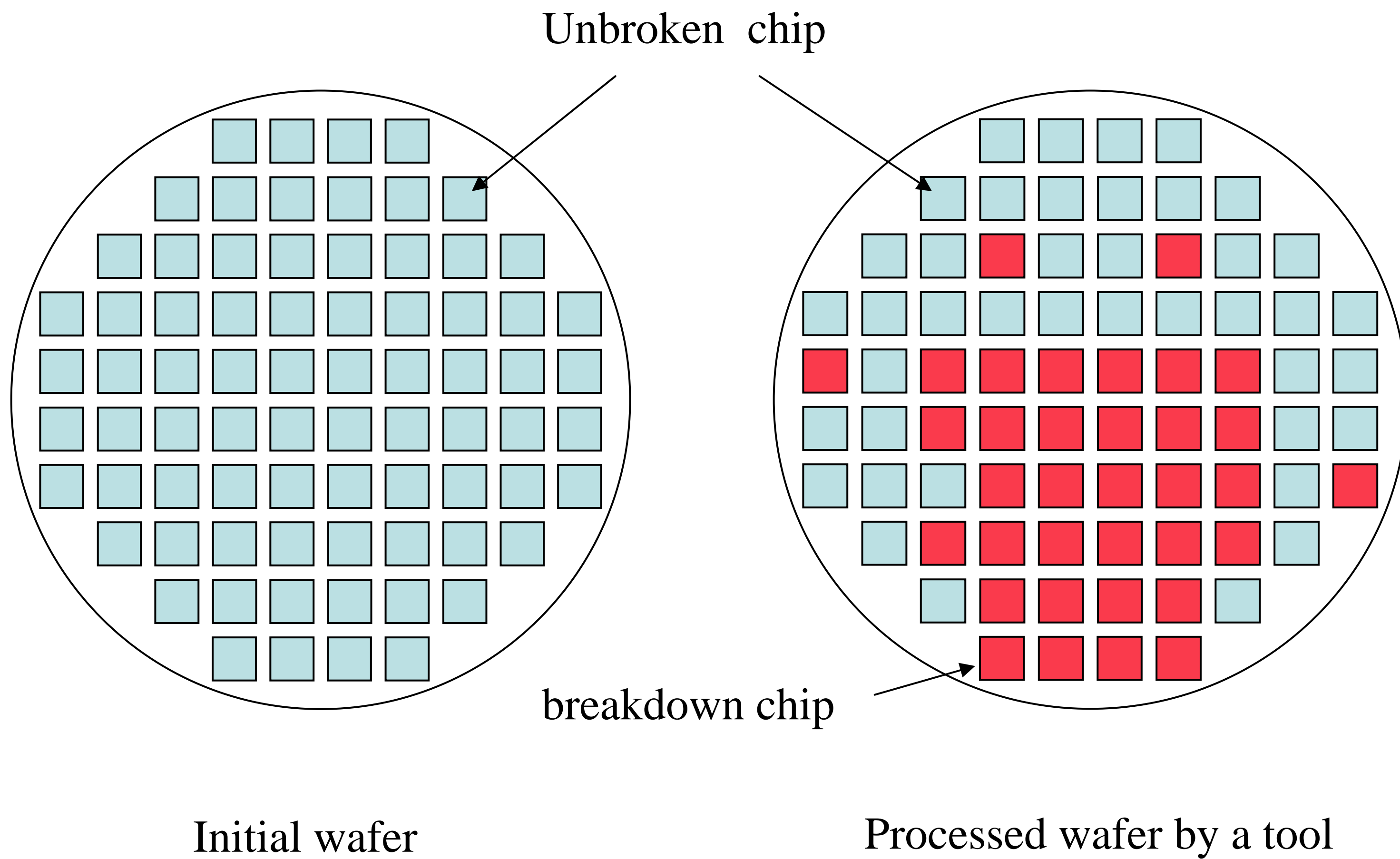
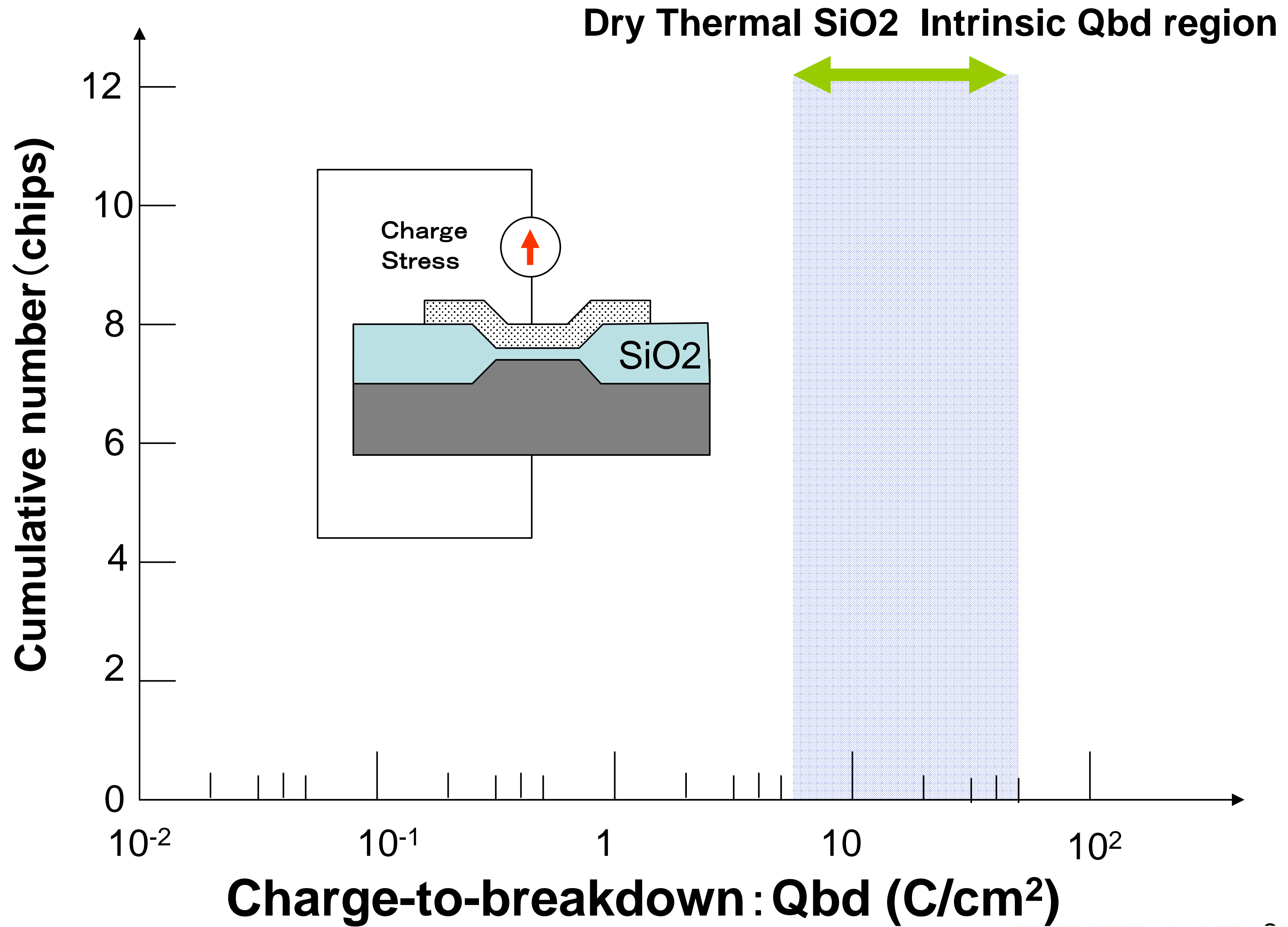
Charge-up damage Monitor TEG for Process Yield Security

