

To: _____

Ref.: Notification regarding change for New PW-Mold package products

Dear Sirs,

We thank you very much for your continuous patronage on our TOSHIBA brand semiconductor products. We wish to inform you that we are going to change resin to Halogen free resin for environmental compliance and introduce two-dimensional barcode to improve traceability for New PW-Mold package products currently supplied to your company. Please kindly find the detailed contents of this change in the followings.

With Best Regards

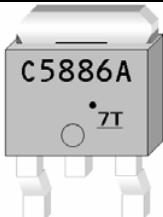
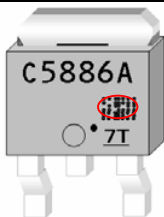
- Note -

1. The applicable product type

Lead (Pb) free finish product of NEW PW-MOLD package products <EU RoHS conforming products>
 Please refer to the separate sheet for the product list.

2. Content of this change

We are going to produce in environmentally compatible (Halogen-free) line to enforce production and also introduce two-dimensional barcodes to improve traceability.

Change content	Before the change	After the change	Comment
Product name	Example:2SC5886A(T6L1,NQ)	No change	
Resin	Contain halogen *1	Halogen free *1	For environmental reason
Element appearance	Mirror finished surface	Pearskin finished surface	Add in-company control code (two-dimensional barcode information) to improve traceability.
	—	Add two-dimensional barcode information	
			

*1: We are going to thoroughly switch over to Halogen-Free for this package in 08B (from Oct. 2008).
 The specification after switchover will be standardized to that of after change.




3. Scheduled timing of this change

It is ready to be changed from the production in October 2008.

4. Submitting data

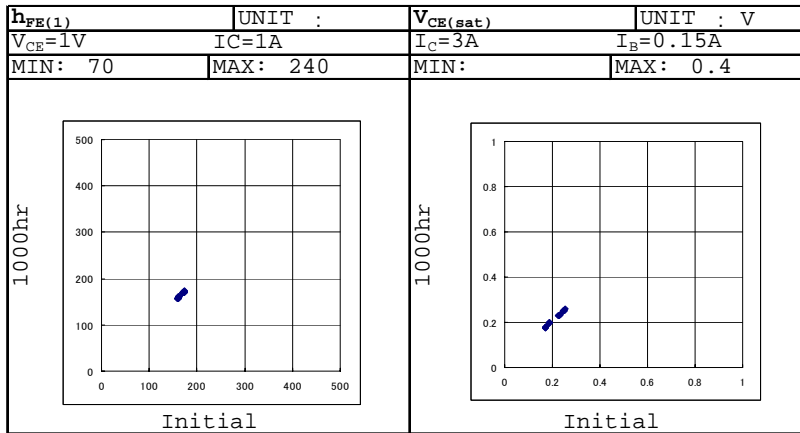
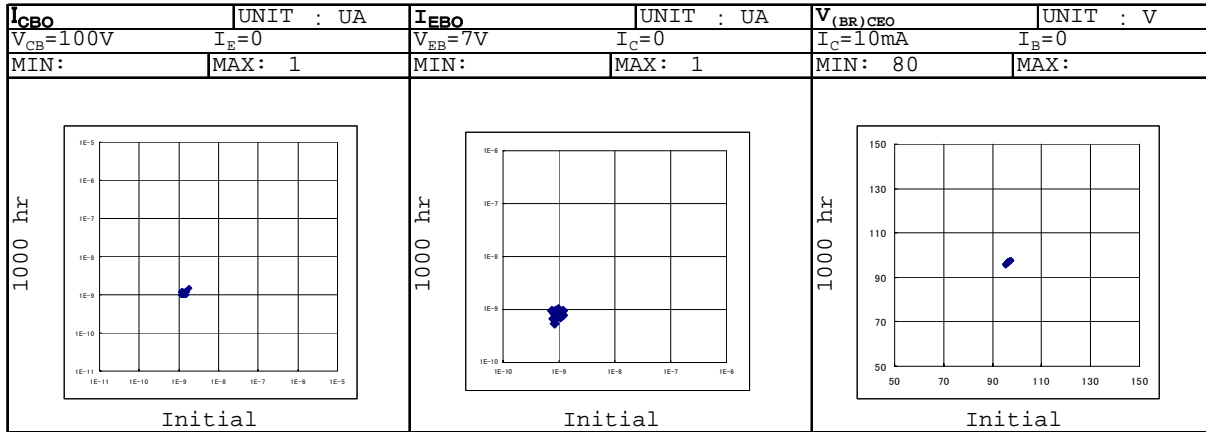
Attached please find the reliability data and the electrical characteristics comparison data of the representative product types.

