

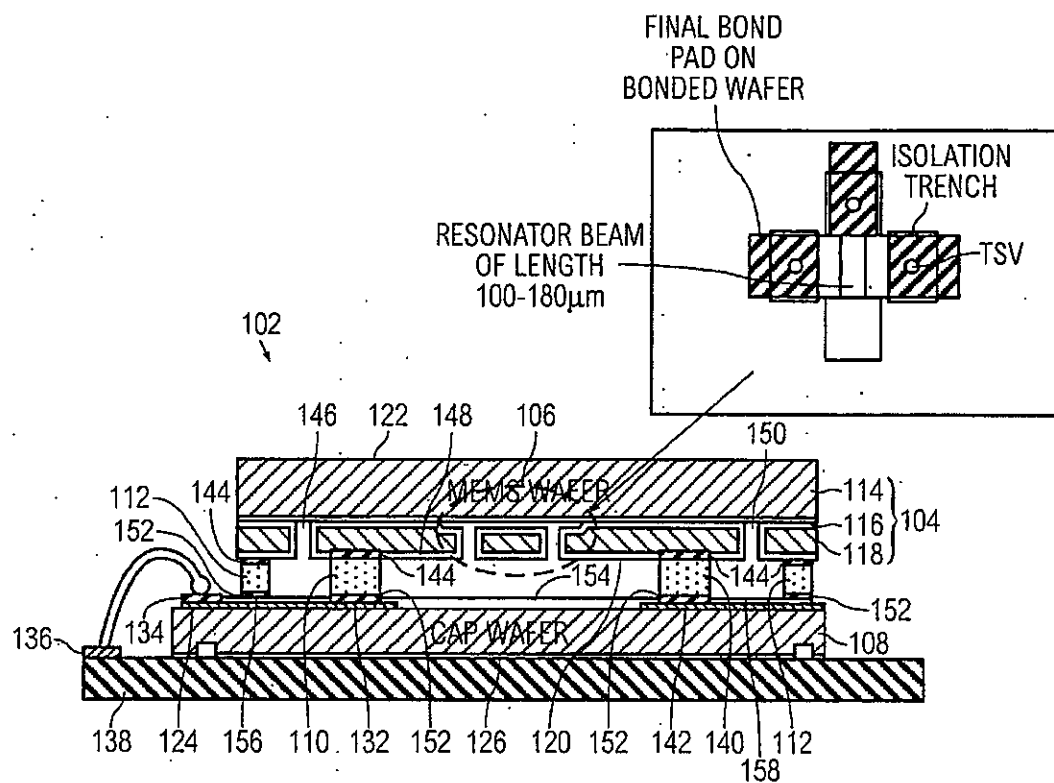


FIGURE 1

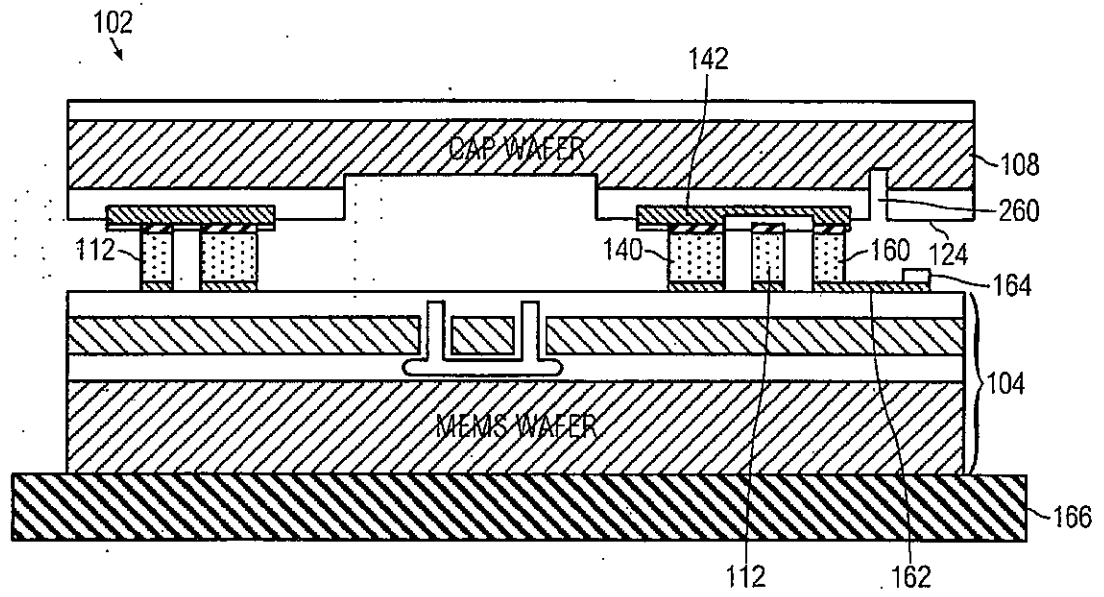
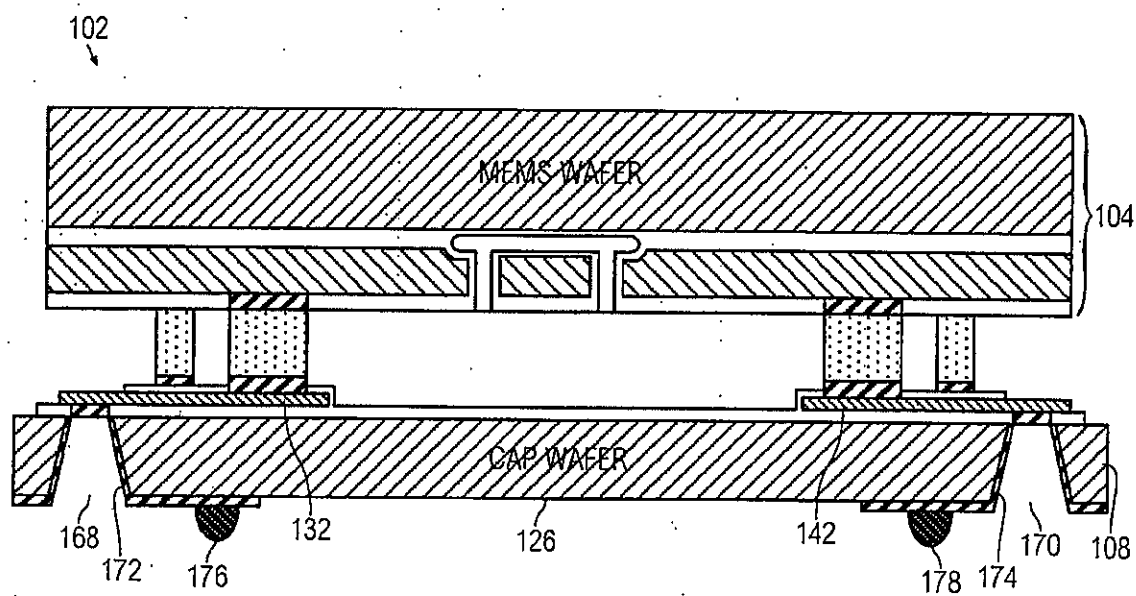
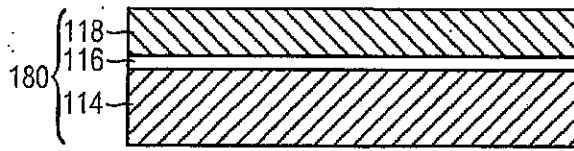
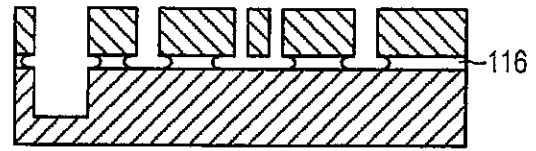
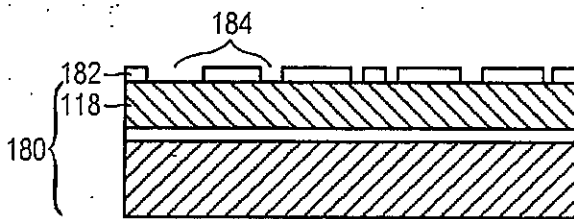


