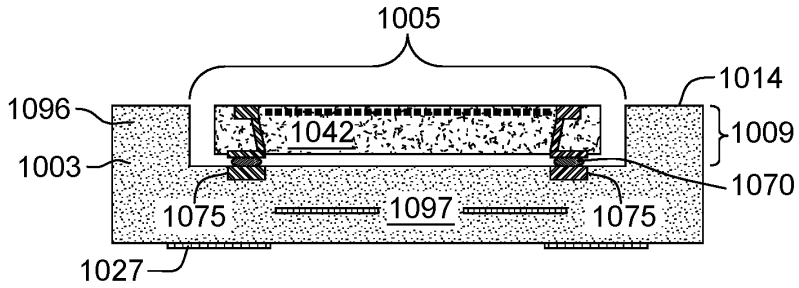


FIG. 10B

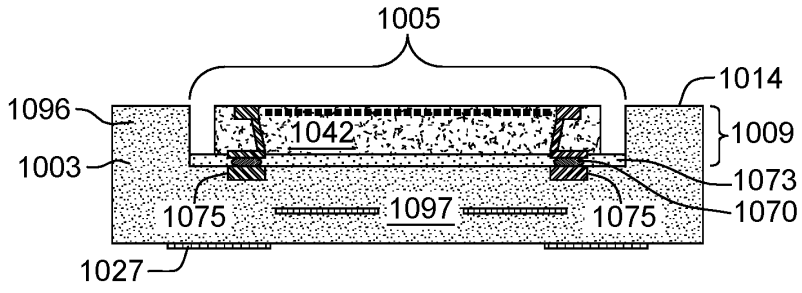


FIG. 10C

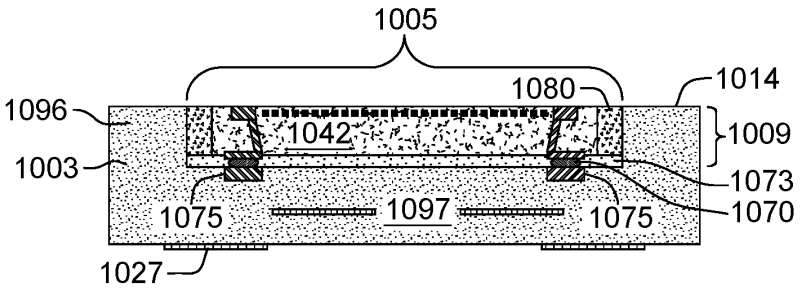


FIG. 10D

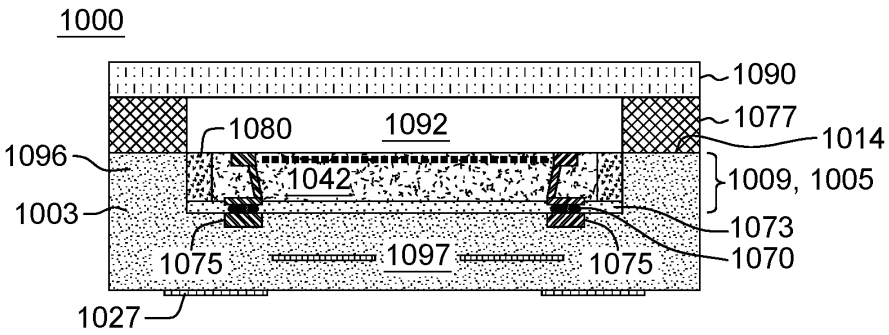


FIG. 10E

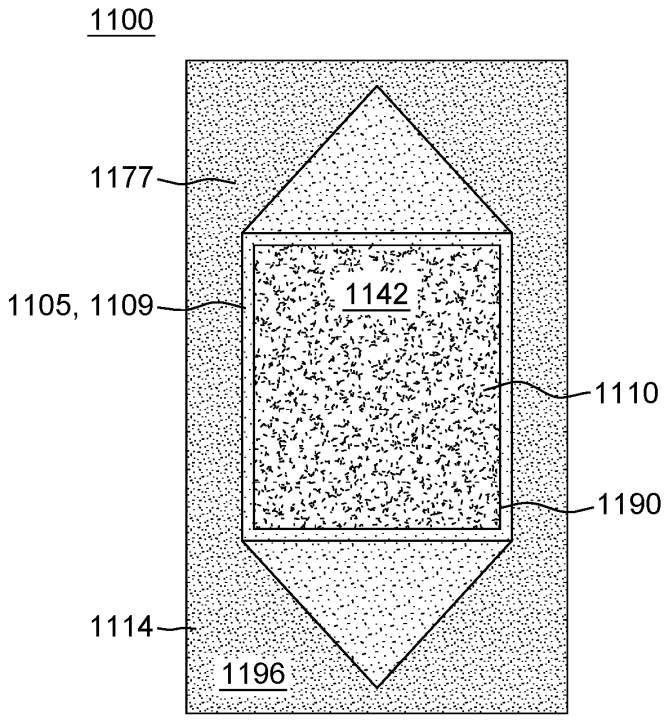


