FIG.1

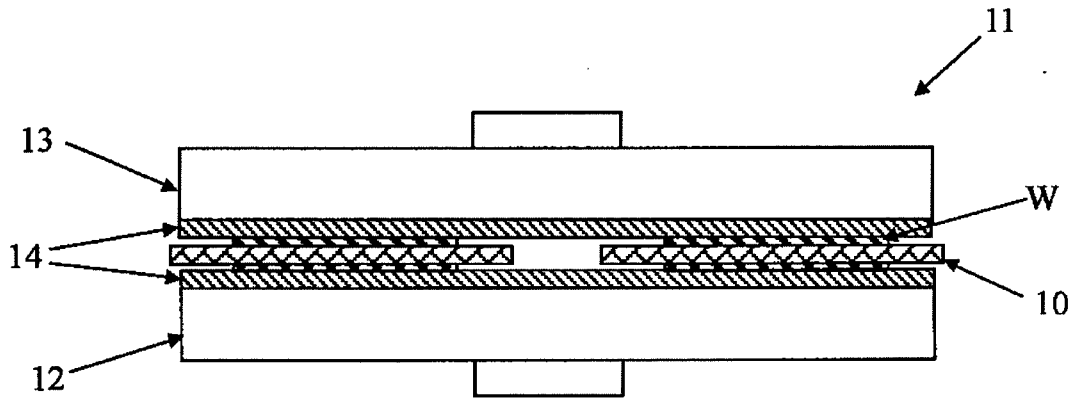


FIG.2

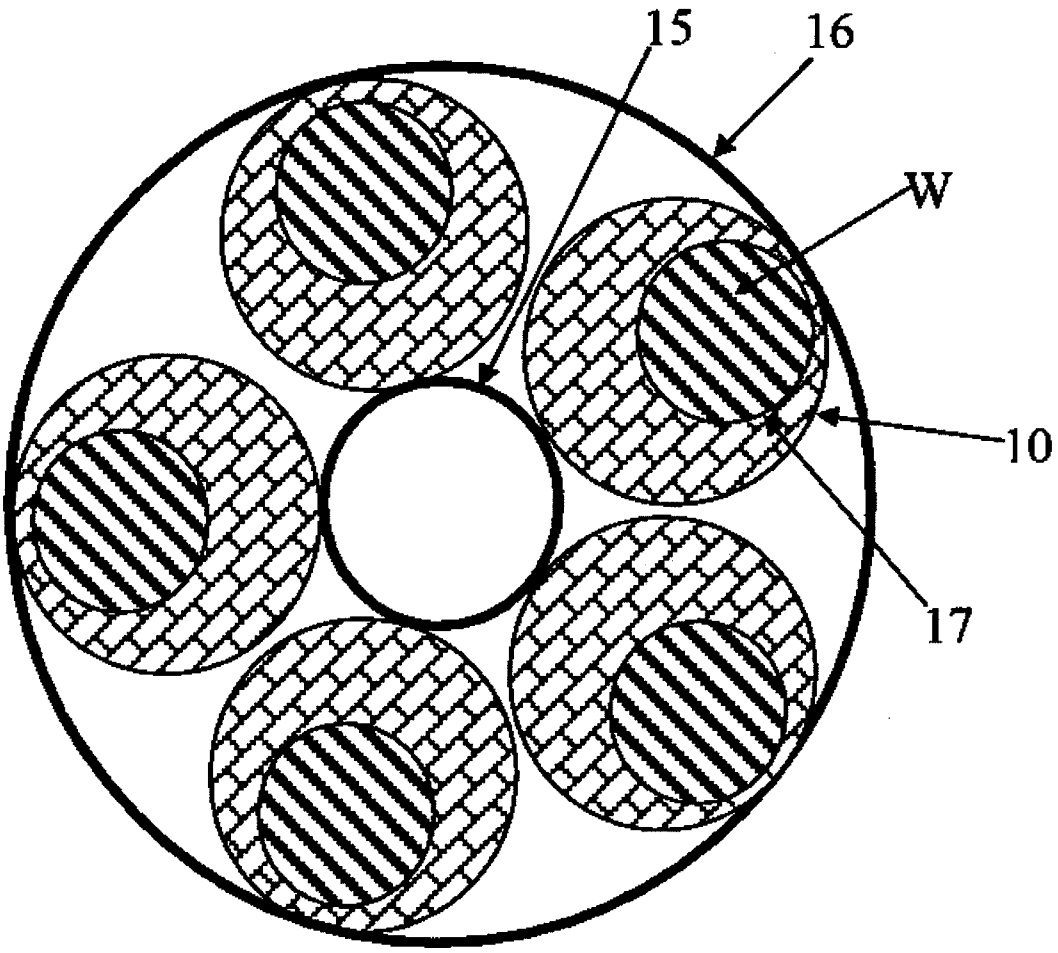


FIG.3

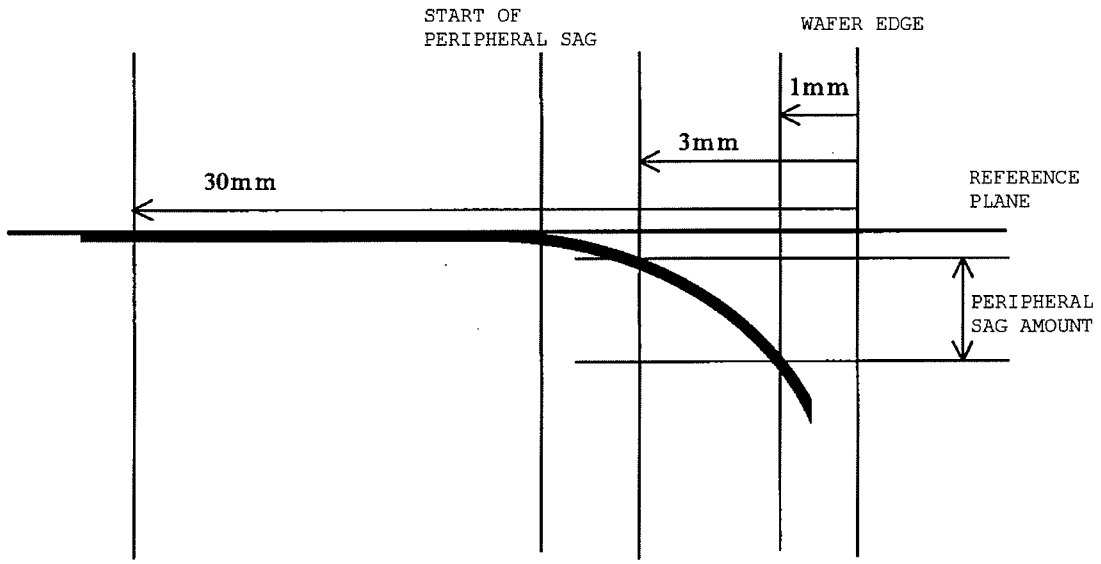

START OF
PERIPHERAL SAG
WAFER EDGE
1mm
3mm
30mm
REFERENCE
PLANE
PERIPHERAL