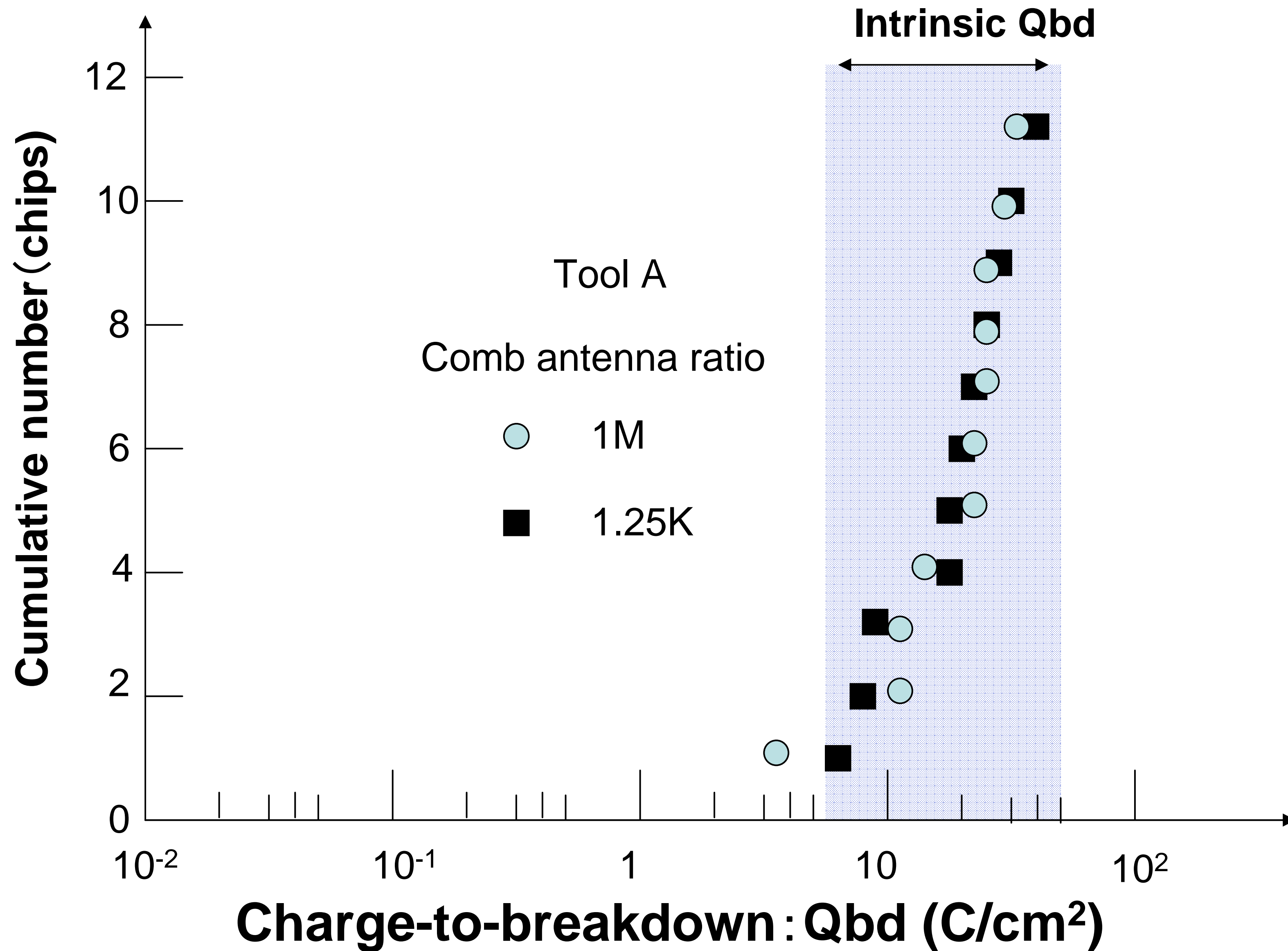
YST



Service by YST: breakdown chip map


Dry Thermal SiO2 Intrinsic Qbd region
Cumulative number (chips)
12
10
8
6
4
2
0
Charge
Stress
SiO2
10^{-2}
10^{-1}
1
10
10^{2}
Charge-to-breakdown : Qbd (C/cm²)