FIG. 11A

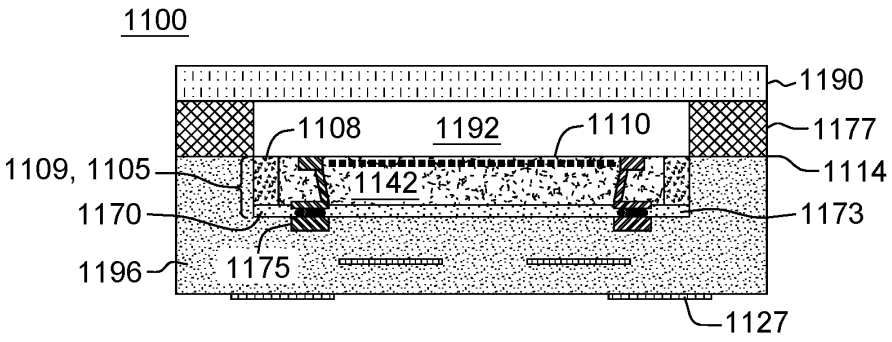


FIG. 11B

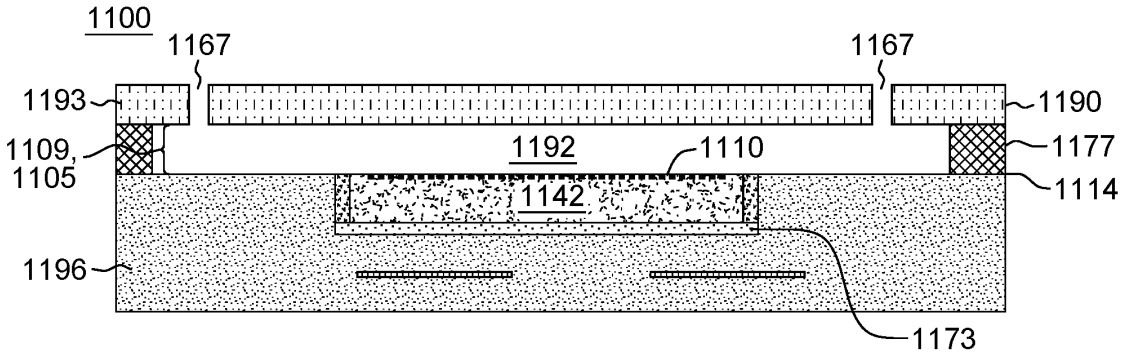


FIG. 11C

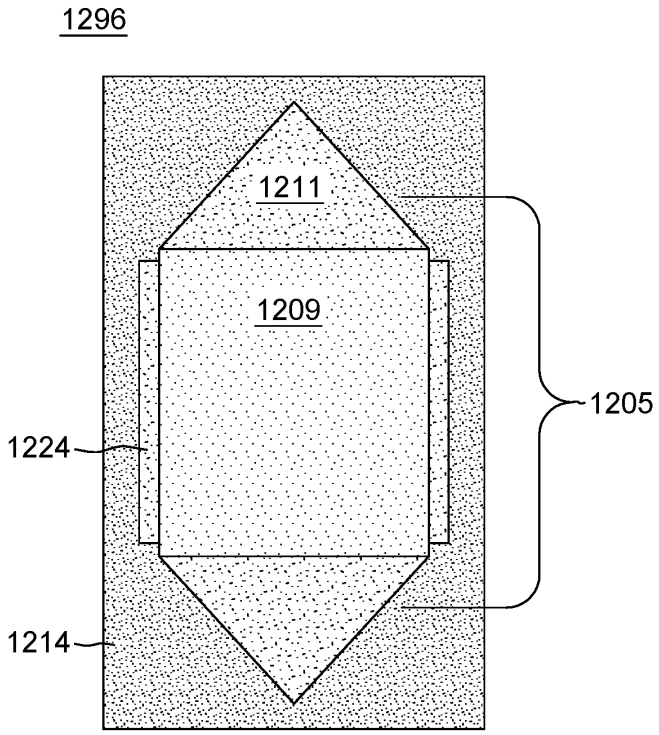


FIG. 12A

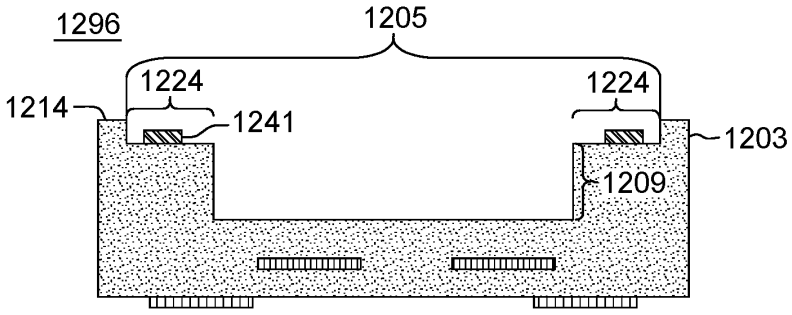


FIG. 12B