FIGURE 2

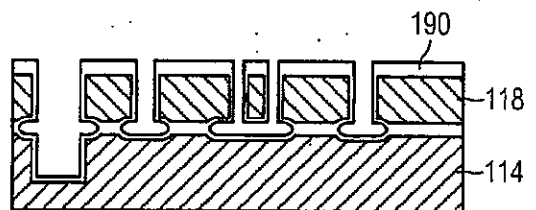
**FIGURE 3**

1. SOI WAFER OF 10 μ m THICKNESS**FIGURE 4A**

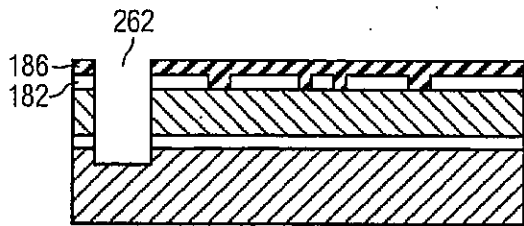
5. OXIDE STRIP AND RELEASE ETCH

FIGURE 4E

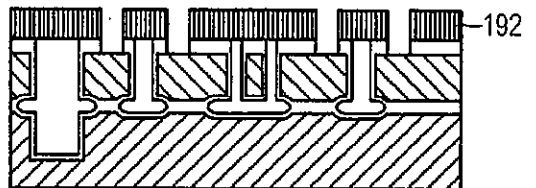
2. RESONATOR AND PRECUT PATTERNING

FIGURE 4B

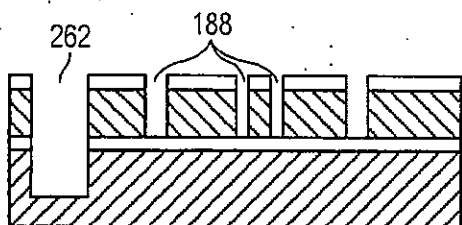
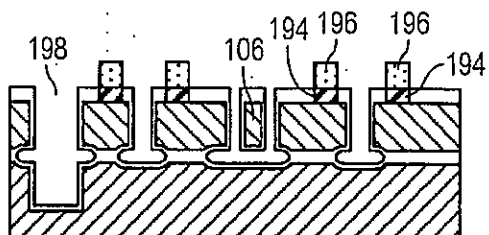
6. THERMAL COMPENSATION OXIDATION

FIGURE 4F

3. PRECUT ETCHING WITH SELECTIVE MASK

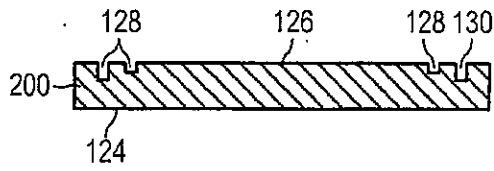
FIGURE 4C

7. DRY FILM LAMINATION AND PATTERNING

FIGURE 4G4. RESIST STRIP AND PRECUT AND
STRUCTURE ETCH**FIGURE 4D**

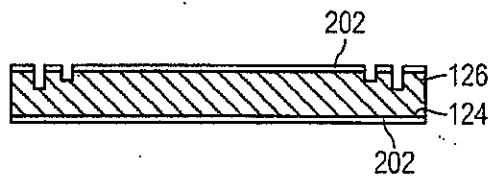
8. UBM AND SOLDER PATTERN FORMATION

FIGURE 4H



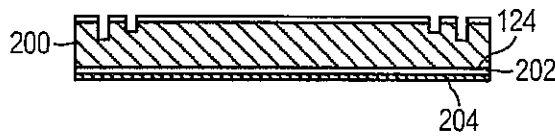
1. BACKSIDE ALIGNMENT MARK
AND DICING LINE