SAG AMOUNT

FIG.4

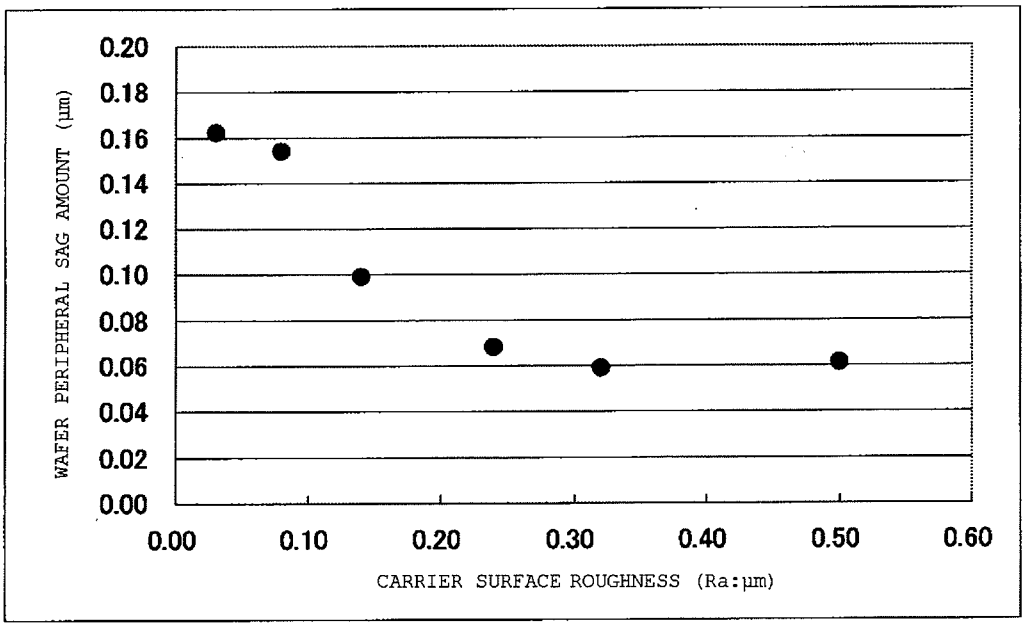

WAFER PERIPHERAL SAG AMOUNT (μm)
0.20
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0.00
0.10
0.20
0.30
0.40
0.50
0.60
CARRIER SURFACE ROUGHNESS (Ra:μm)