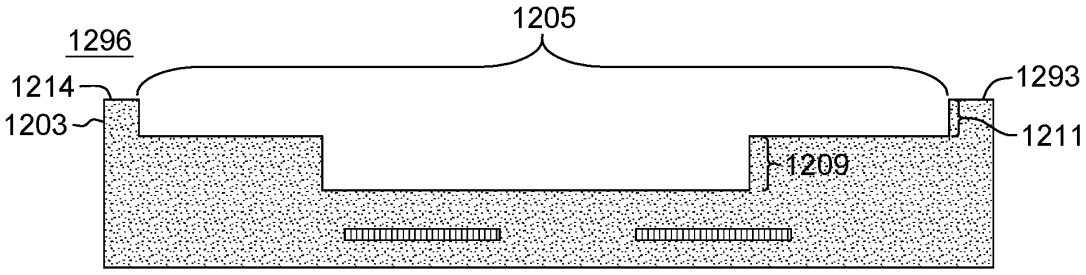


FIG. 12C

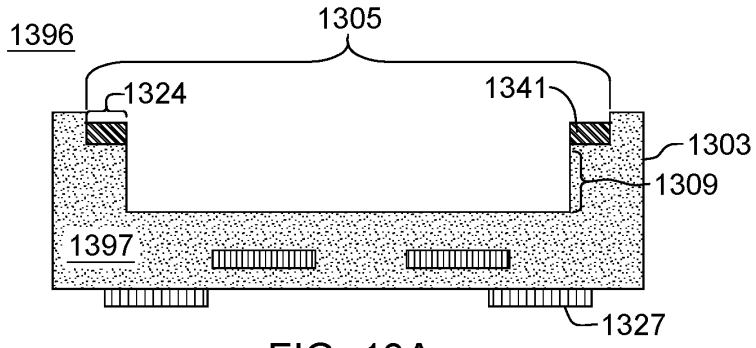


FIG. 13A

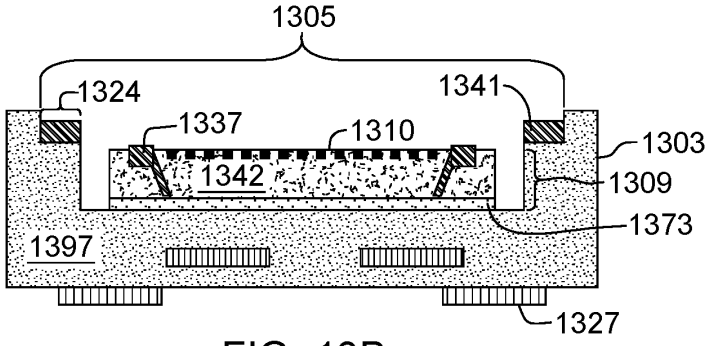


FIG. 13B

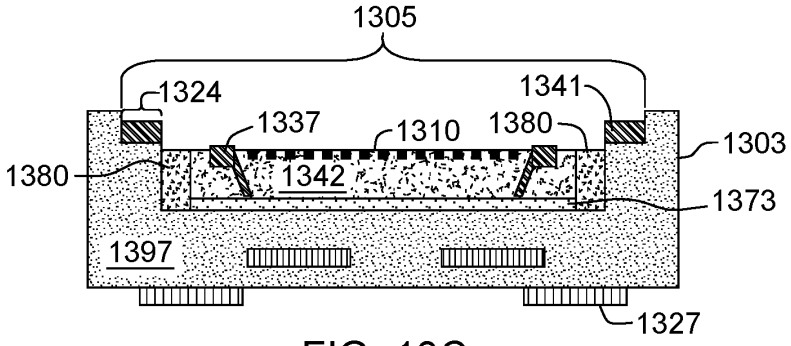


FIG. 13C

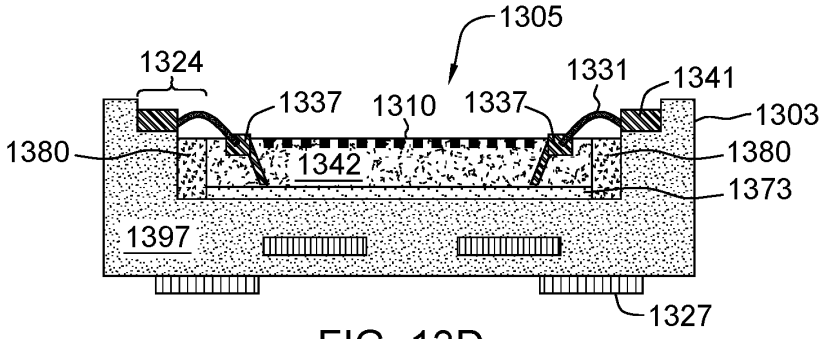


