FIG. 1

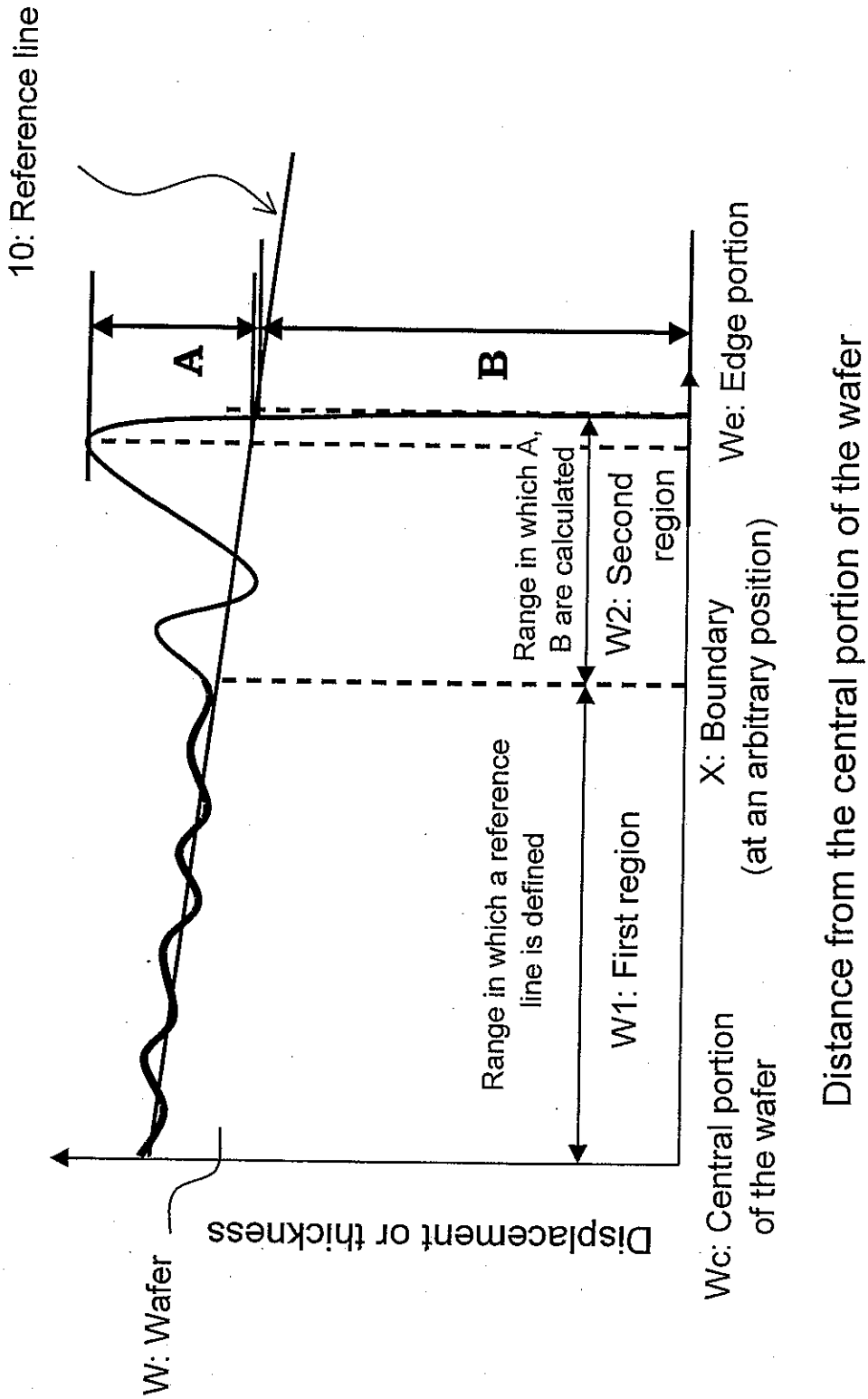

10: Reference line
A
B
Range in which A, B are calculated
W2: Second region
Range in which a reference line is defined
W1: First region
X: Boundary (at an arbitrary position)
We: Edge portion
Wc: Central portion of the wafer
W: Wafer
Displacement or thickness
Distance from the central portion of the wafer