- END -

MANAGER	SPECIALIST	ENGINEER
		
Mr. Takayuki Kunimitsu	Mr. Shinichi Miura	Ms. Ikuko Kakiuchi

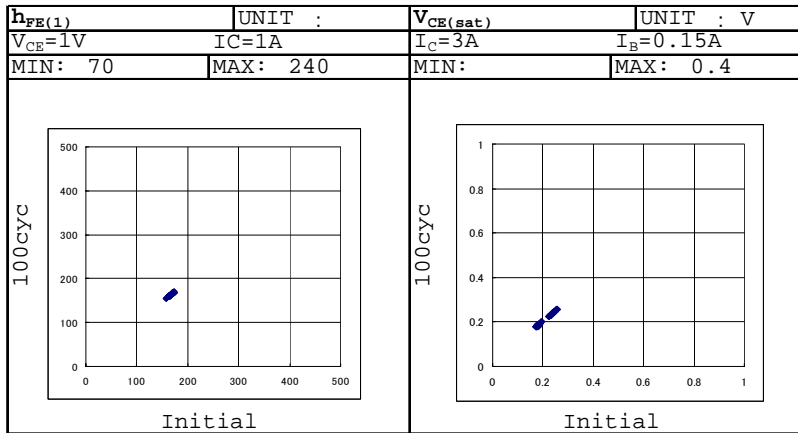
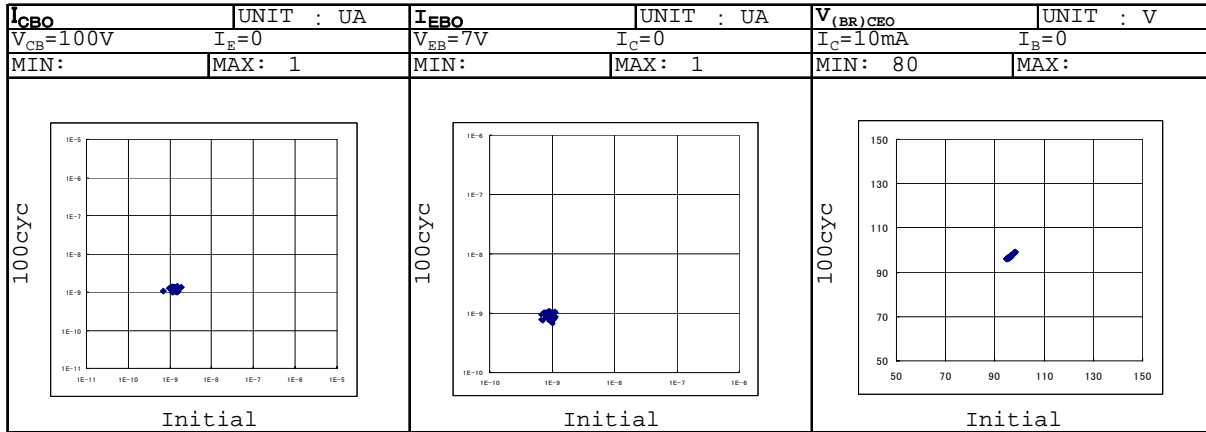
Quality Assurance Group Quality Assurance Department
 Himeji Operations – Semiconductor **TOSHIBA CORPORATION**

Reliability data (Extract) Representative product type 2SC3303 High-Temperature Reverse Bias Test