FIGURE 5A



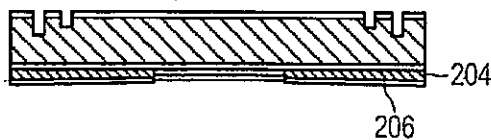
2. OXIDE DEPOSITION: SiO_2 ($1\mu\text{m}$)

FIGURE 5B



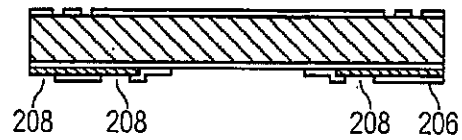
3. PAD METAL DEPOSITION

FIGURE 5C



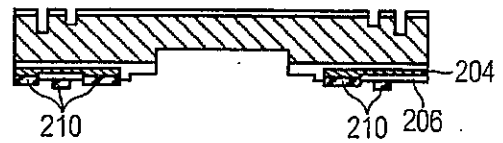
4. OXIDE DEPOSITION: SiO_2

FIGURE 5D



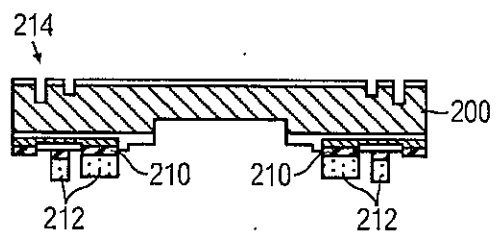
5. OXIDE OPENING

FIGURE 5E



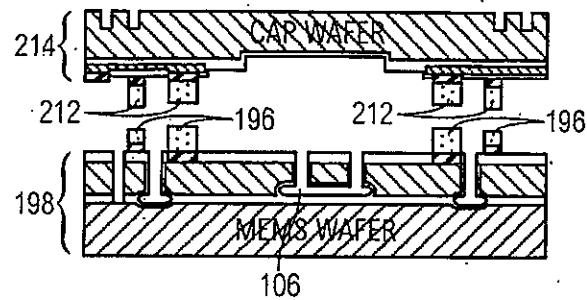
6. UBM DEPOSITION AND PATTERNING
AND CAVITY ETCH

FIGURE 5F



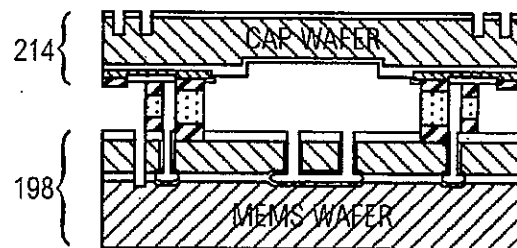
7. SOLDER DEPOSITION AND LIFT-OFF

FIGURE 5G



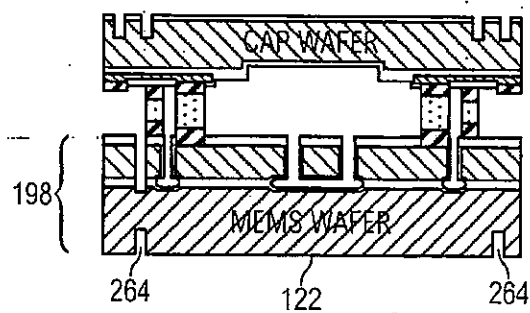
ALIGNING CAP WAFER AND MEMS WAFER

FIGURE 6A



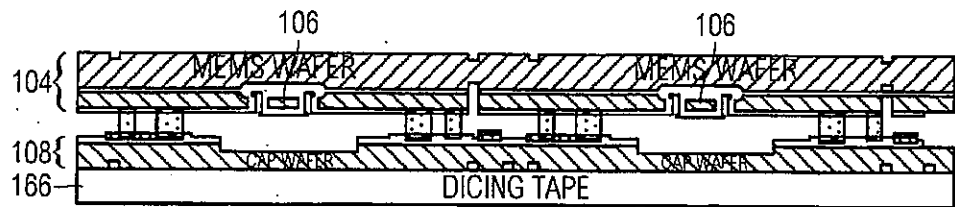
WAFER VACUUM BONDING

FIGURE 6B

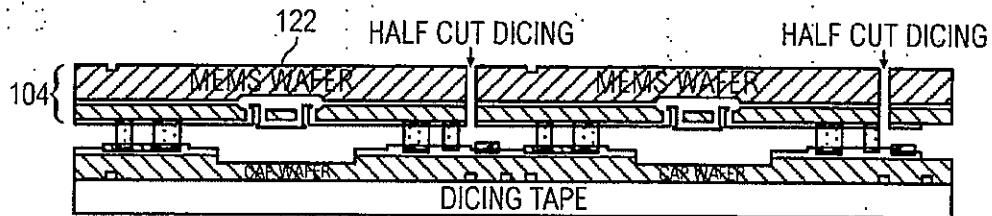


BACKSIDE PRECUT ALIGNMENT MARK

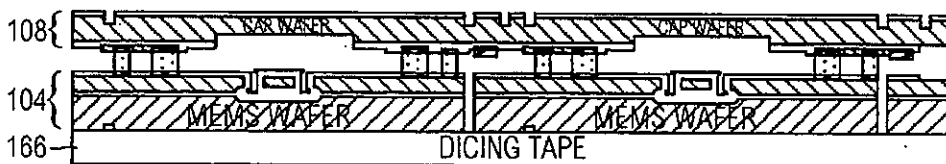
FIGURE 6C



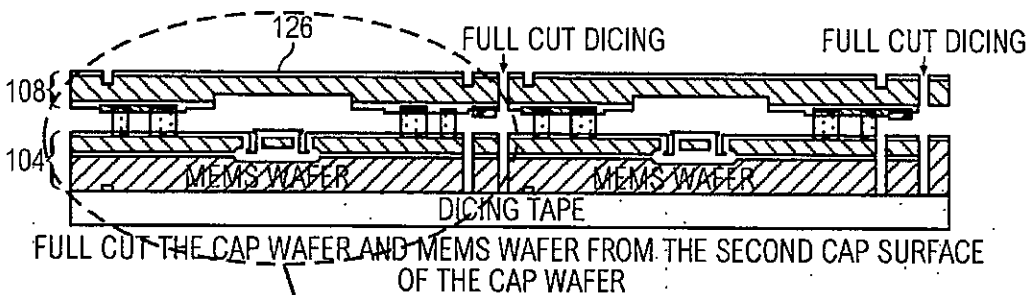
STARTING ARRANGEMENT OF CAP WAFER AND MEMS WAFER ON A DICING TAPE

FIGURE 7A

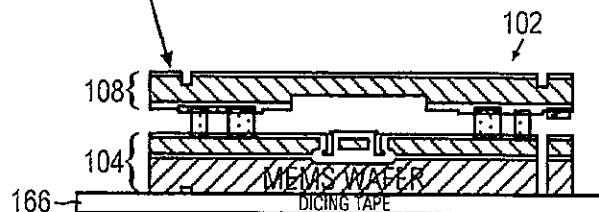
HALF CUT FROM PRECUT SIDE OF THE MEMS WAFER

FIGURE 7B

FLIP THE ARRANGEMENT OF CAP WAFER AND MEMS WAFER AND REMOUNT ON THE DICING TAPE

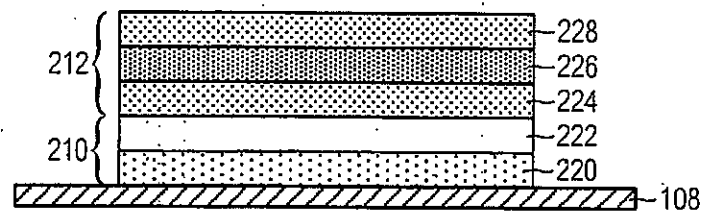
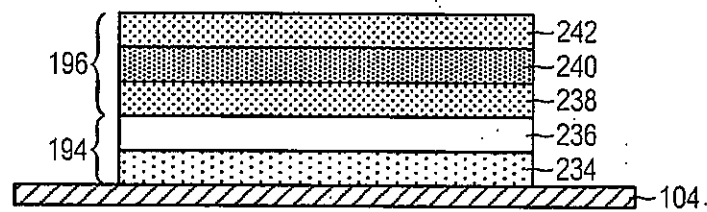
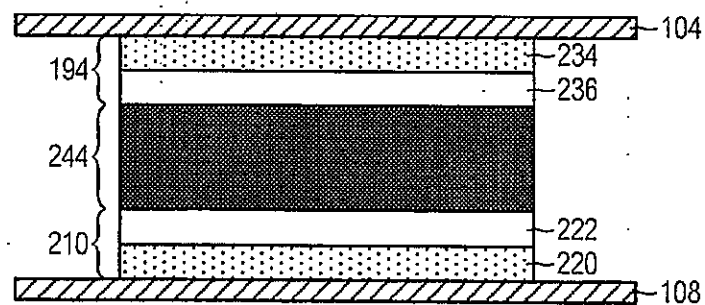
FIGURE 7C