FIG. 2

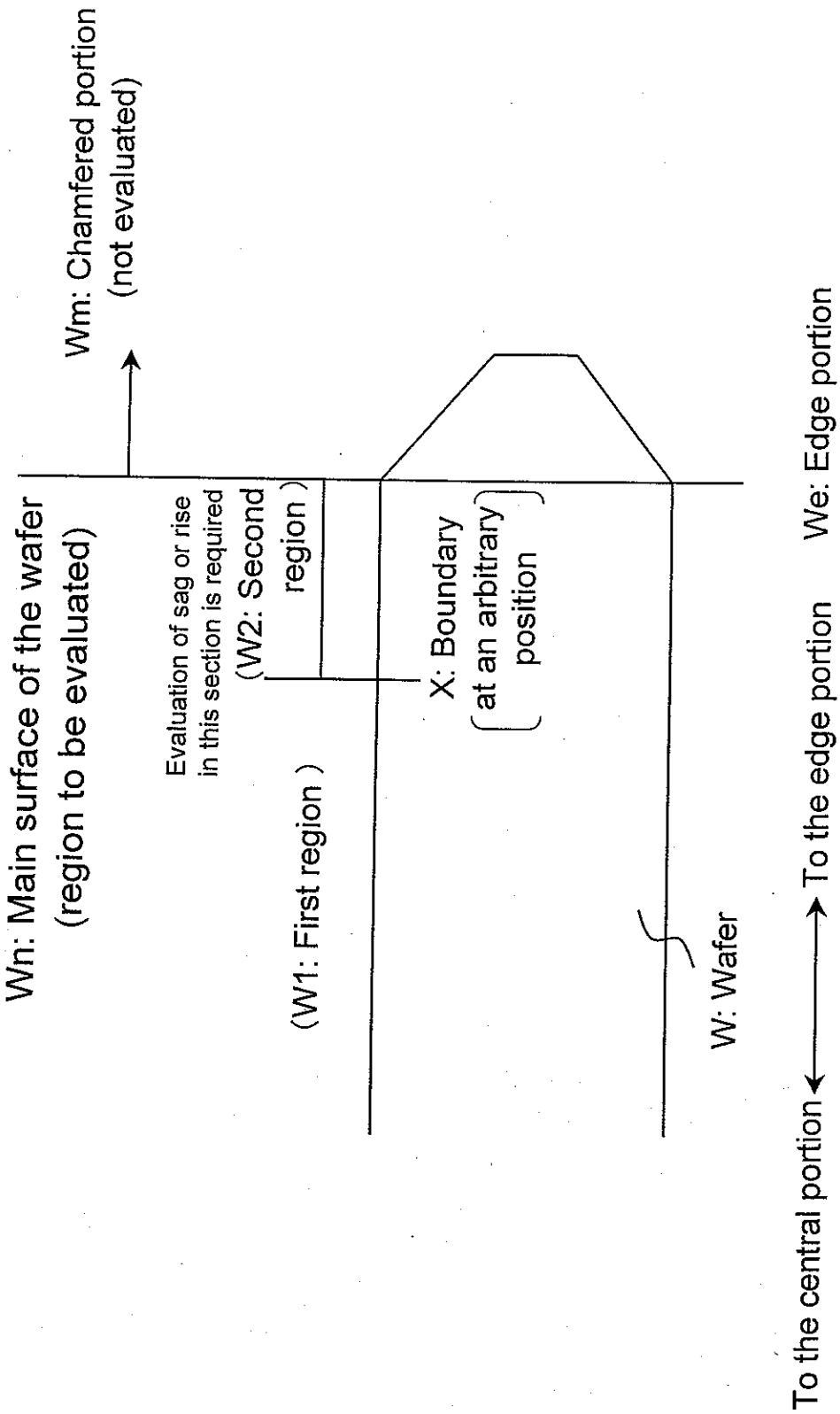

Wm: Chamfered portion
(not evaluated)
Wn: Main surface of the wafer
(region to be evaluated)
Evaluation of sag or rise
in this section is required
(W2: Second
region)
(W1: First region)
X: Boundary
at an arbitrary
position
W: Wafer
To the central portion
To the edge portion
We: Edge portion

FIG. 3

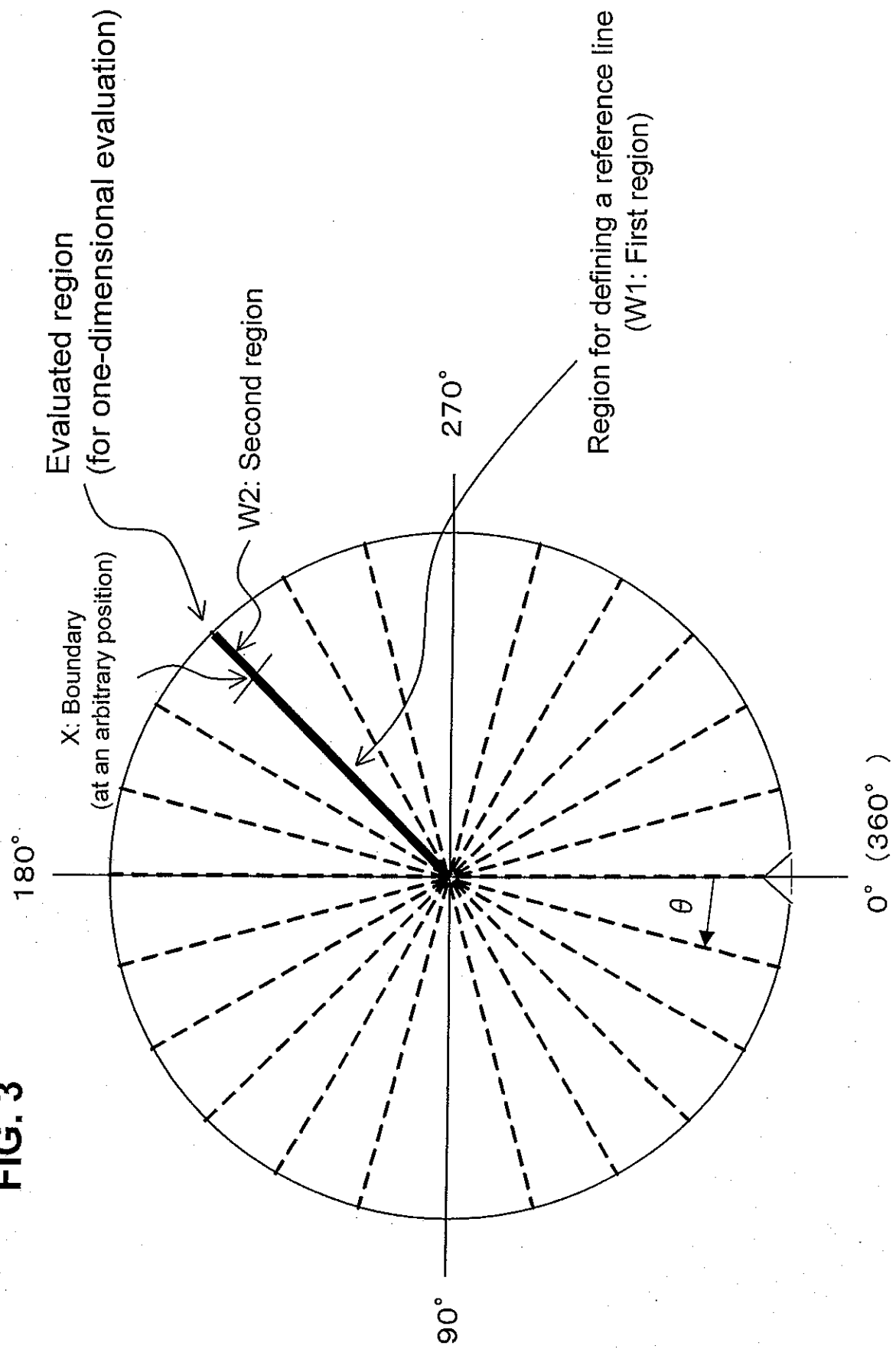

Evaluated region
(for one-dimensional evaluation)
W2: Second region
Region for defining a reference line
(W1: First region)
X: Boundary
(at an arbitrary position)
180°
270°
0° (360°)
90°
θ