FIG.5

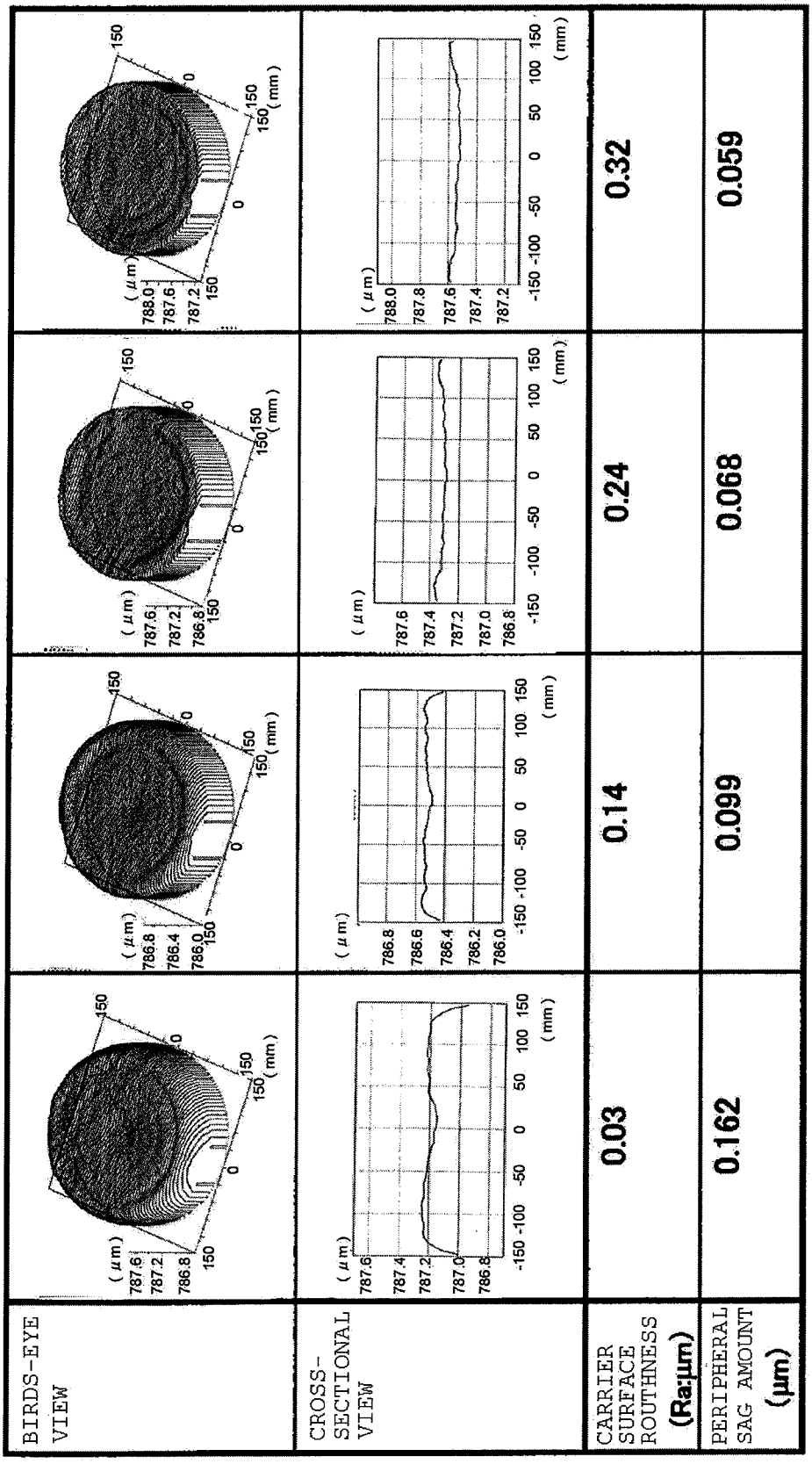

BIRDS-EYE VIEW
CROSS-SECTIONAL VIEW
CARRIER SURFACE ROUTHNESS (Ra:μm)
PERIPHERAL SAG AMOUNT (μm)
0.03
0.14
0.24
0.32
0.162
0.099
0.068
0.059