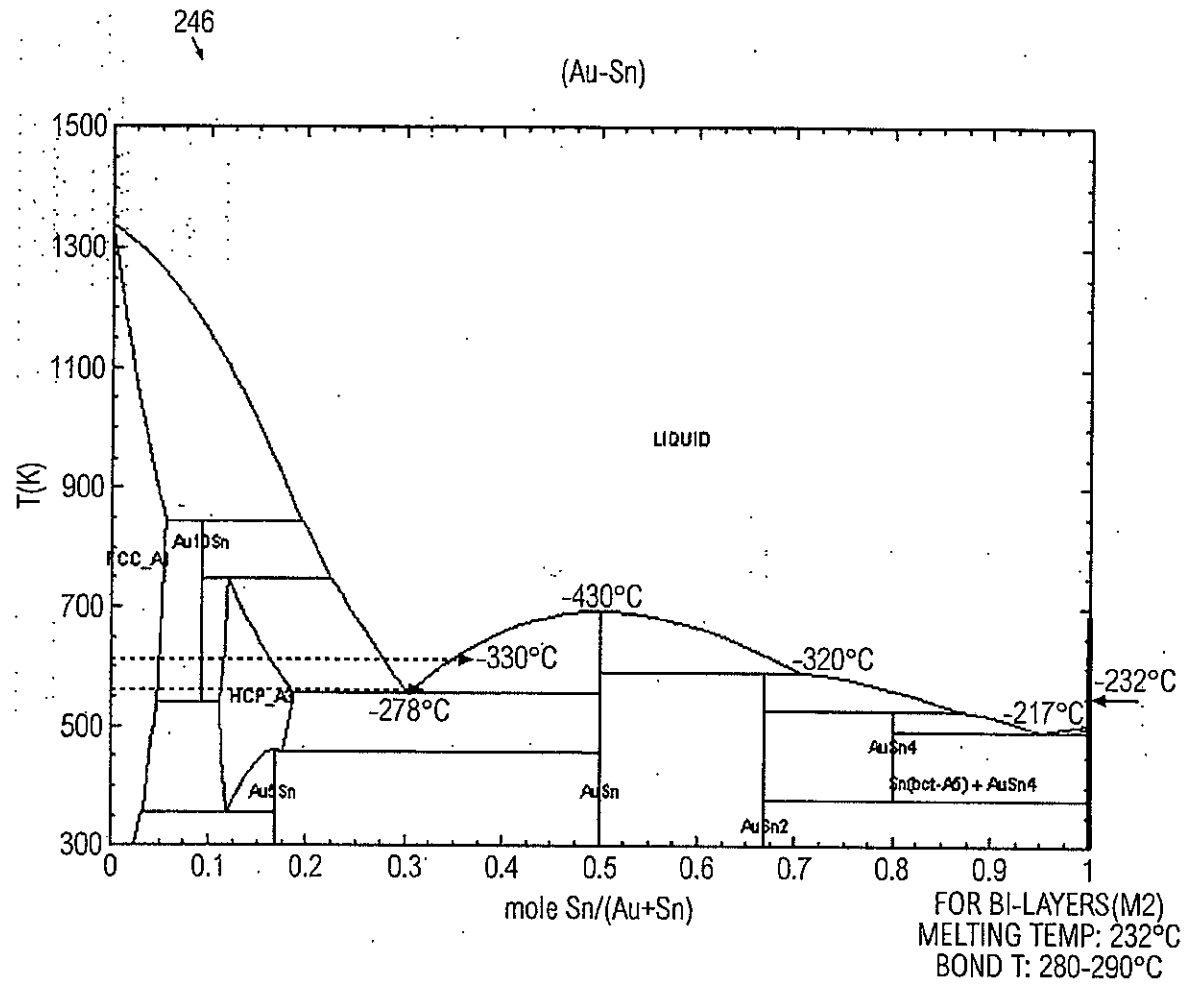
FULL CUT THE CAP WAFER AND MEMS WAFER FROM THE SECOND CAP SURFACE OF THE CAP WAFER