FIG. 4

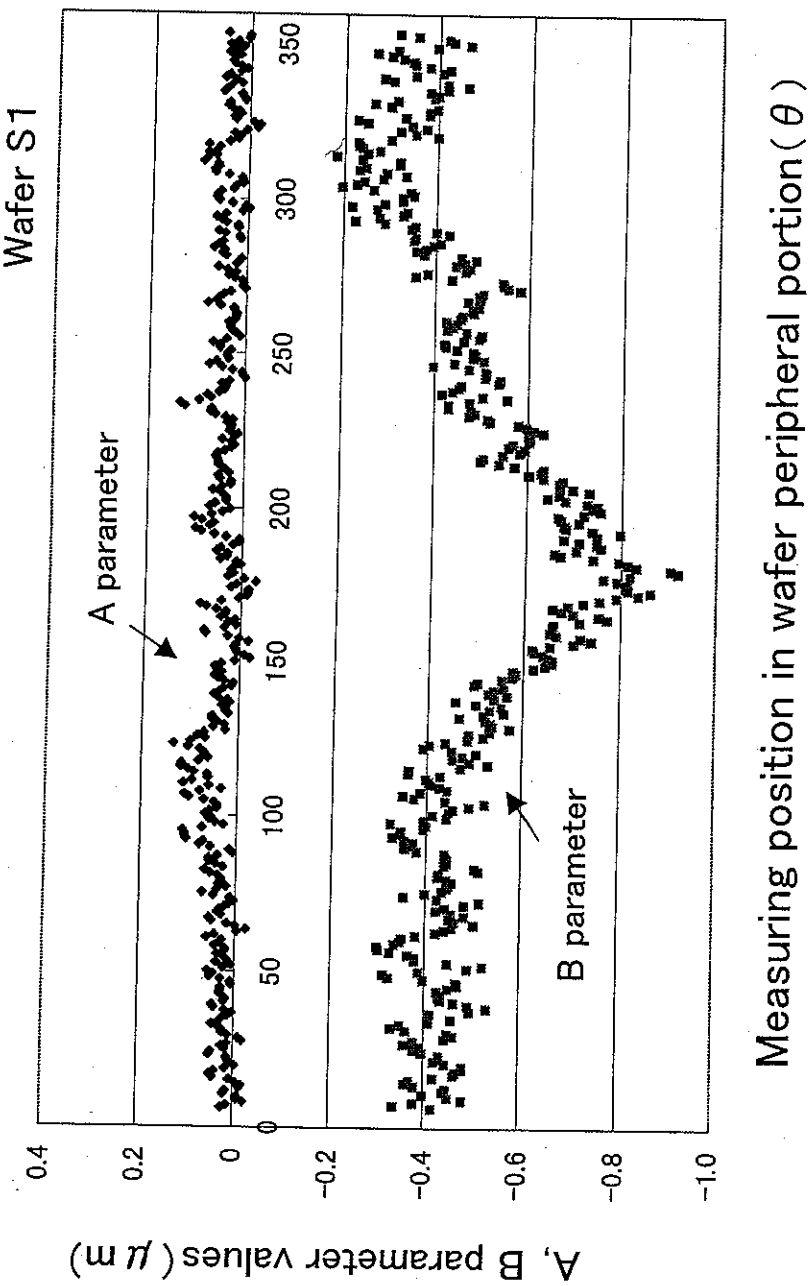

Wafer S1
A parameter
B parameter
A, B parameter values (μ m)
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1.0
0
50
100
150
200
250
300
350
Measuring position in wafer peripheral portion (θ)