FIG. 13D

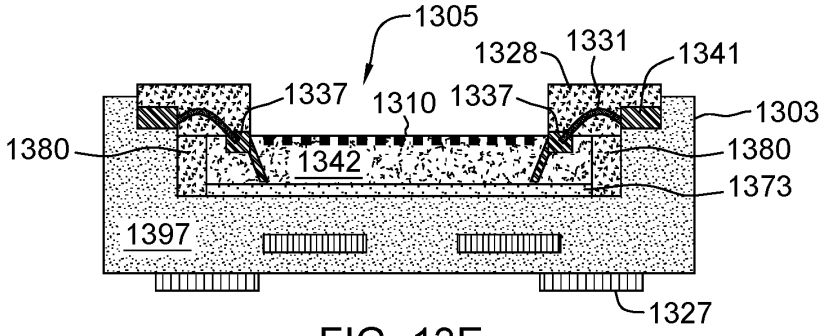


FIG. 13E

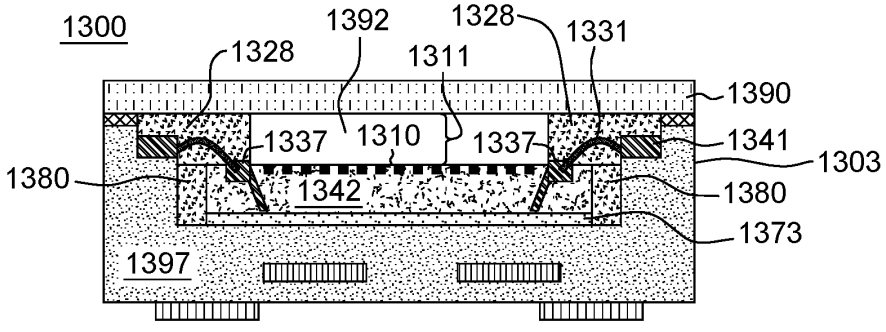


FIG. 13F

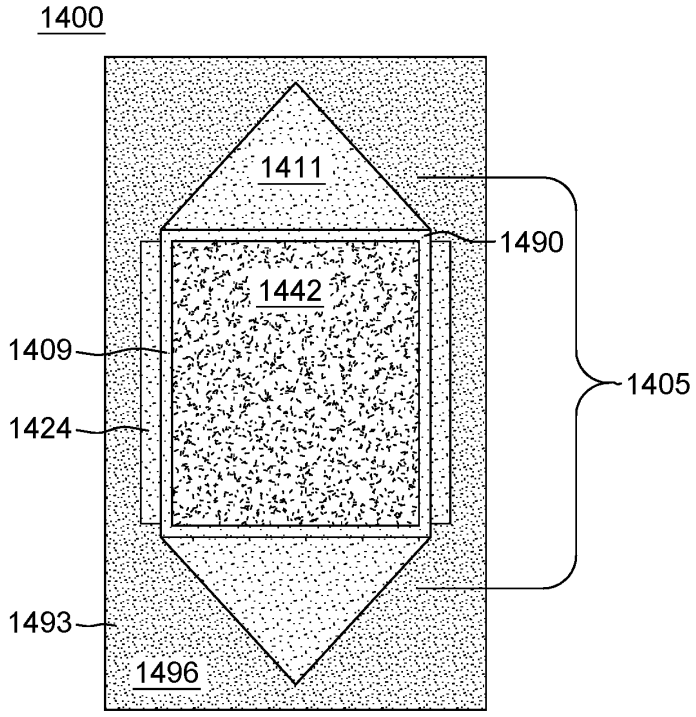


FIG. 14A

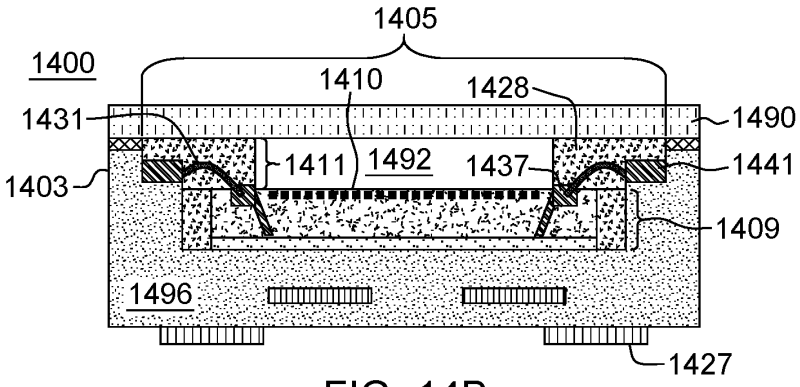


FIG. 14B

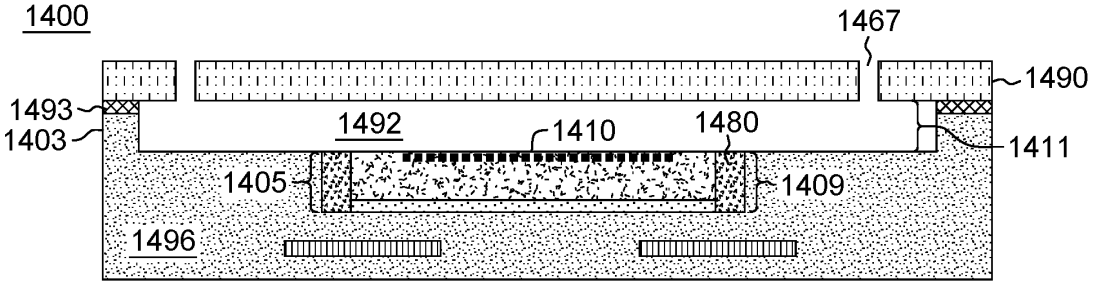


