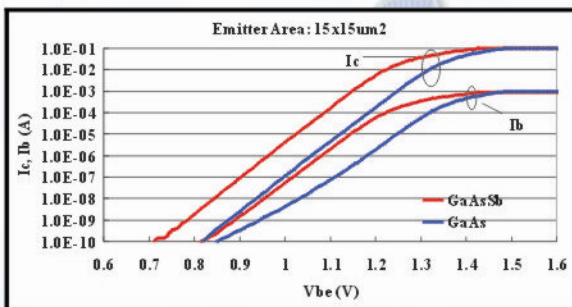


# VPEC GaAsSb HBT Epi-Wafer

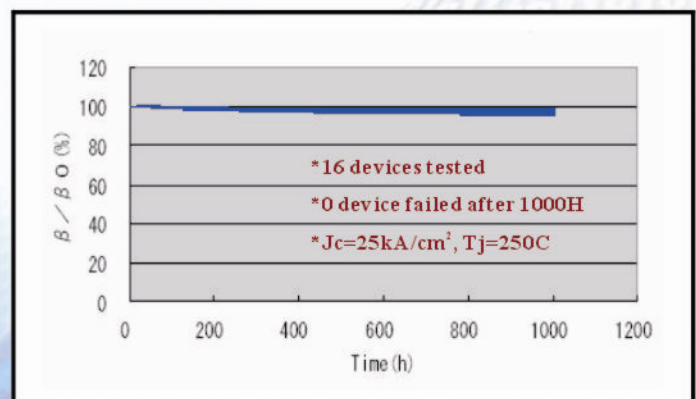
## Features:

1. 100mV  $V_{be}$  lower than standard GaAs HBT.
2. Over 200mV knee voltage lower than standard GaAs HBT at high current density ( $J_c > 50\text{kA/cm}^2$ ).
3. 33%  $V_{ce}$  offset voltage lower than standard GaAs HBT.
4. Good temperature stability (DC gain drop less than 3% while temperature up to 100C).
5. 3% PAE higher than standard GaAs HBT WCDMA PA module.
6. Excellent device reliability and high ruggedness.
7. Long term mass production experience.
8. Very low burn-in effect in HBT device.
9. Cost effective.

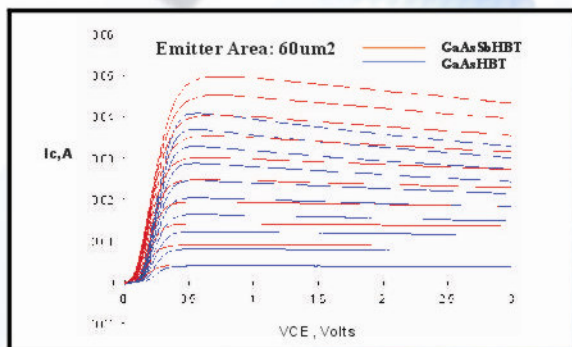
## HBT Gummel Plots



## HBT Device Reliability

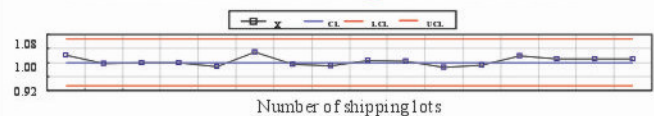


## HBT Common Emitter I-V Curve

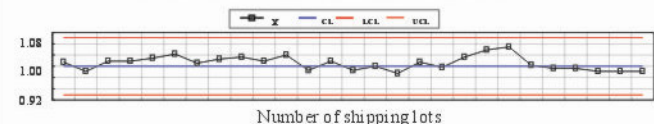


## One of Production GaAsSb HBT Wafer SPC

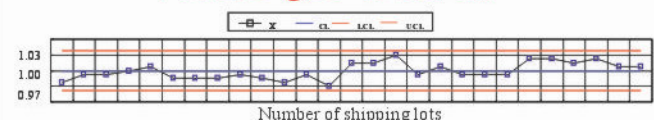
### DC Current Gain SPC @ $J_c=1.78\text{kA/cm}^2$



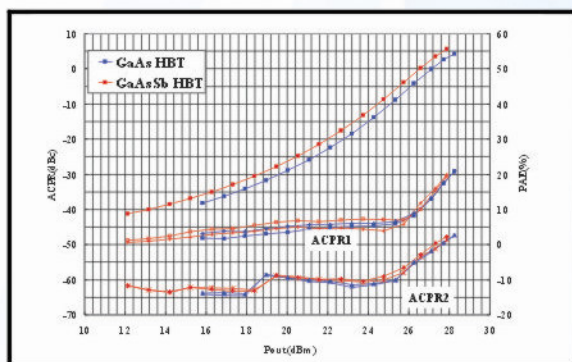
### Base Sheet Resistance SPC



### $V_{be}$ SPC @ $J_c=1.78\text{A/cm}^2$



## PAE and ACPR of WCDMA PA Module



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