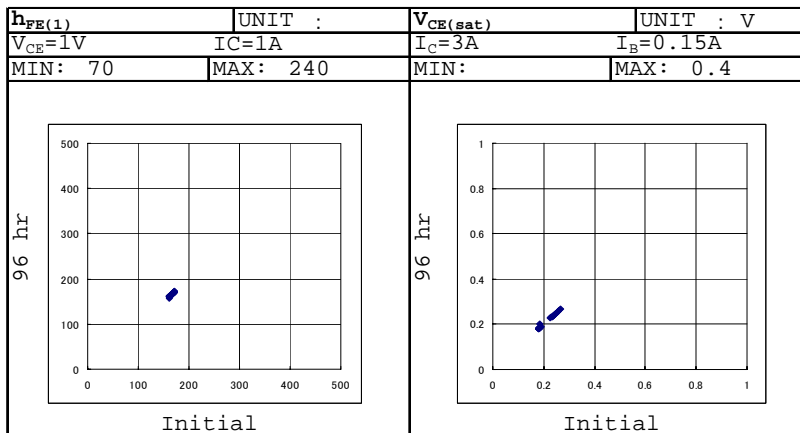
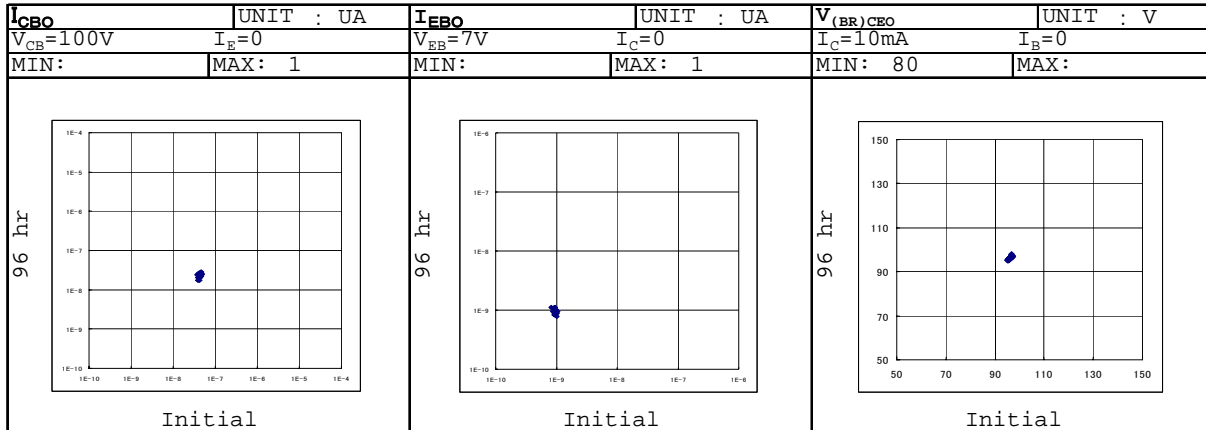
As a result of reliability check, we confirmed that there is no problem.

Reliability data (Extract) Representative product type 2SC3303 Temperature Cycle Test



As a result of reliability check, we confirmed that there is no problem.

Reliability data (Extract) Representative product type 2SC3303 Pressure Cooker Test



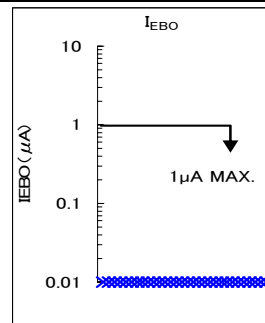
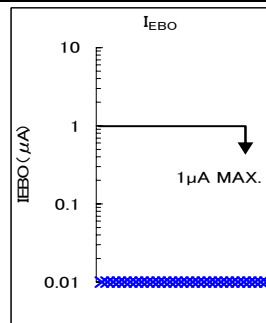
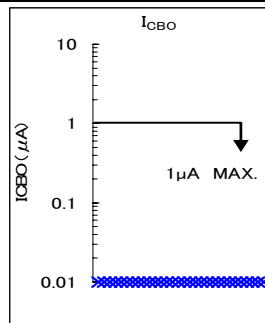
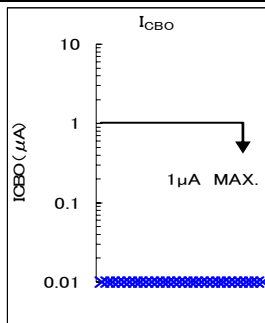
As a result of reliability check, we confirmed that there is no problem.