Service by YST: Measured Qbd as a damage figure



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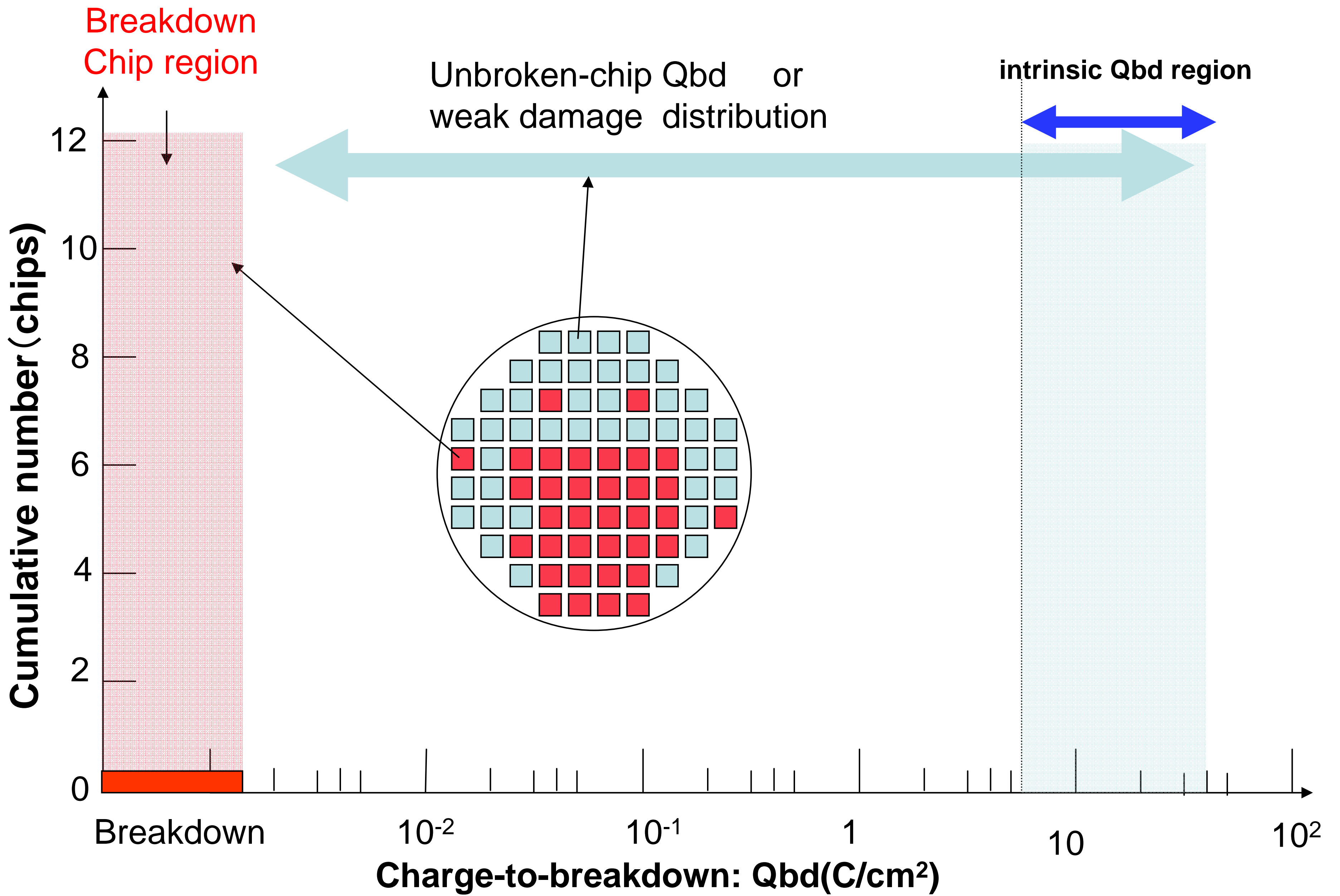
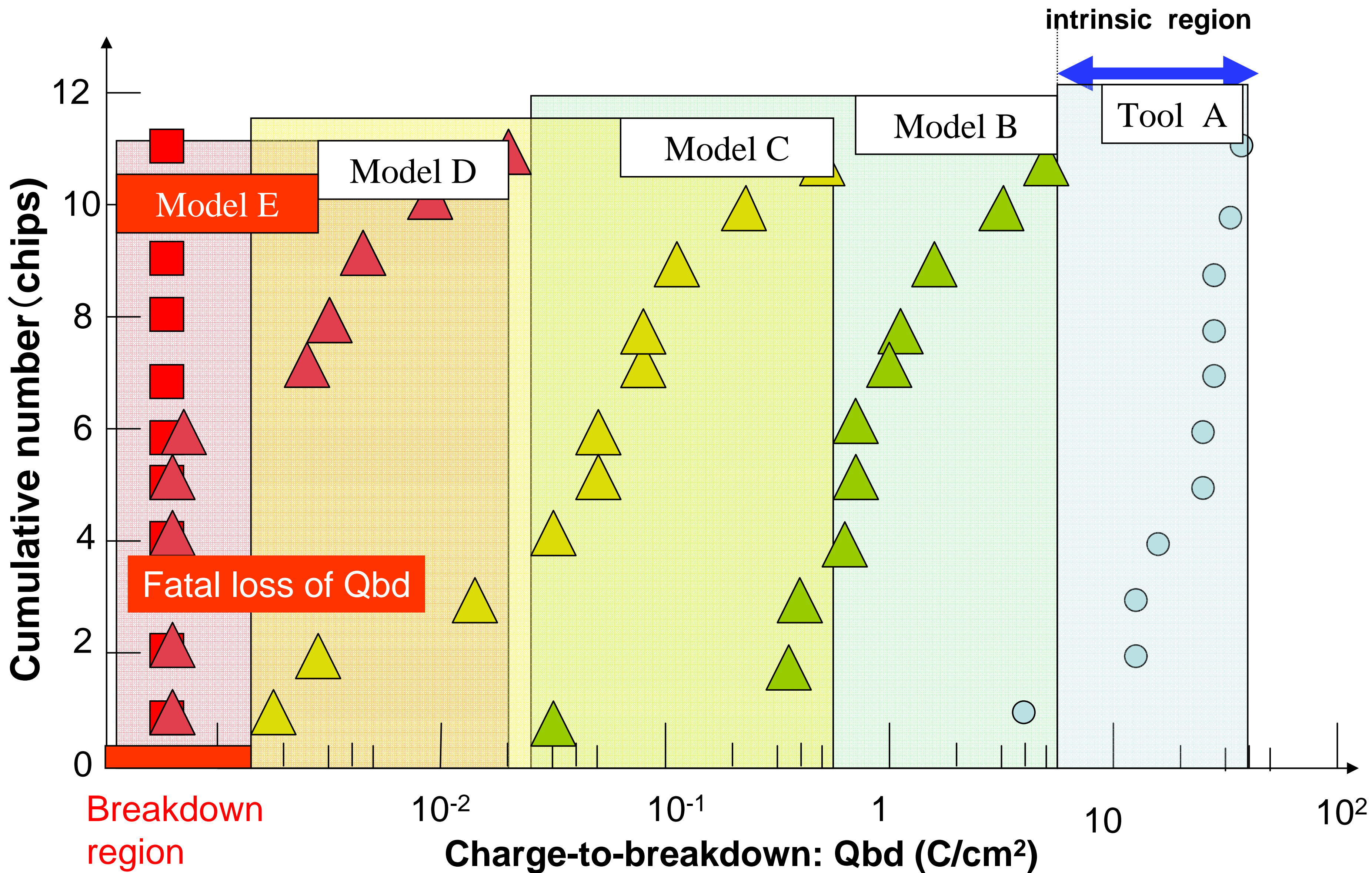