FIG. 14C

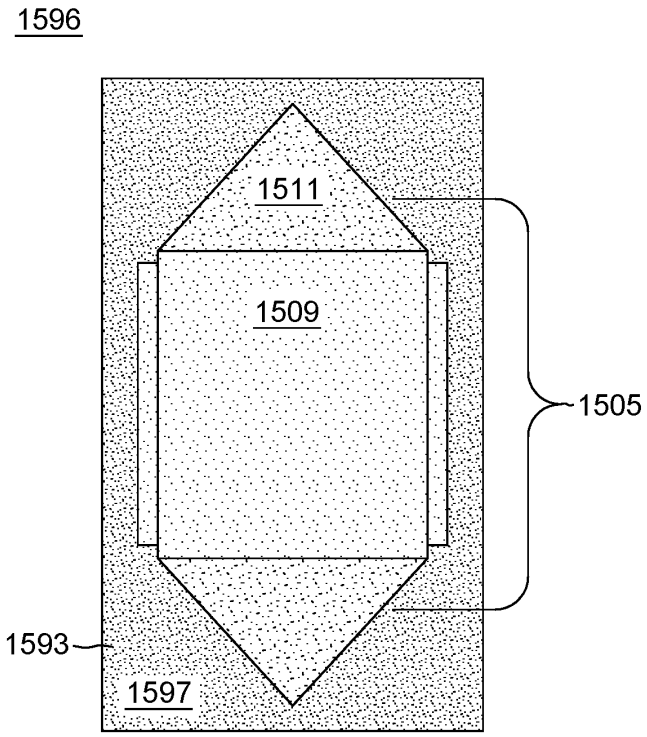


FIG. 15A

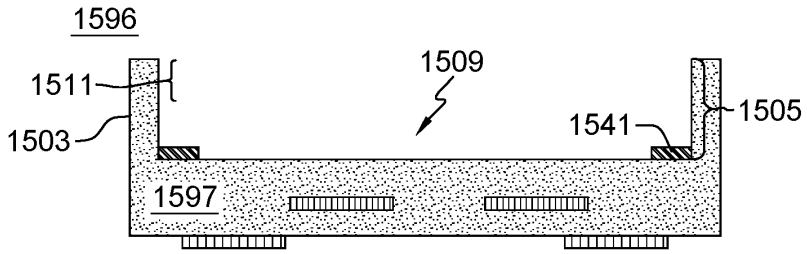


FIG. 15B

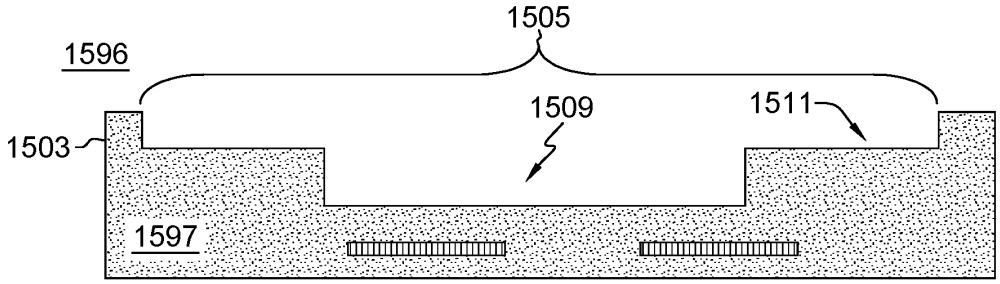


FIG. 15C

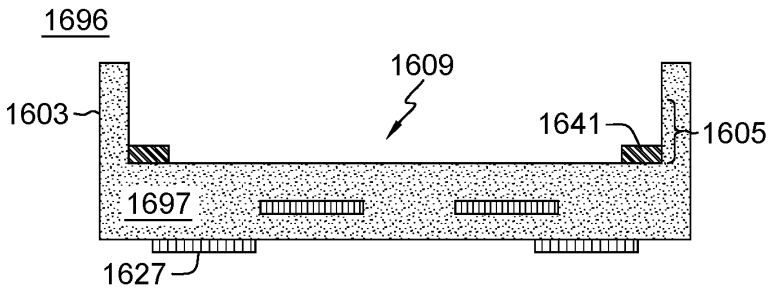


FIG. 16A