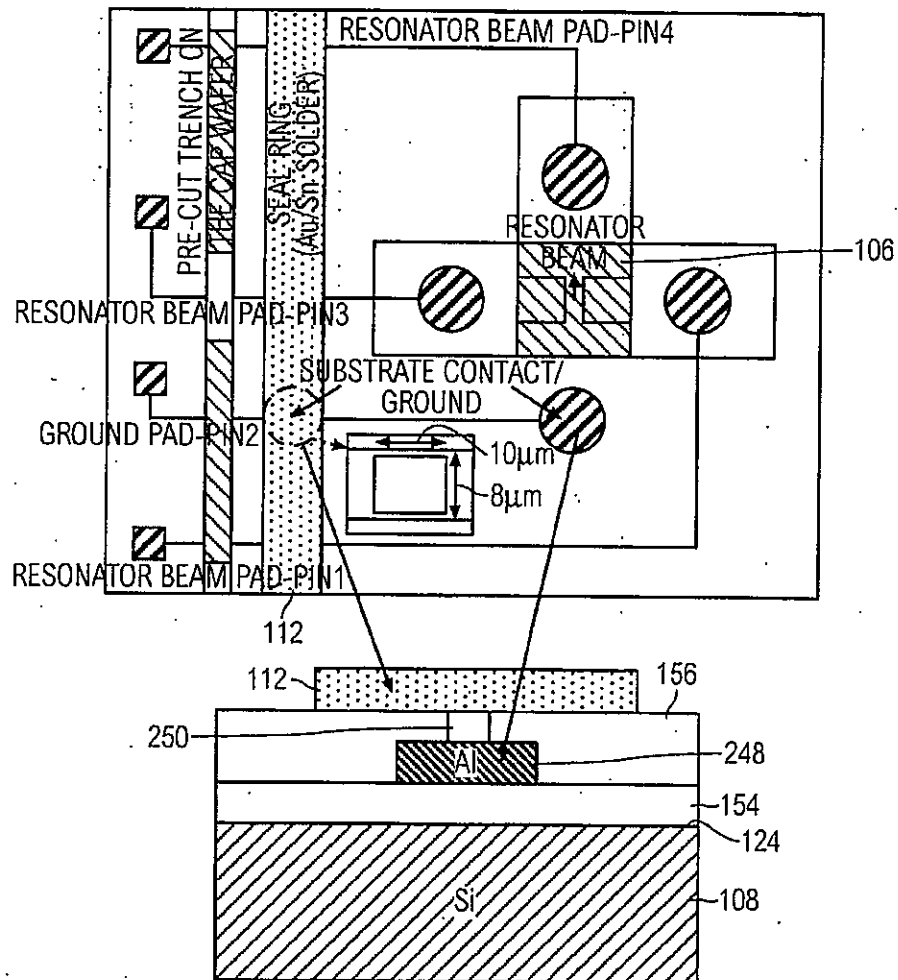
FIGURE 7D

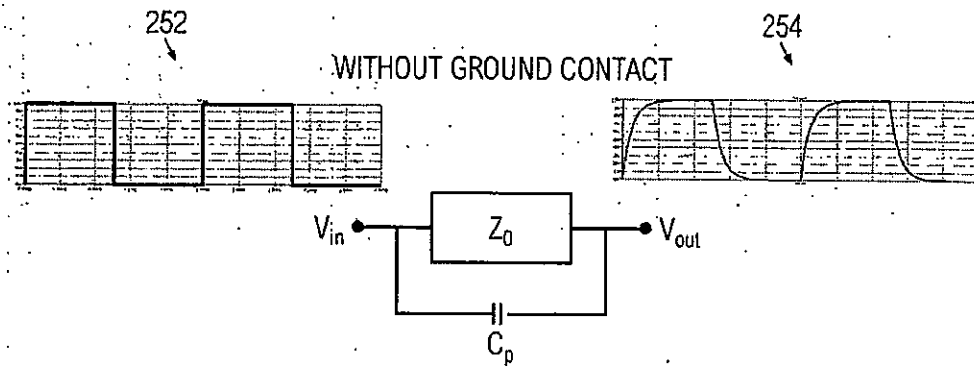
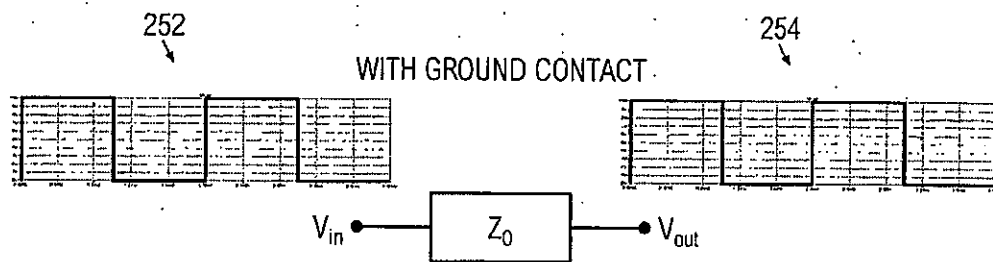