Breakdown
Chip region
Unbroken-chip Qbd or
weak damage distribution
intrinsic Qbd region
Cumulative number (chips)
12
10
8
6
4
2
0
Breakdown
10^{-2}
10^{-1}
1
10
10^{2}
Charge-to-breakdown: Qbd(C/cm^2)


Qbd loss as a damage figure by Philtech 300mm YST
intrinsic region
Tool A
Model B
Model C
Model D
Model E
Fatal loss of Qbd
Cumulative number (chips)
12
10
8
6
4
2
0
Breakdown
region
10-2
10-1
1
10
102
Charge-to-breakdown: Qbd (C/cm2)
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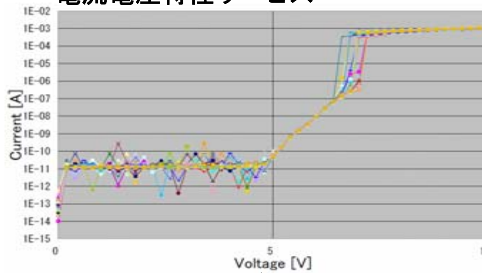
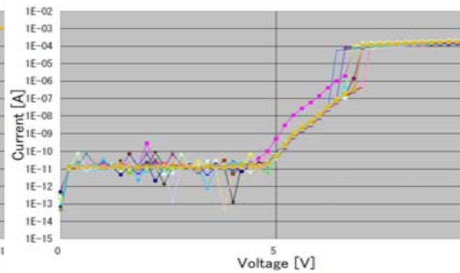
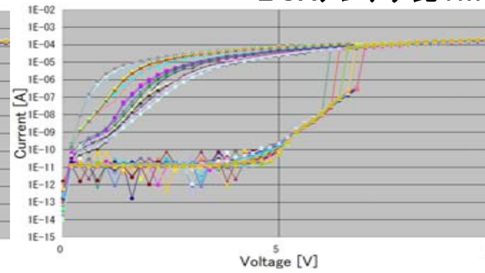
フィルテックのチャージダメージ評価サービスメニュー