FIG.6

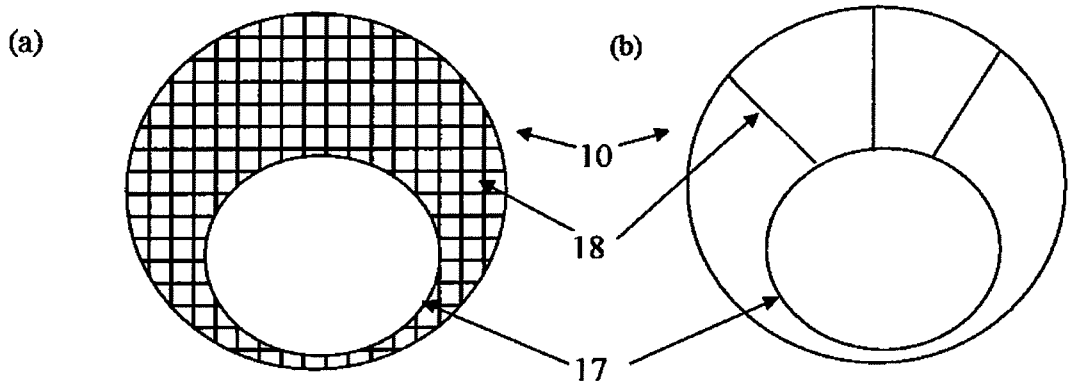

(a)
(b)
10
18
17

FIG.7

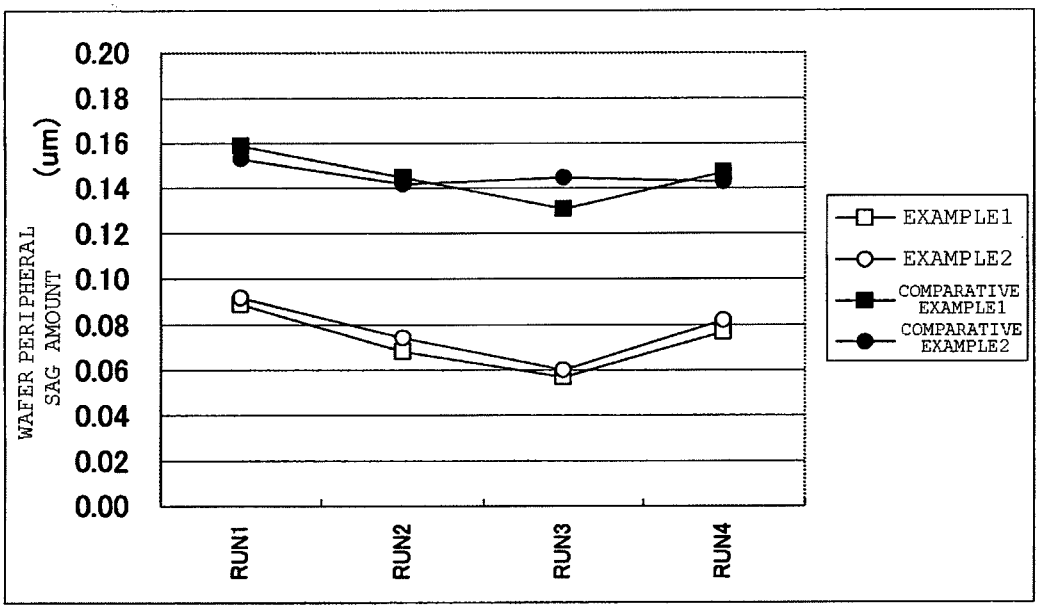

WAFER PERIPHERAL SAG AMOUNT (um)
0.20
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
RUN1
RUN2
RUN3
RUN4
EXAMPLE1
EXAMPLE2