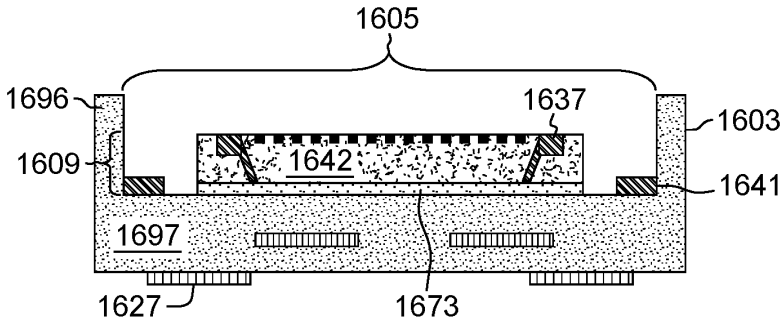


FIG. 16B

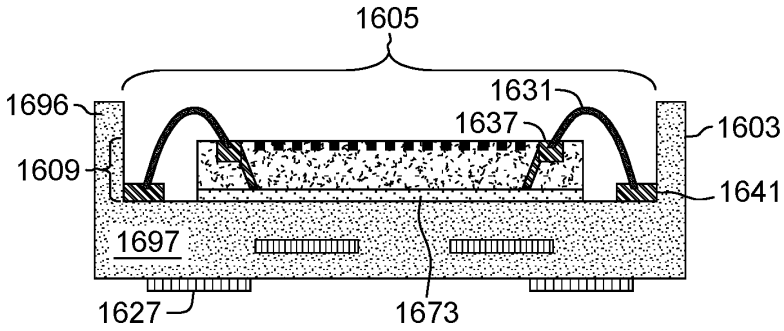


FIG. 16C

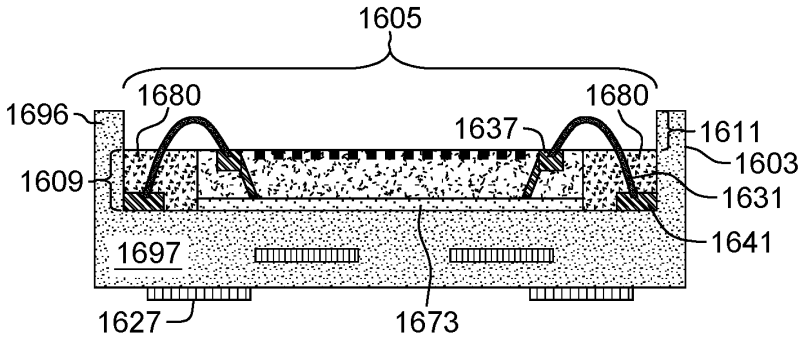


FIG. 16D

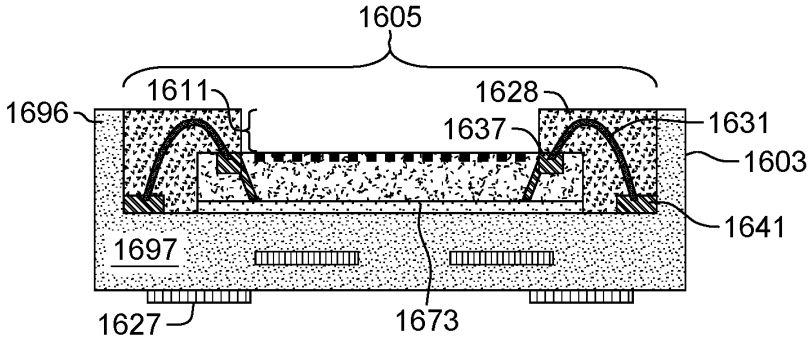


FIG. 16E

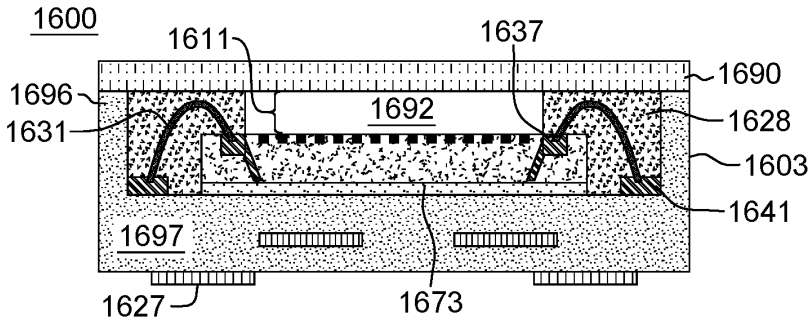