FIG. 5

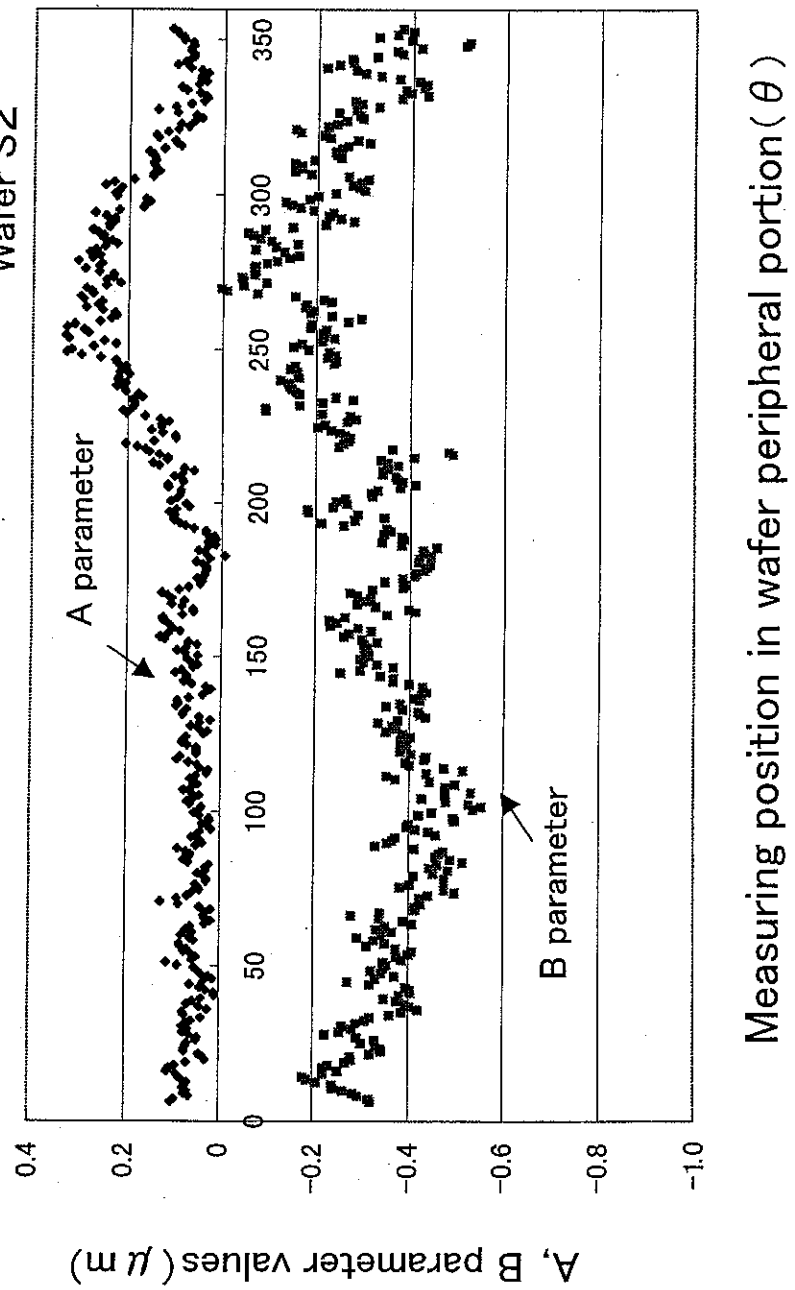

Wafer S2
A parameter
B parameter
A, B parameter values (μm)
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1.0
0
50
100
150
200
250
300
350
Measuring position in wafer peripheral portion (θ)

FIG. 6

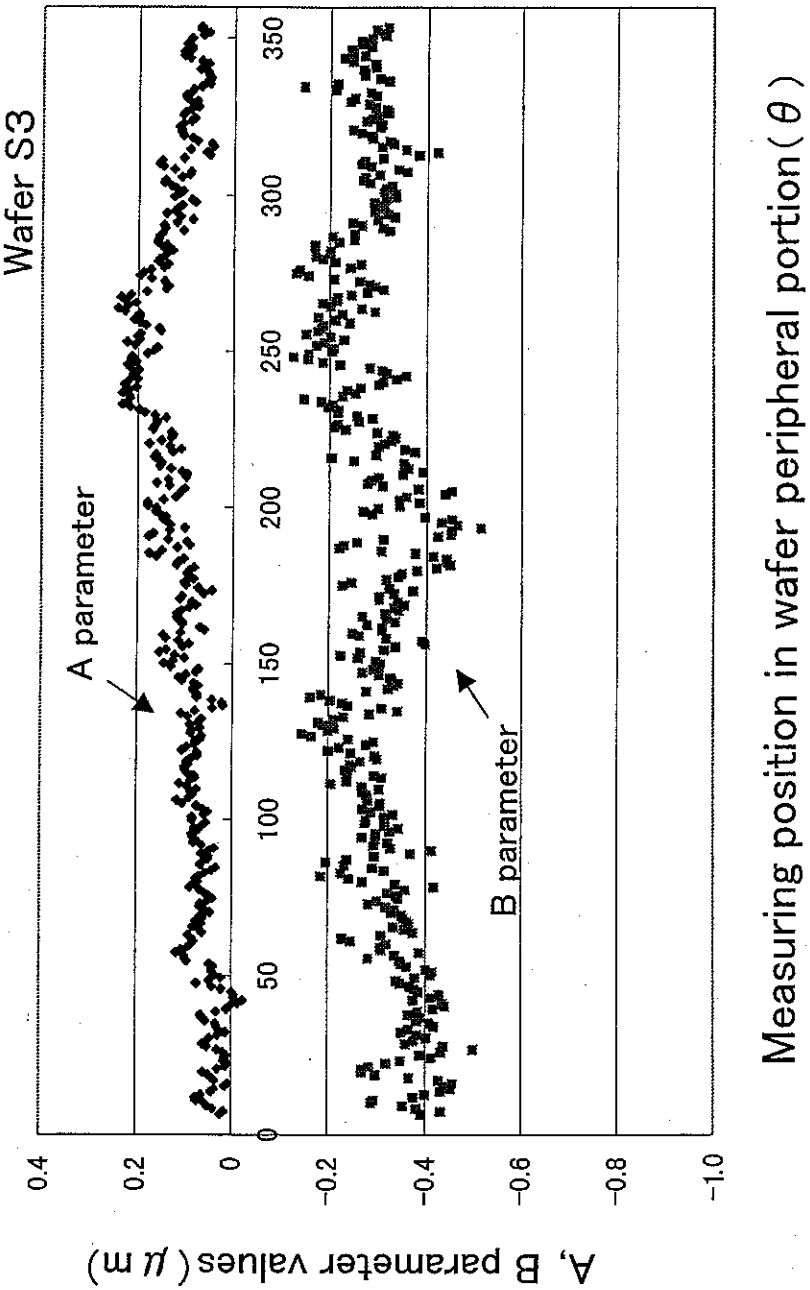

Wafer S3
A parameter
B parameter
A, B parameter values (μm)
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1.0
0
50
100
150
200
250
300
350
Measuring position in wafer peripheral portion (θ)