COMPARATIVE EXAMPLE1
COMPARATIVE EXAMPLE2

FIG.8

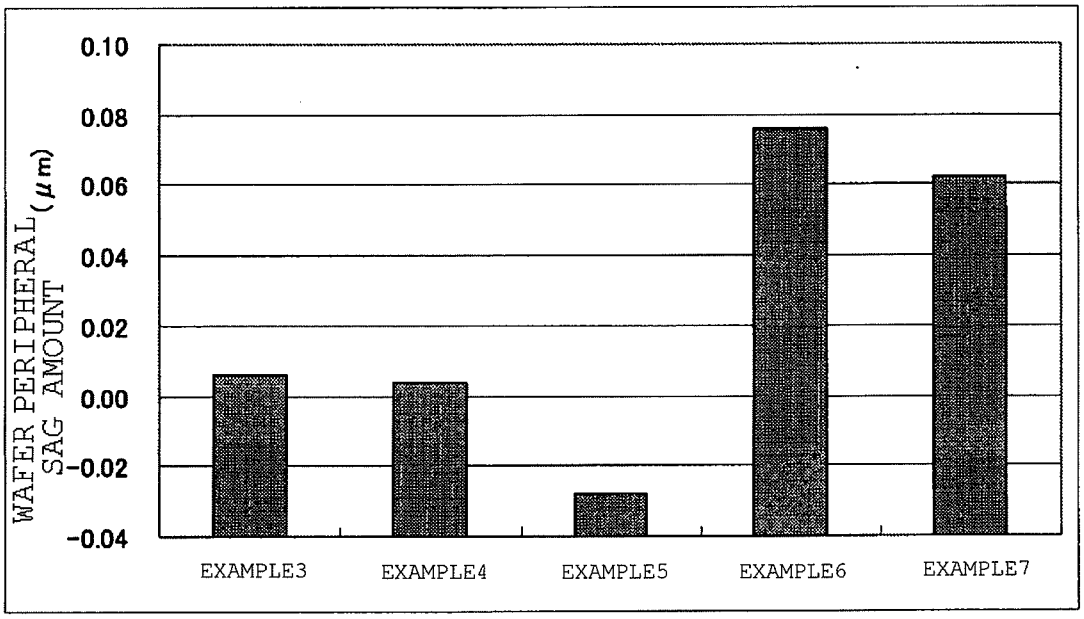
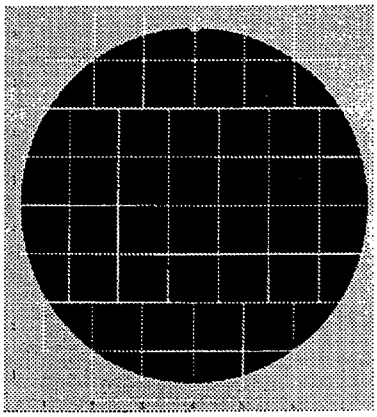
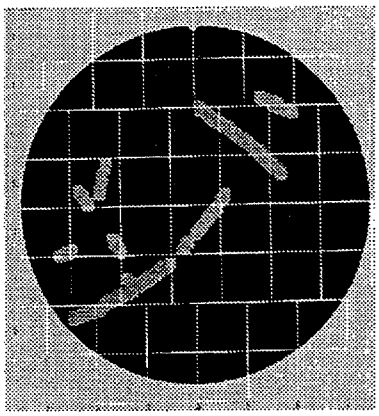


FIG.9

	EXAMPLE8	COMPALRATIVE EXAMPLE3
SCRATCH OCCURENCE PATTERN