FIG. 16F

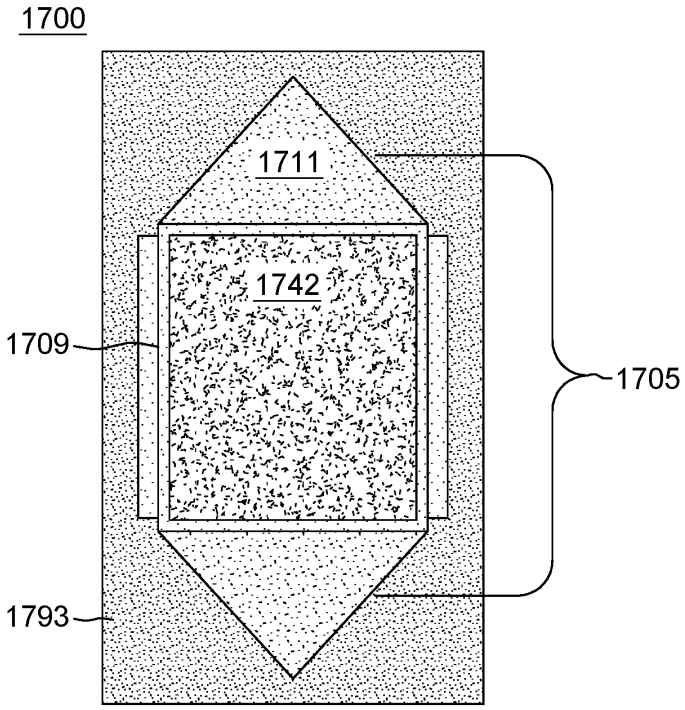


FIG. 17A

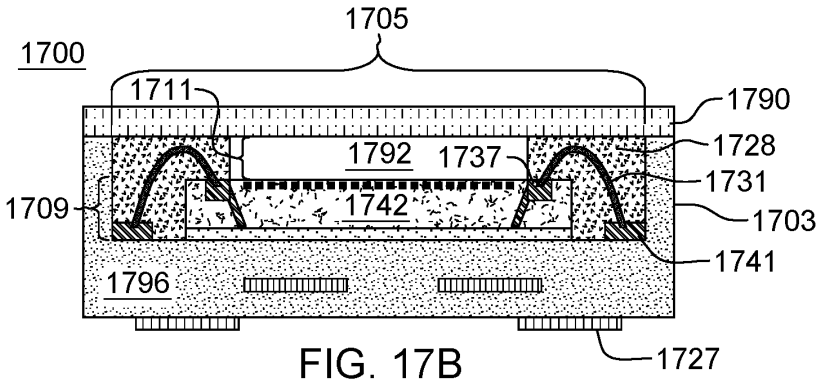


FIG. 17B

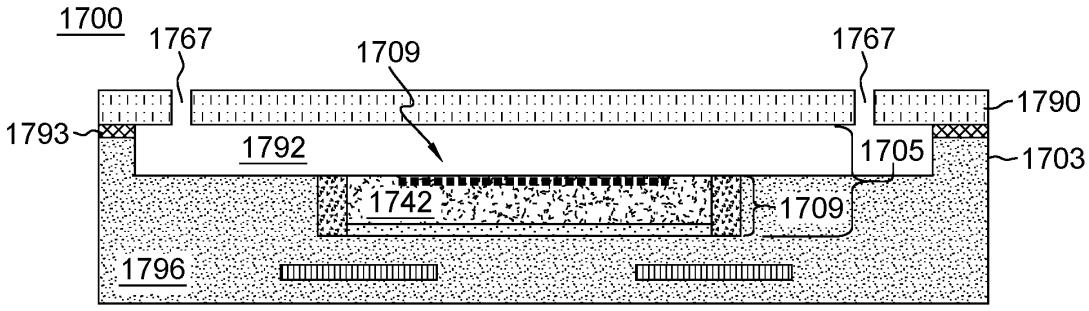


FIG. 17C

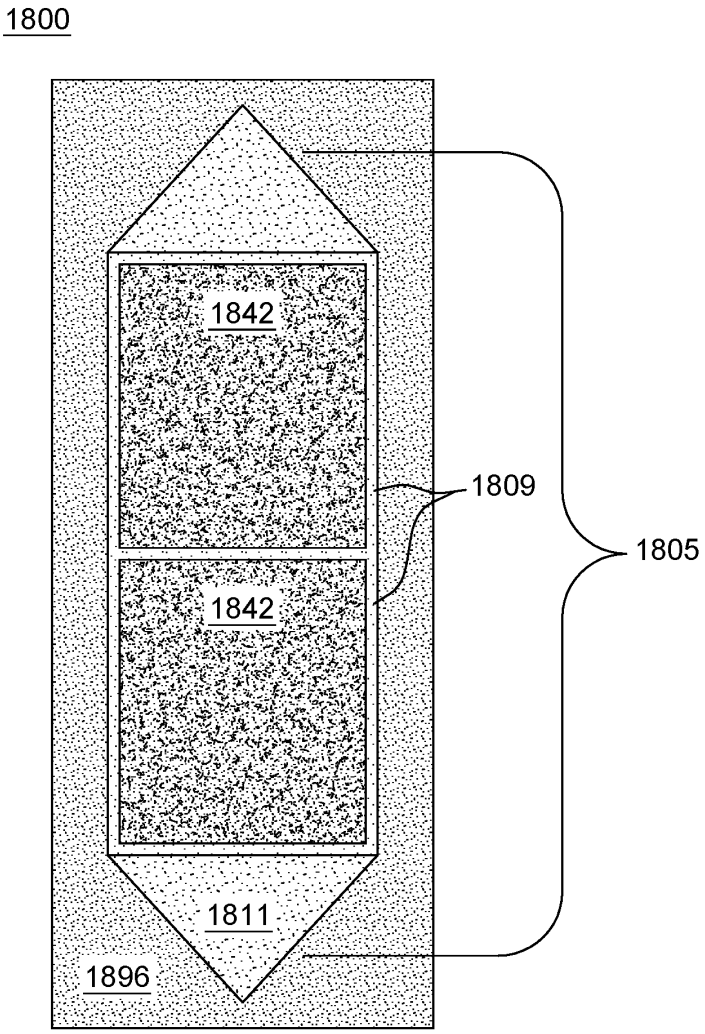


FIG. 18A