FIG. 7

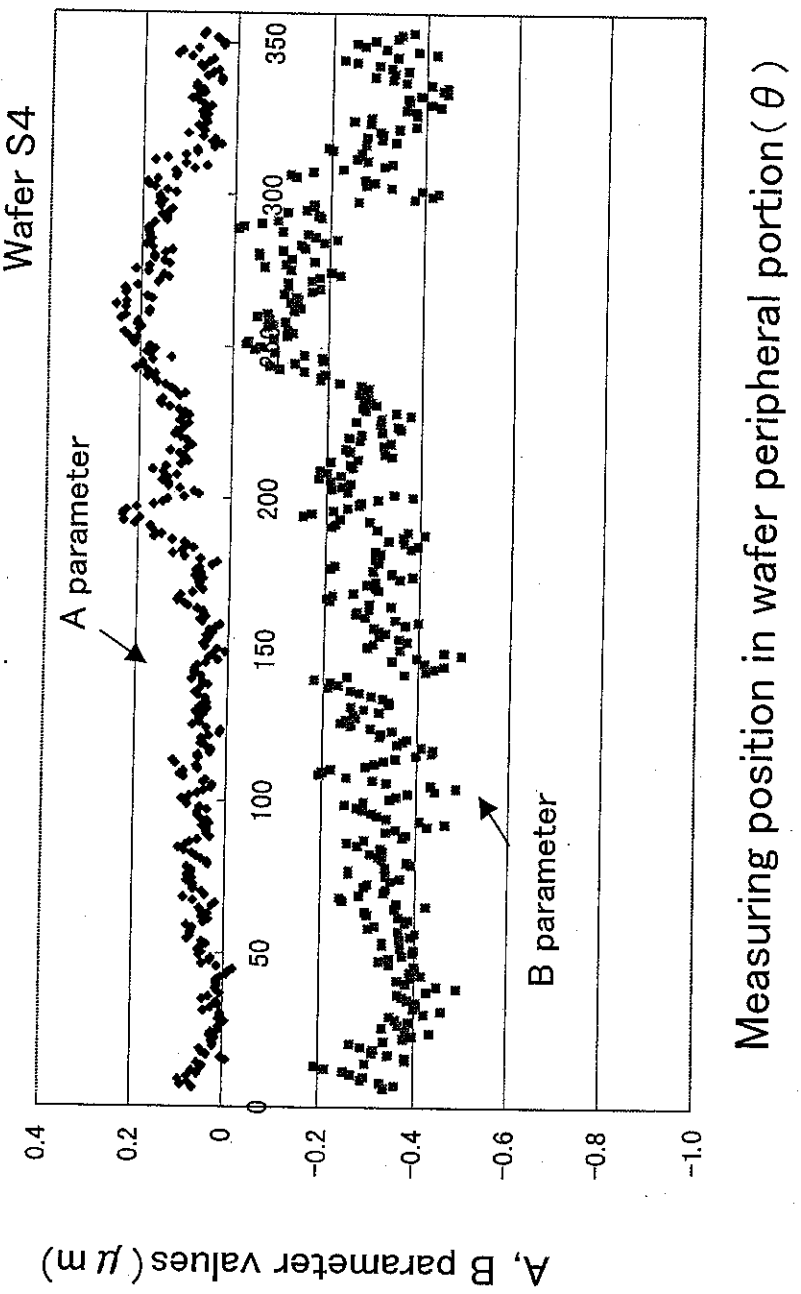

Wafer S4
A parameter
B parameter
A, B parameter values (μm)
Measuring position in wafer peripheral portion (θ)
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1.0
0
50
100
150
200
250
300
350