Representative Product Data 1

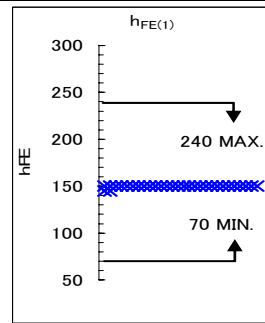
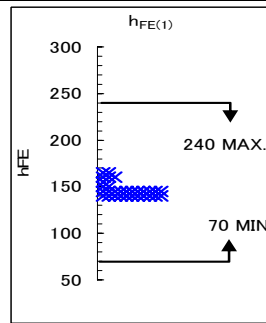
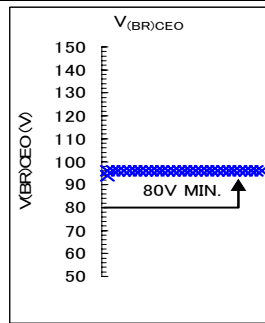
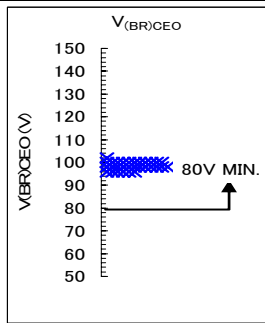
2SC3303-Y(T6L1,NQ) Electrical characteristics distribution

Ta=25°C

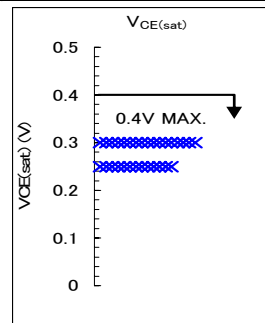
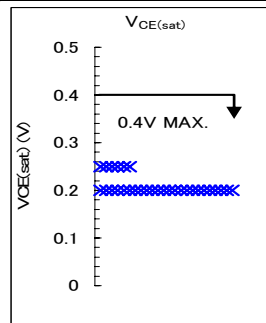
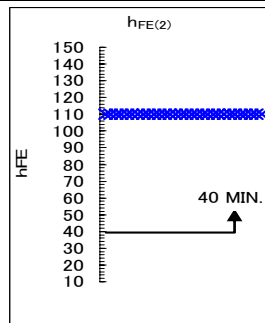
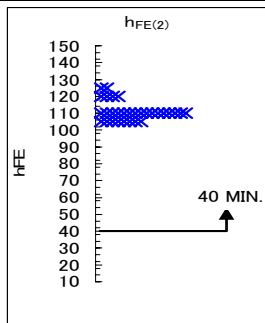
(1) I_{CBO}		(2) I_{EBO}	
Measurement condition: $V_{CB}=100V, I_E=0$		Measurement condition: $V_{EB}=7V, I_C=0$	
Compared product	Halogen free product	Compared product	Halogen free product



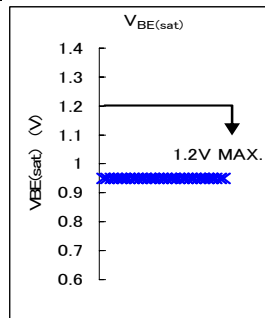
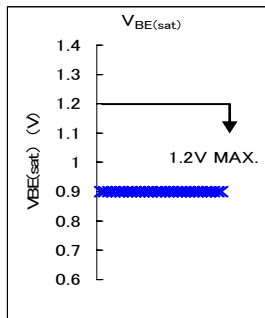
(3) $V_{(BR)CEO}$		(4) $h_{FE(1)}$	
Measurement condition: $I_C=10mA, I_B=0$		Measurement condition: $V_{CE}=1V, I_C=1A$	
Compared product	Halogen free product	Compared product	Halogen free product



(5) $h_{FE(2)}$		(6) $V_{CE(sat)}$	
Measurement condition: $V_{CE}=1V, I_C=3A$		Measurement condition: $I_C=3A, I_B=0.15A$	
Compared product	Halogen free product	Compared product	Halogen free product



(7) $V_{BE(sat)}$	
Measurement condition: $I_C=3A, I_B=0.15A$	
Compared product	Halogen free product



Representative Product Data 2

2SA1244-Y(T6L1,NQ) Electrical characteristics distribution

T_a=25°C

