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Quality And Reliability Engineering Group
 Quality Assurance Department
 Himeji Operations – Semiconductor
TOSHIBA CORPORATION
 Semiconductor & Storage Products Company
 Ref. No. H440-4K-001
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Notification for Taping Method Change for WCS P / C h i p B G A package products
(Adhesion style of cover tape)

Dear our valued customers,

We thank you very much for your continuous patronage on our TOSHIBA semiconductor products.

We wish to advise you to check on the following change contents for our WCS P / C h i p B G A package products used in your company.

With best regards

- Note -

1. The applicable products type

WCS P / C h i p B G A package (Please see the exhibit sheet.)

2. Content of this change

Regarding a cover tape used at taping, current Adhesion style will be changed to Crimp style due to some concerns, which are the described below, :

(1)Cover tape might have bond and adhere to improper parts at pressure bonding.

(2)Device turn-over might occur inside taping due to ample width of pressure bonding.

There is no change on specification. (No change of taping announced size value.)

3. Starting time of change taping

Change taping will be prepared from production in December 2014.

4. Attached documents

Reference data such as appearance pictures before/after change, content of bonding style change and peel strength, are on the attached sheet as to main package.




5. Others

Change contents apply to packing materials only due to change to cover tape bonding style. There is no change of device reliability.

This is the countermeasure for device turn-over and foreign object adhesion

Your kind understanding of this change is much highly appreciated.

- End -

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Quality And Reliability Engineering Group Quality Assurance Department

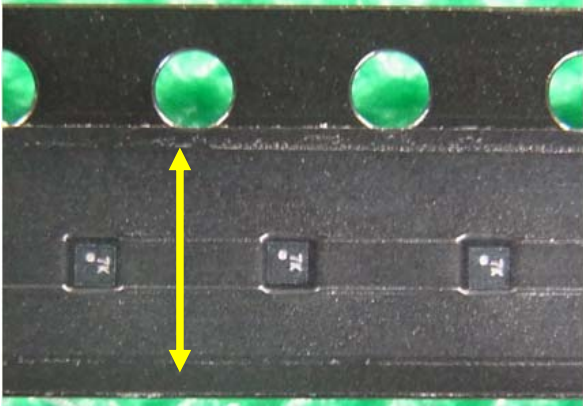
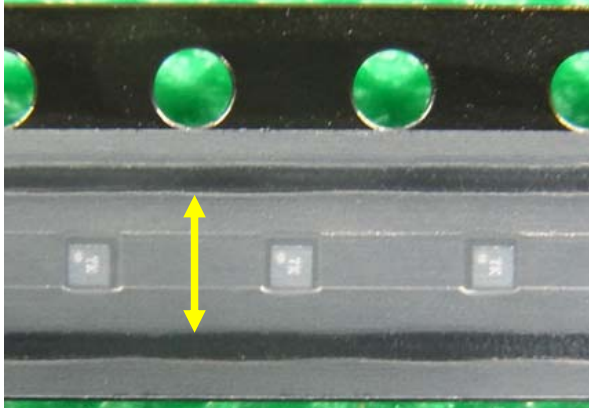
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TOSHIBA CORPORATION Semiconductor & Storage Products Company