FIG. 8

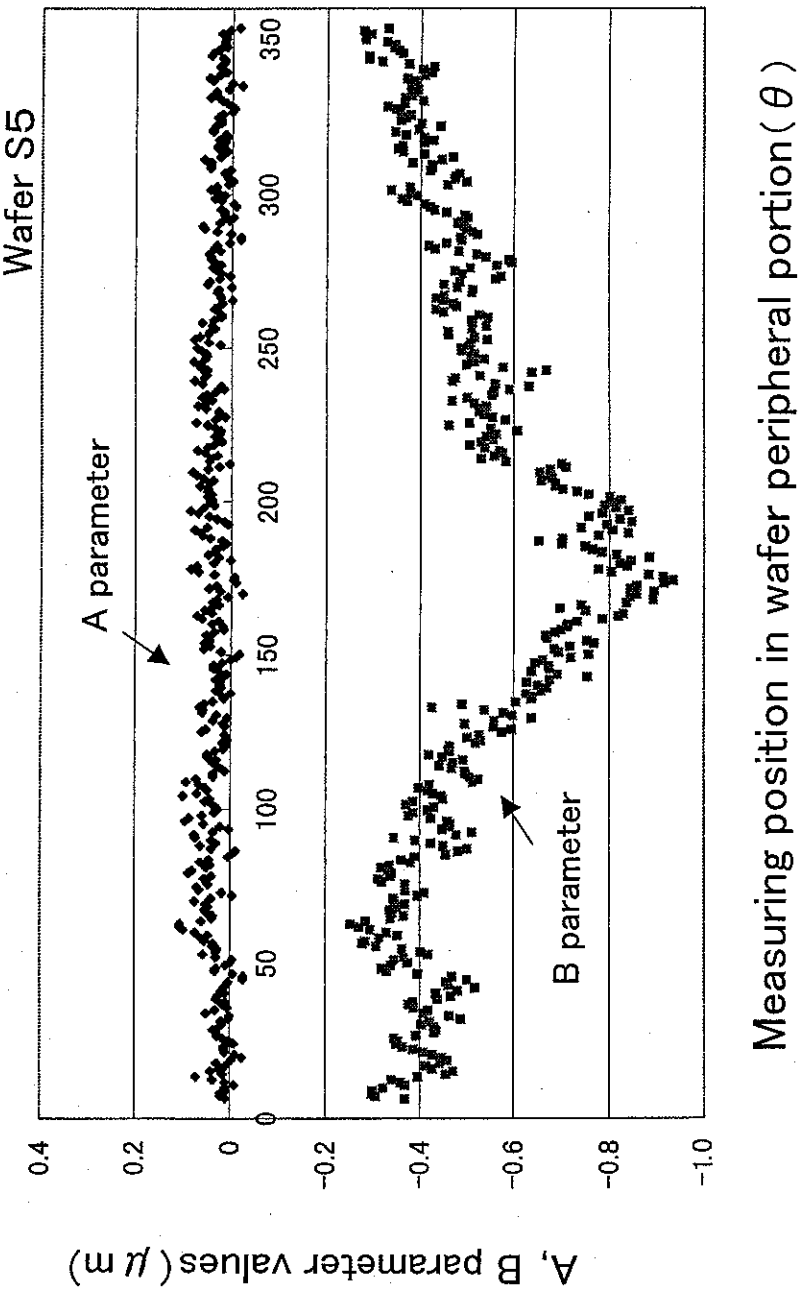

Wafer S5
A parameter
B parameter
A, B parameter values (μm)
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1.0
0
50
100
150
200
250
300
350
Measuring position in wafer peripheral portion (θ)

FIG. 9

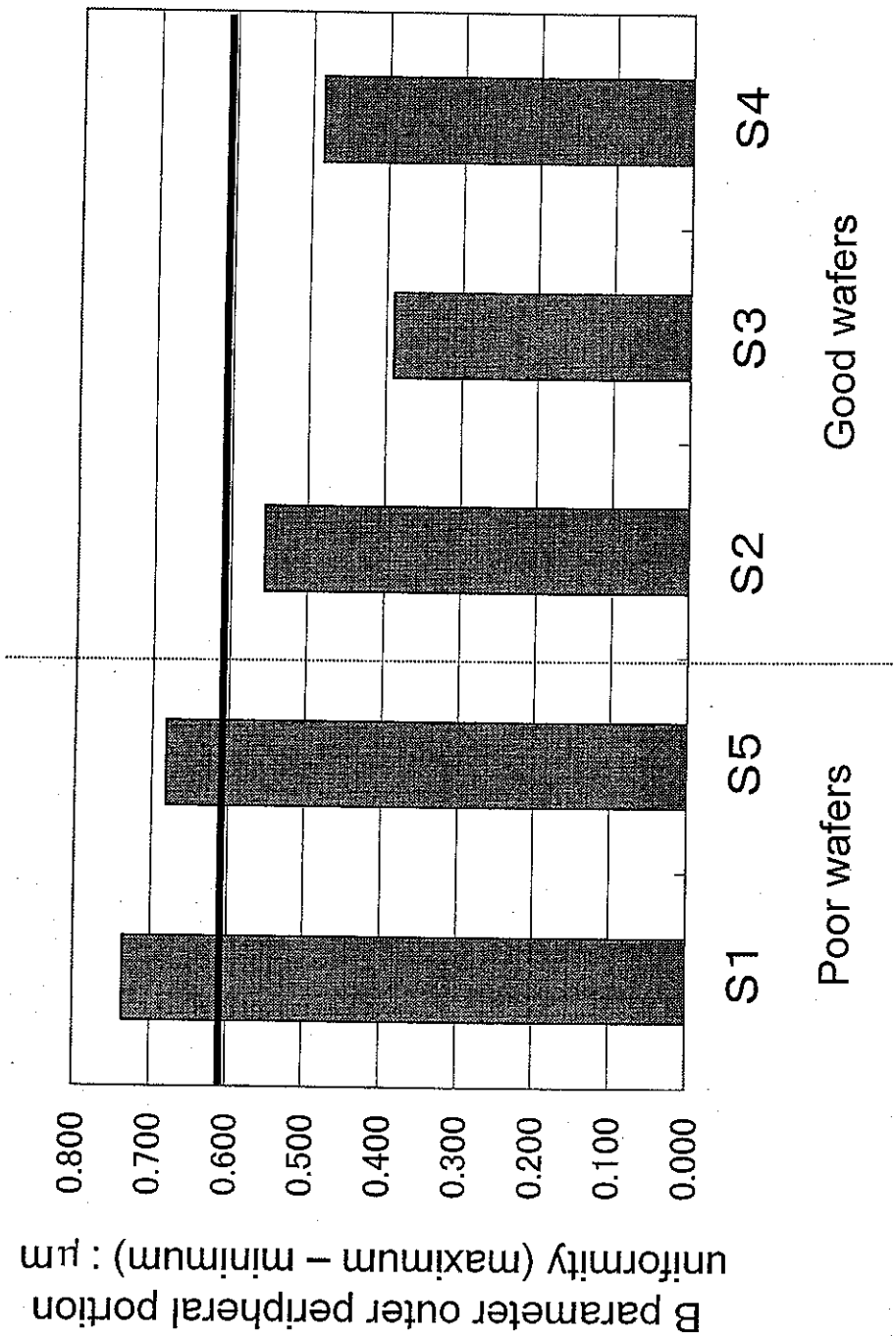

B parameter outer peripheral portion uniformity (maximum – minimum) : μm
0.800
0.700
0.600
0.500
0.400
0.300
0.200
0.100
0.000
S1
S5
S2
S3
S4
Poor wafers
Good wafers

