

(74)

•

(54)

(15)
(12)

$$(18) \quad (10) \quad .$$

3

‘ , ‘ , ‘ , ‘ , ‘

chip) (solder bump)(2) IC (1) (3) 가 (1) (3) 1 C4 (flip (underfill) (4) (epoxy) (2) (4) (single line) (air void) (integrity) (delamination) 가

opening)

1

2a
 2b 2a
 3 2a 2b
 4a 4d 2a 2b

2a 2b 2a, 2b 3 (10) 1 (14) 2 (16) (12)
 (18) (20) (12) 1 (14) (20) (18)
 (controlled collapse chip connection)(C4)

(12) 2 (12) (12) (12)
 (20) (18) (12) (12)
 (organic dielectric material) (10) (12) 2 (16) (reflow)
 22) (22) (10) (10)

(12) 1 (14) (20) 2 (16) (routing trace),
 / (power/ground plane), (via) (12)
 (15) (15) (low stress area)
 (15) (15)

20 62mm (12) 가

(10) (18) (12) (24) (24) IC(
 18) 가 (edge) (24)
 IC(18) (seal process)

(24) (20) (24) (injection molded materi
 18) (encapsulant)() (thermal slug)
 al) (10) (18)가
 (thermal sink) ()

4a 4d (10) 4 (single
 pass four - sided dispensing process) (10) (15)

4 (15) (drilling) (lazing)
 (12) (oven)(28) (12)

(12) 163 (18) 4b (12) (18) (20)

(24) 4c 4d (dispensing station)(30) IC(18) 4 (2
 6a d) (24) 4c (24)가 IC(18) 4 (26a d) (underfi
 lled) IC (18) (flow) 4d (15)

(24) IC(18) 4 IC(18) 4 IC(18)
 , 4 , IC(18)
 (24) / (24) 가 IC(18) (24)
 / (24) (12) 가 가 (24) 80 120
 (process yield)

가 (gelling)

(24) (24) (24) 150 (10)

IC(18) 4 (24)가 (12)
(15)
(24)가 (24)
(24)
(infra red)(IR) / 가 (convective heating)
(15) 4
(15) IR BTU
(underfill process develo
pment)
가

(57)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

4 가 4 (sin
gle pass dispensing pattern)

- 10.
- 11.
- 12.
- 13.

9

9

(lazing)

- 14.

9

- 15.

9

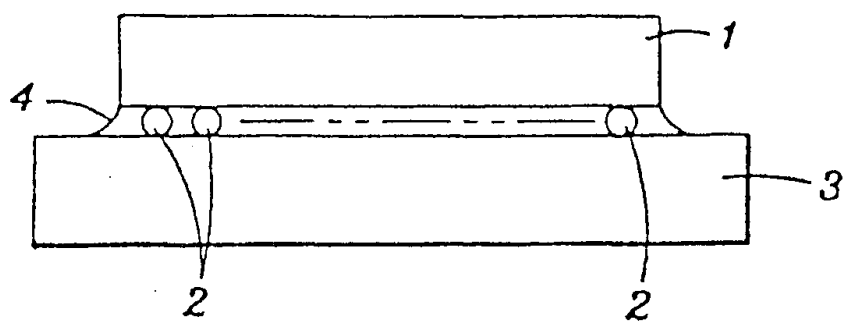
- 16.

9

17.
9 ,
18.
9 ,
19.
20.

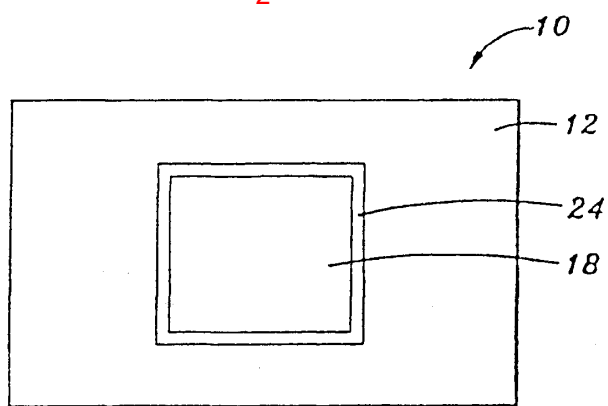
가
가

1

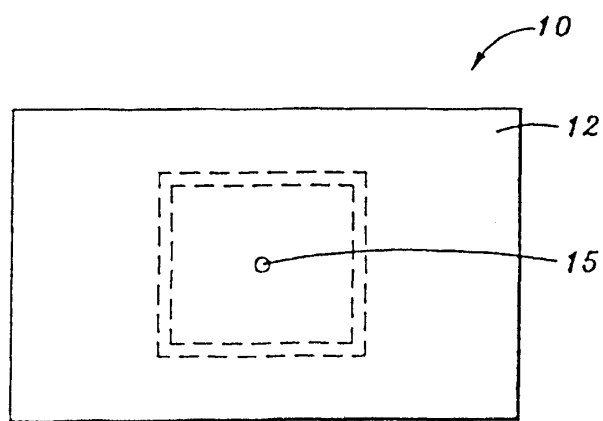


2

(a)



(b)



3