ARRANGEMENT OF THE DICED CAP WAFER AND THE MEMS WAFER

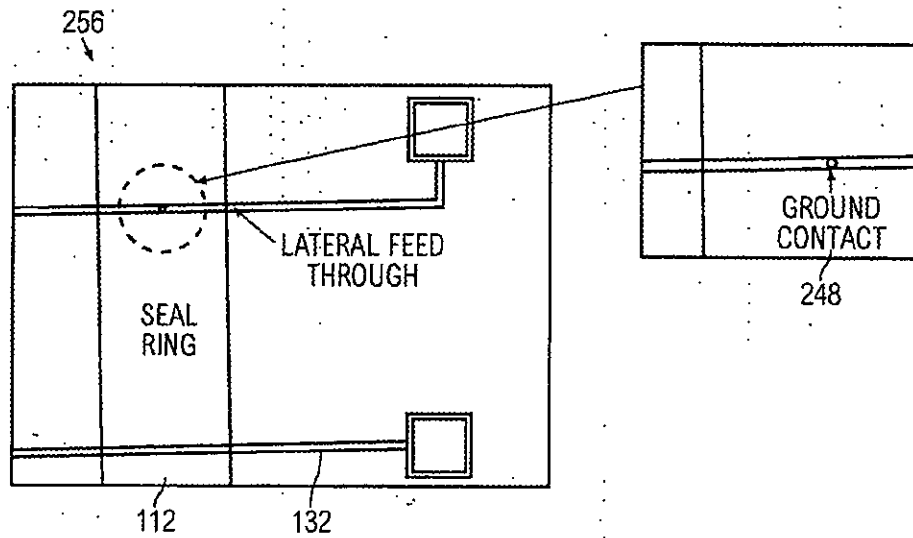
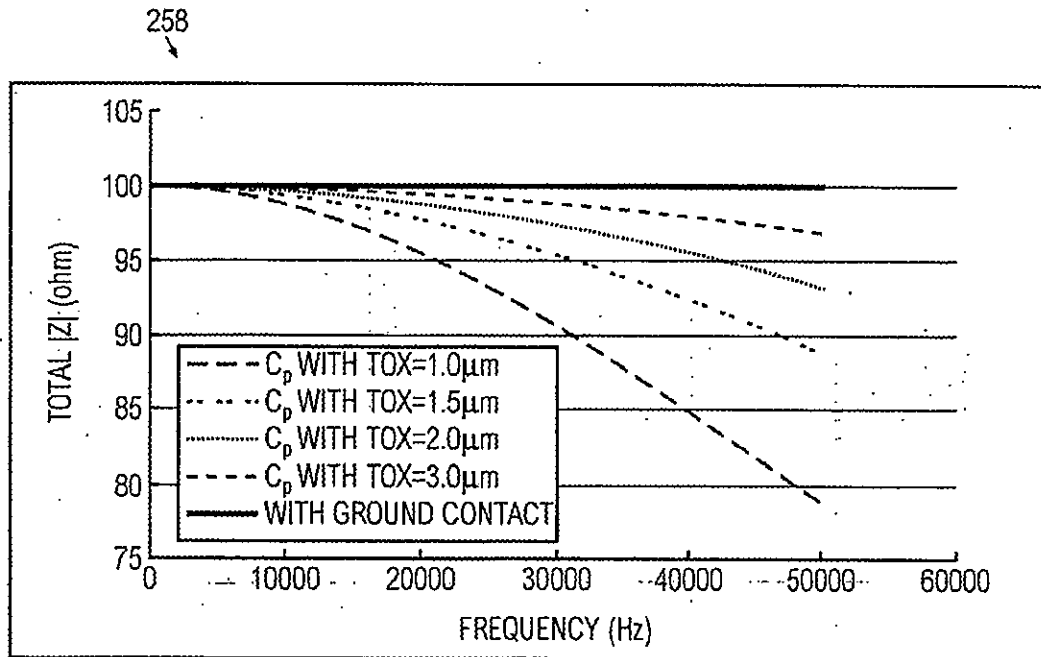
FIGURE 7E