FIG. 10

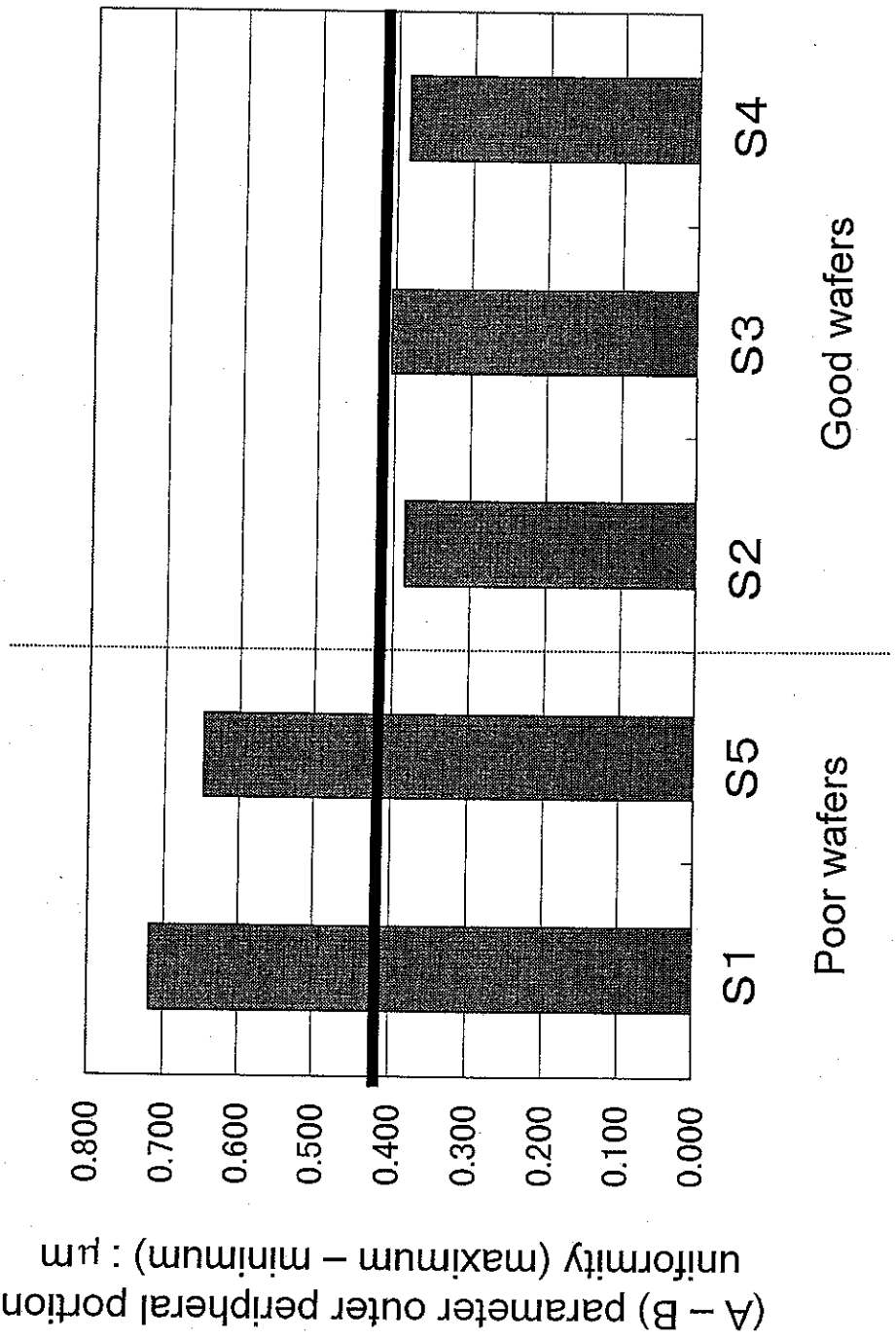

(A – B) parameter outer peripheral portion
uniformity (maximum – minimum) : μm
0.800
0.700
0.600
0.500
0.400
0.300
0.200
0.100
0.000
S1
S5
S2
S3
S4
Poor wafers
Good wafers