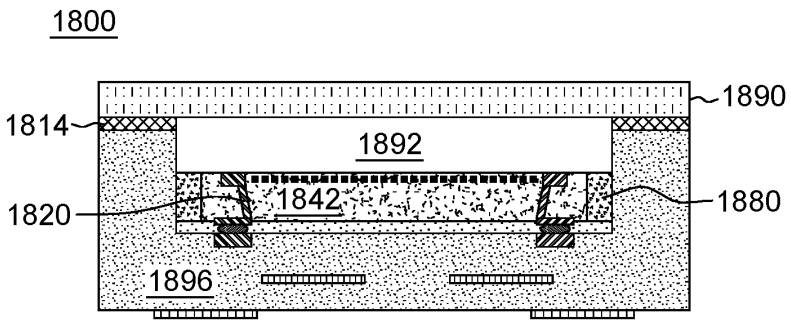


FIG. 18B

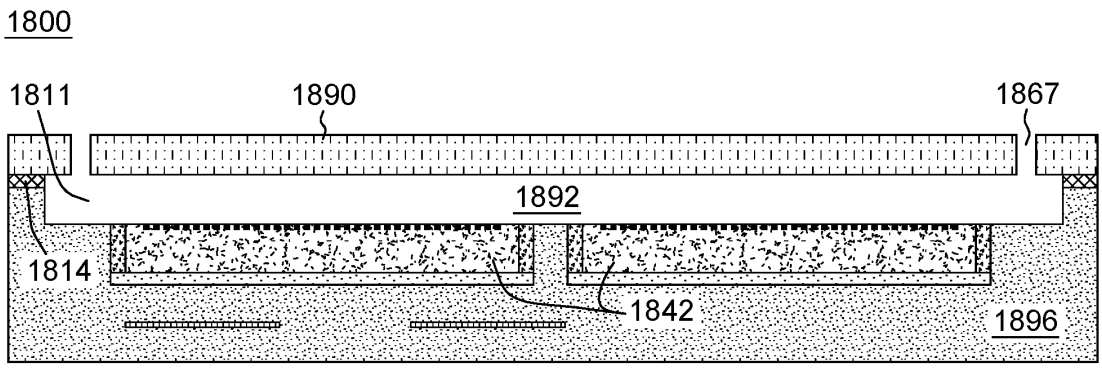


FIG. 18C

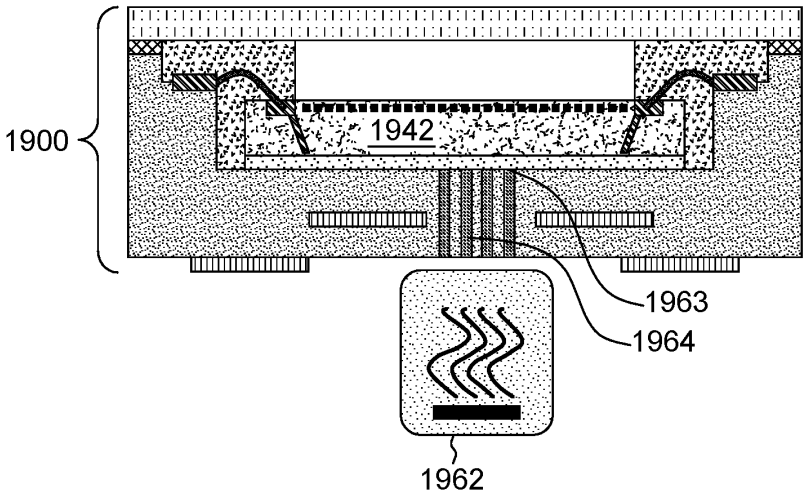


FIG. 19

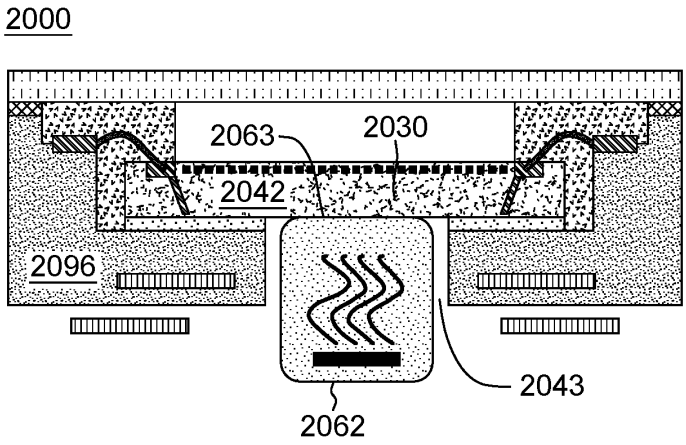


FIG. 20A

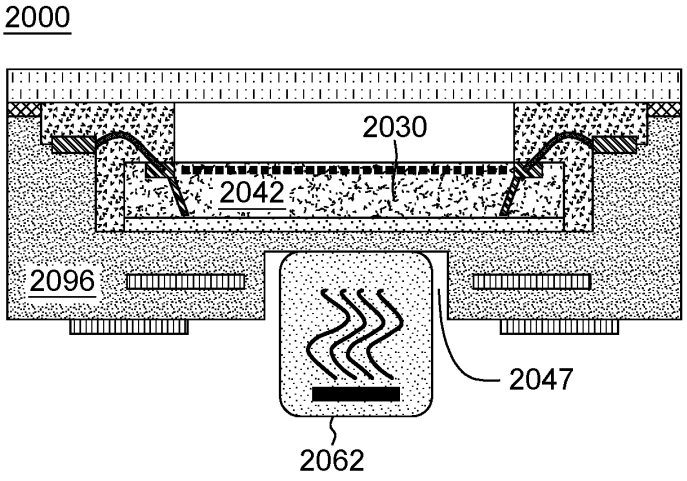


FIG. 20B