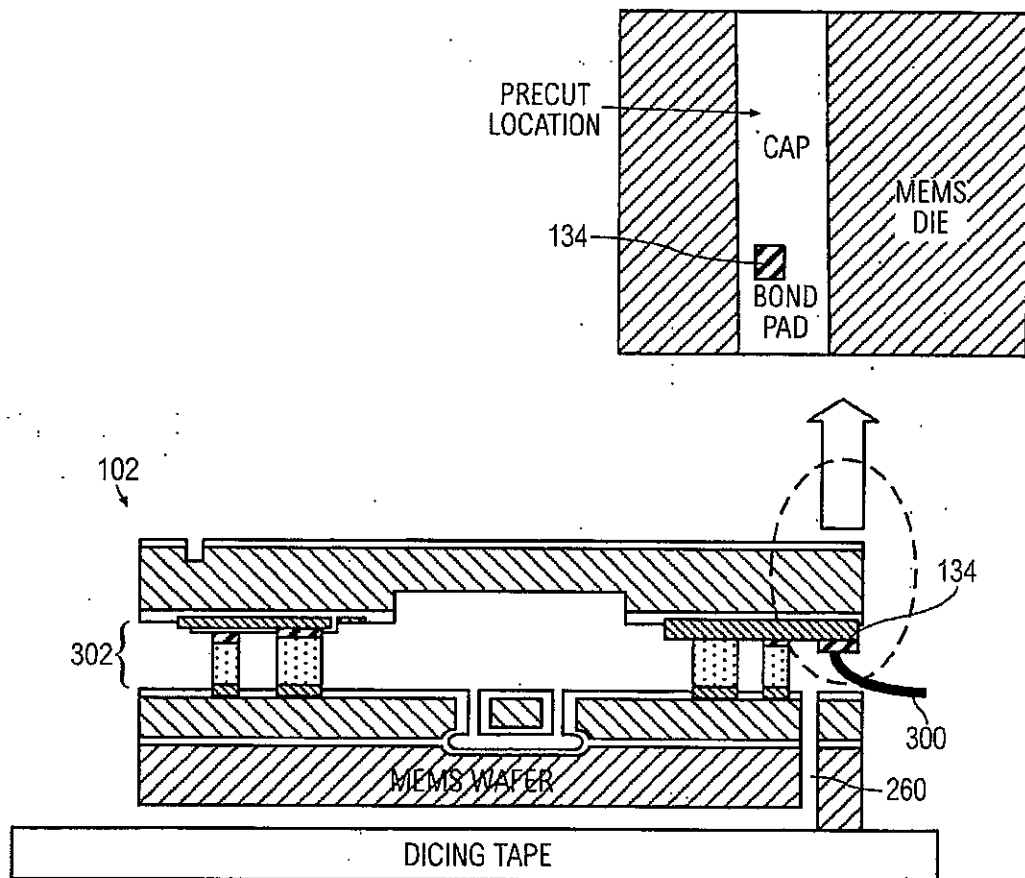
**FIGURE 8A****FIGURE 8B****FIGURE 8C**

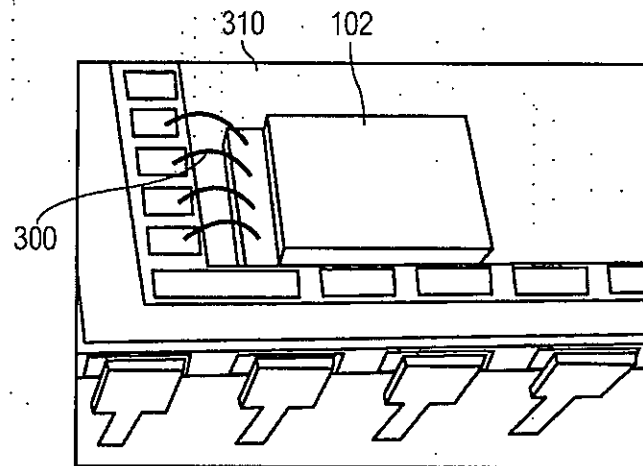
**FIGURE 9**

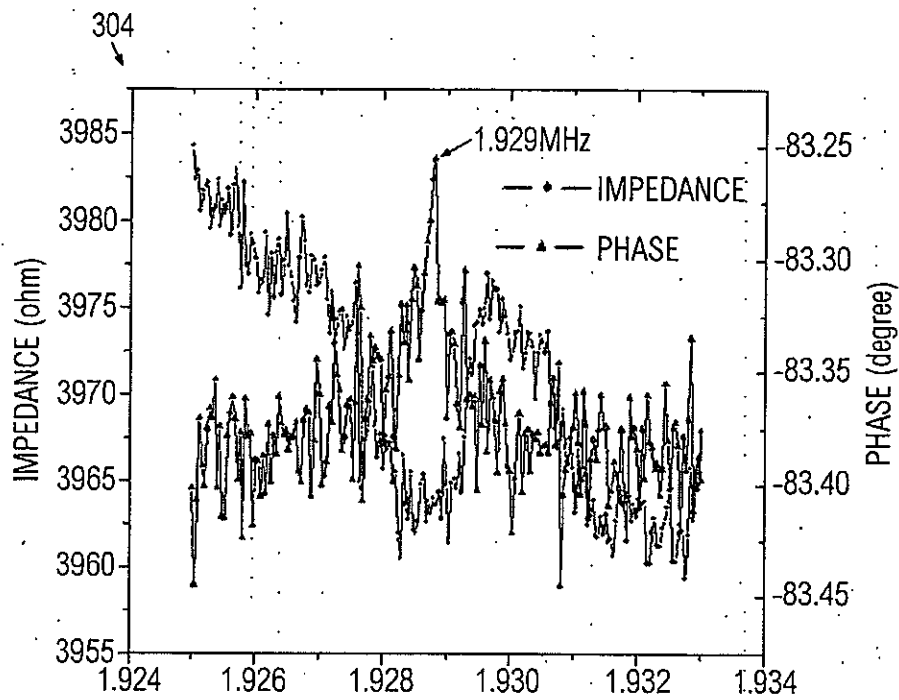
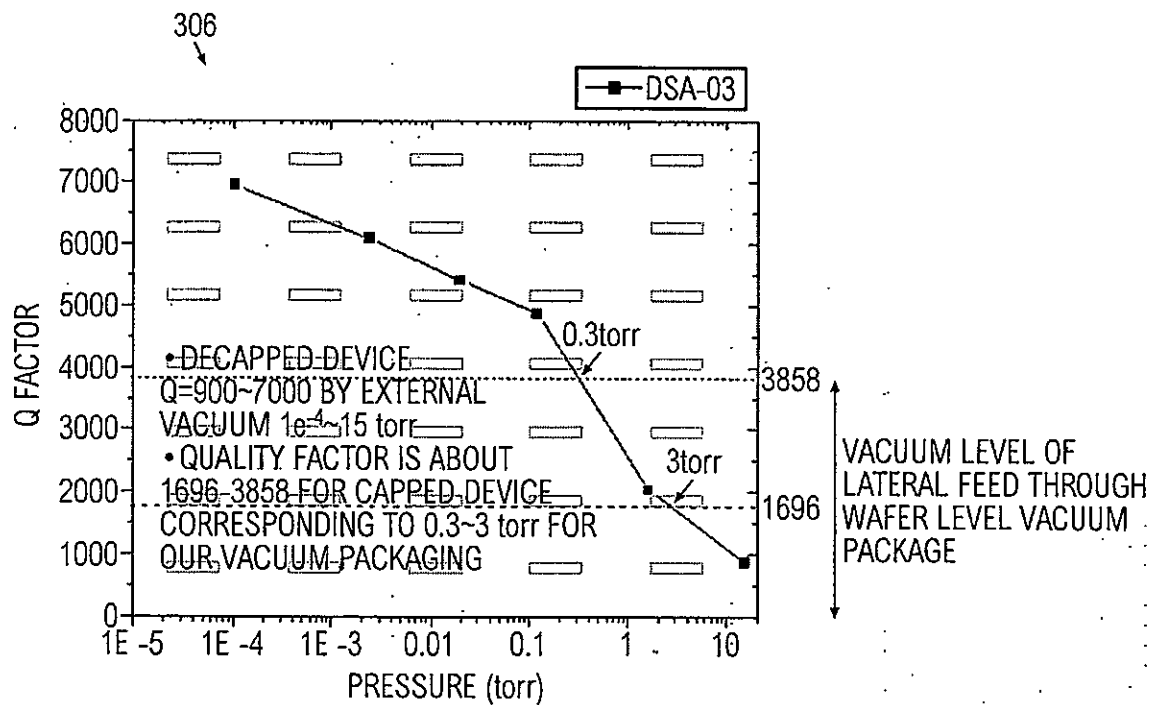