Appendix Applicable products

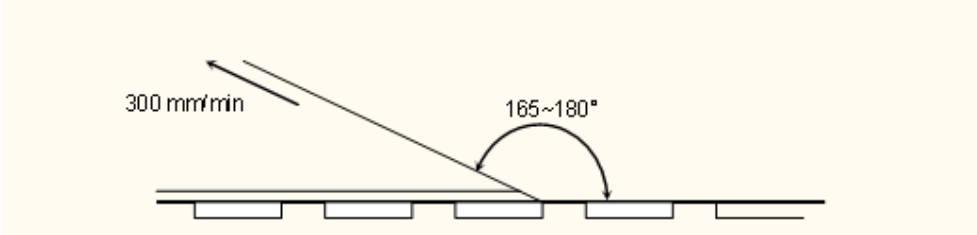
Product name	PKG	Product name	PKG	Product name	PKG
SSM6J771G,LF(S)	WCSP6	TC7LX1108WBG(EL,QU	WCSP24	TCWA1805,LF(S)	CHIP BGA
SSM6J771G,LQUF(S)	WCSP6	TC7LX1106WBG(EL,AH	WCSP16	TCWA1A01,LF(S)	CHIP BGA
SSM6K771G,LAPF(S)	WCSP6	TC7USB221WBG(EL,AH	WCSP10	TCWA1A01,L0MCF(S)	CHIP BGA
SSM6K781G,LF(S)	WCSP6	TCUA231WBG(EL,AH)	WCSP15	TCWA1601,LF(S)	CHIP BGA
TCK101G,LF(S)	WCSP6	TCUA2221WBG(EL,AH)	WCSP10	TCWA1802A,LF(S)	CHIP BGA
TCR2DG12,LF(S)	WCSP4	TCUA221WBG(EL,AH)	WCSP10	TCWA1802,L0MCF(S)	CHIP BGA
TCR2DG18,LF(S)	WCSP4	TCR4S12DWBG,LF(S)	WCSP4		
TCR2DG28,LF(S)	WCSP4	TCR4S15DWBG,LF(S)	WCSP4		
TCR2DG30,LF(S)	WCSP4	TCR4S18DWBG,LF(S)	WCSP4		
TCR2DG31,LF(S)	WCSP4	TCR4S20DWBG,LF(S)	WCSP4		
TCR2DG33,LF(S)	WCSP4	TCR4S21DWBG,LF(S)	WCSP4		
TCK102G,LF(S)	WCSP6	TCR4S25DWBG,LF(S)	WCSP4		
TCK104G,LF(S)	WCSP6	TCR4S26DWBG,LF(S)	WCSP4		
TCK105G,LF(S)	WCSP6	TCR4S27DWBG,LF(S)	WCSP4		
TCK106G,LF(S)	WCSP4	TCR4S28DWBG,LF(S)	WCSP4		
TCK107G,LF(S)	WCSP4	TCR4S29DWBG,LF(S)	WCSP4		
TCK107G,LNKF(S)	WCSP4	TCR4S295DWBG,LF(S)	WCSP4		
TCK108G,LF(S)	WCSP4	TCR4S30DWBG,LF(S)	WCSP4		
T3GE9WBG(EL,AH)	WCSP24	TCR4S33DWBG,LF(S)	WCSP4		
TC7LX1102WBG(EL,AH	WCSP8	TCR4S285DWBG,LF(S)	WCSP4		
T3GF3WBG(EL,AH)	WCSP25	TCR4S15WBG,LF(S)	WCSP4		
TC7LX1101WBG(EL,AH	WCSP6	TCR4S18WBG,LF(S)	WCSP4		
TC7SP97WBG(EL,AH)	WCSP6	TCR4S28WBG,LF(S)	WCSP4		
TC7LX1204WBG(EL,AH	WCSP8	TCR4S30WBG,LF(S)	WCSP4		
TC7LX1108WBG(EL,AH	WCSP24				

※ New products will be used the cover tape changed this time from now on.

Cover tape appearance			
Before		After	
			
Adhesive Process	P S A (Pressure Sensitive Adhesive)	Adhesive Process	H A A (Heat Active Adhesive)
[PKG:WCSP4] Adhesive Width	About 4.0mm	Adhesive Width	About 2.5mm
[PKG: Others] Adhesive Width	About 4.0mm	Adhesive Width	About 3.5mm

Reference Data

Method of measurement



Peel strength of cover tape is to be 0.2 ~ 1.0 N in which case of pulled with 300mm/min speed at an angle of 165 ~180° against the adhesion surface.

For your reference,

The following is shown Peel strength data of cover tape changed

The result is satisfactory as below.

Seel Strength	Minimum Value	Maximum Value	Average Value
Lot #1	0.44 N	0.74 N	0.57N
Lot #2	0.39N	0.74N	0.57N
Lot #3	0.42N	0.76N	0.60N