ダメージ信頼性の装置性能比較の評価

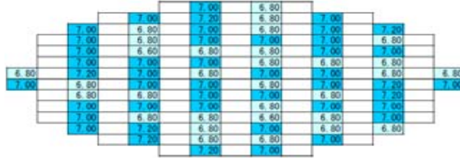
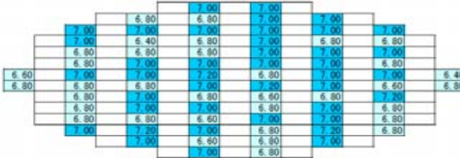
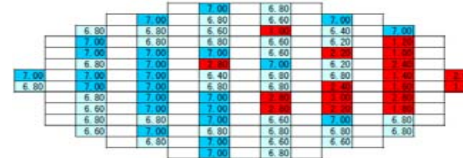
電流電圧特性サービス　　BOXアンテナ比1M



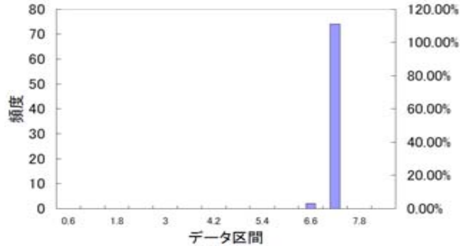


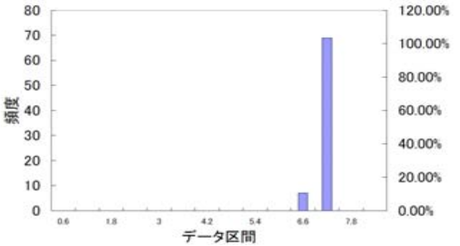


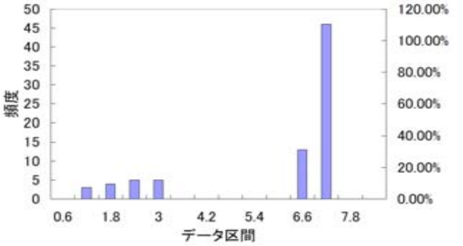
Wafer mapサービス

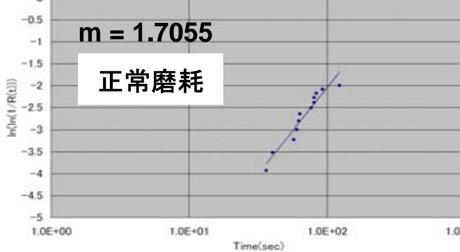
Histogramサービス

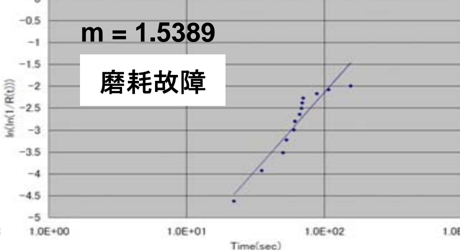


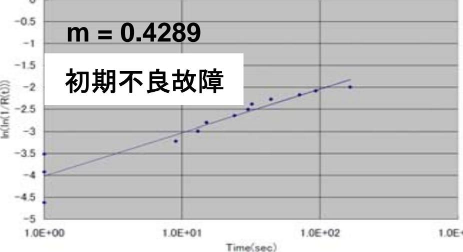




Weibull Distributionサービス （10nA／4um2 ストレスで故障を発生させ装置のワイブル係数mの実力を表示）







(1) Initial Wafer　　(2)プラズマ処理(by装置a)　　(3)プラズマ処理(by装置b)