**FIGURE 10**

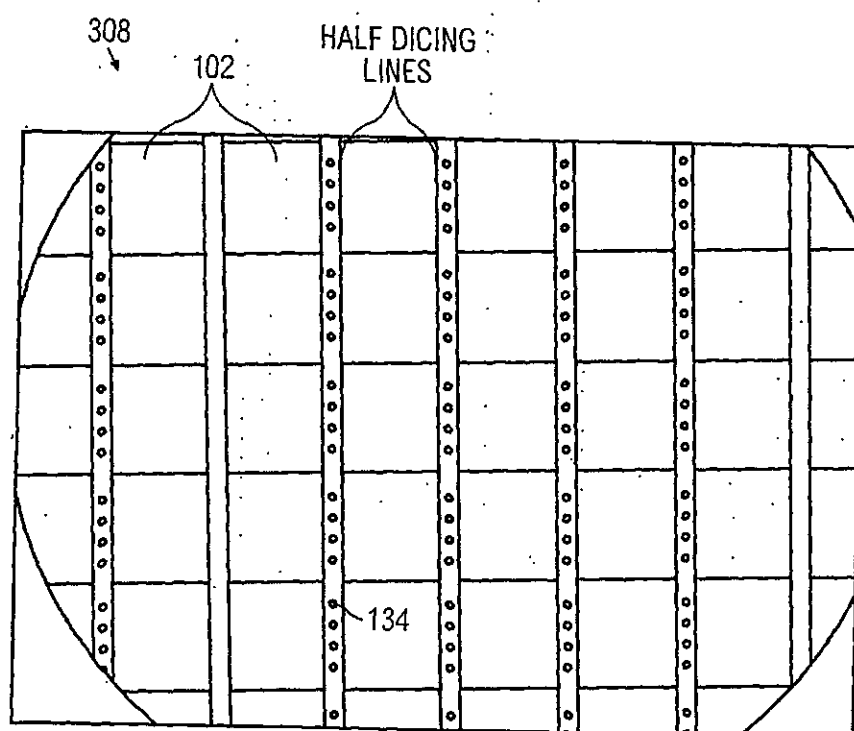
**FIGURE 11A****FIGURE 11B**

**FIGURE 12****FIGURE 13**

**FIGURE 14**

***FIGURE 15***

**FIG. 16****FIG. 17**

**FIG. 18**