FIG. 11

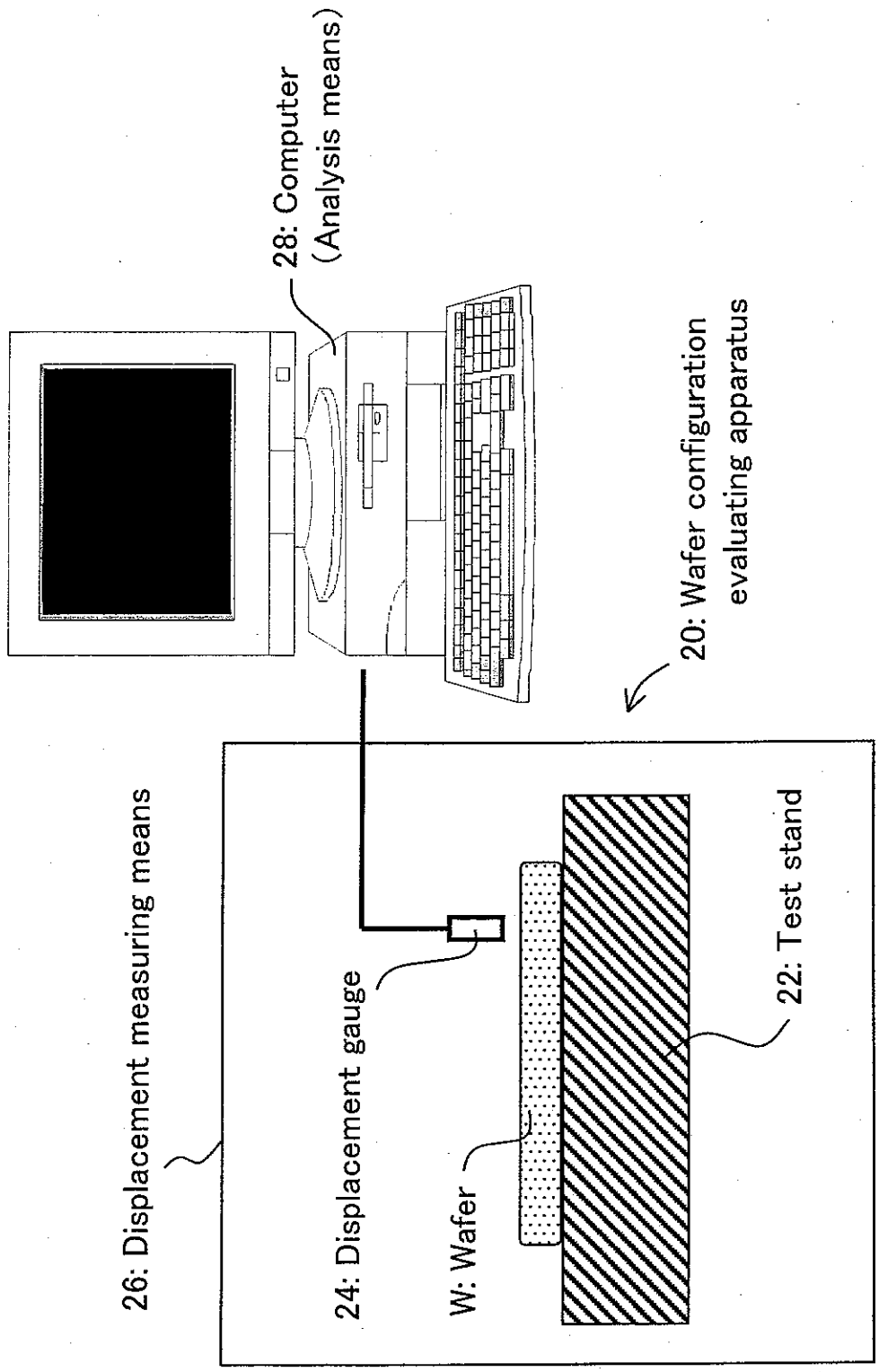
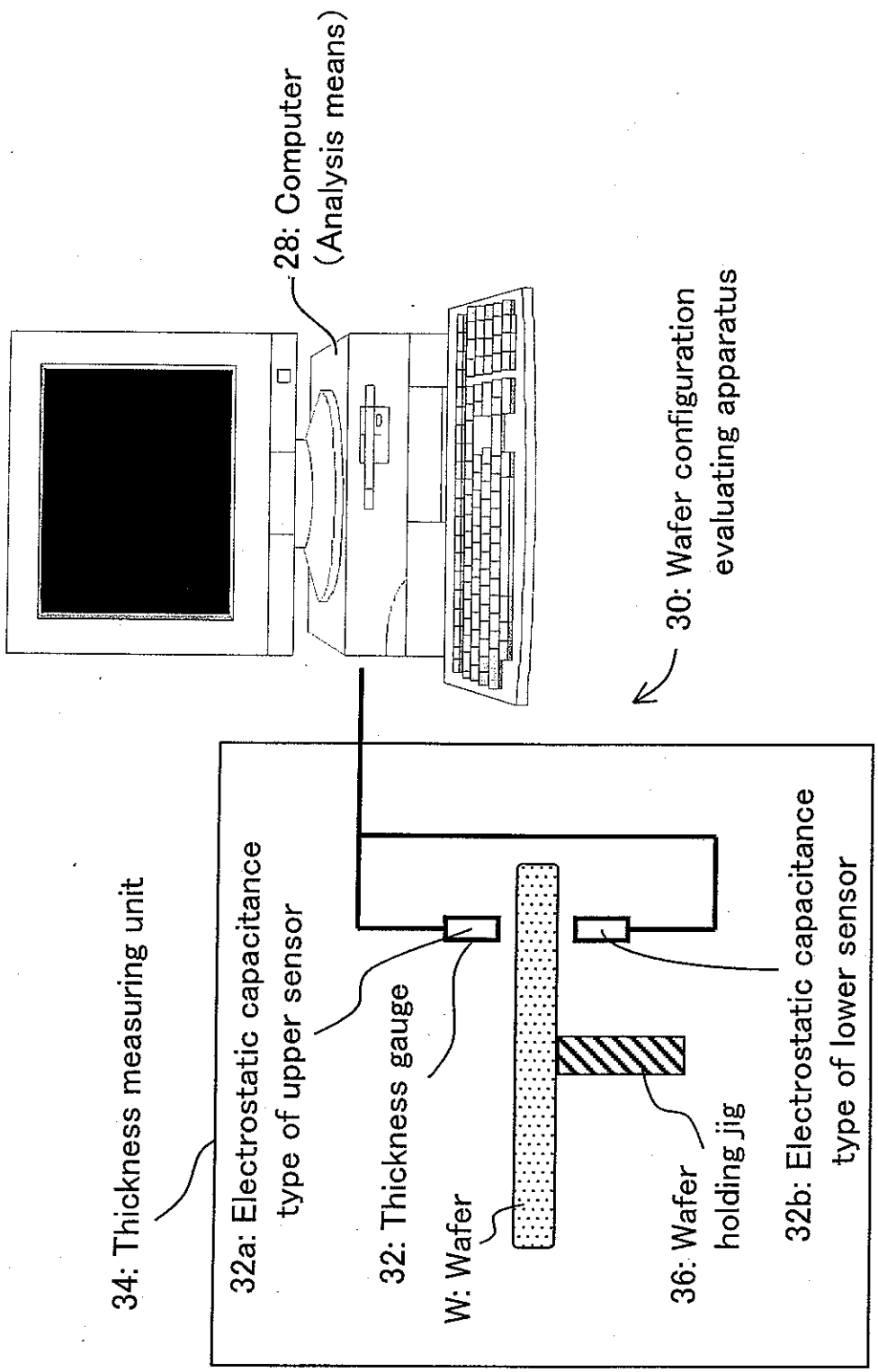

28: Computer
(Analysis means)
20: Wafer configuration
evaluating apparatus
26: Displacement measuring means
24: Displacement gauge
W: Wafer
22: Test stand

FIG. 12


28: Computer
(Analysis means)
30: Wafer configuration
evaluating apparatus
34: Thickness measuring unit
32a: Electrostatic capacitance
type of upper sensor
32: Thickness gauge
W: Wafer
36: Wafer
holding jig
32b: Electrostatic capacitance
type of lower sensor