ウエハからデータまでワンストップソリューション！

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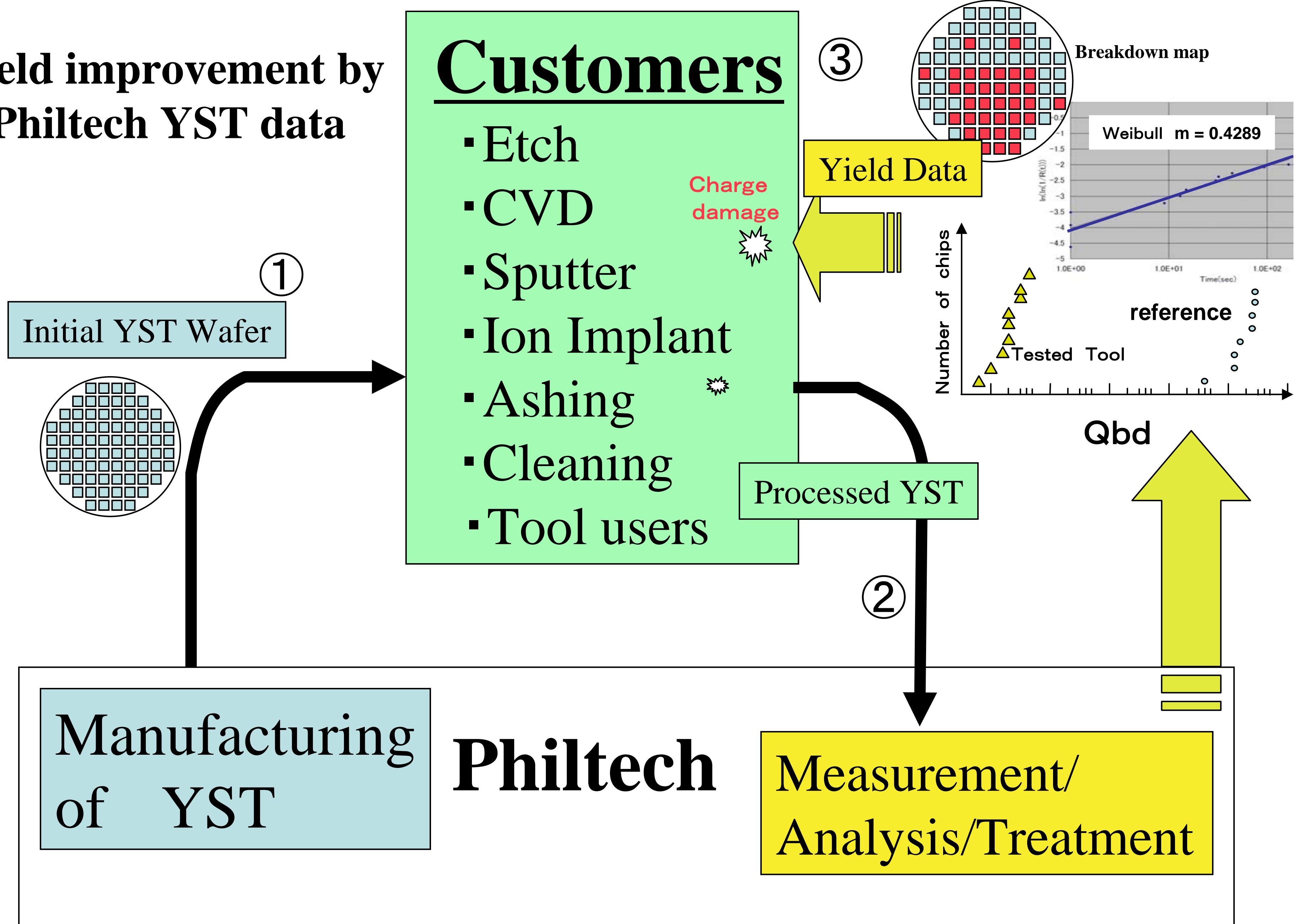
Yield improvement by
Philtech YST data
Customers
･Etch
･CVD
･Sputter
･Ion Implant
･Ashing
･Cleaning
･Tool users
Charge
damage
③
Breakdown map
Weibull m = 0.4289
Yield Data
Number of chips
reference
Tested Tool
Qbd
①
Initial YST Wafer
Processed YST
②
Manufacturing
of YST
Philtech
Measurement/
Analysis/Treatment